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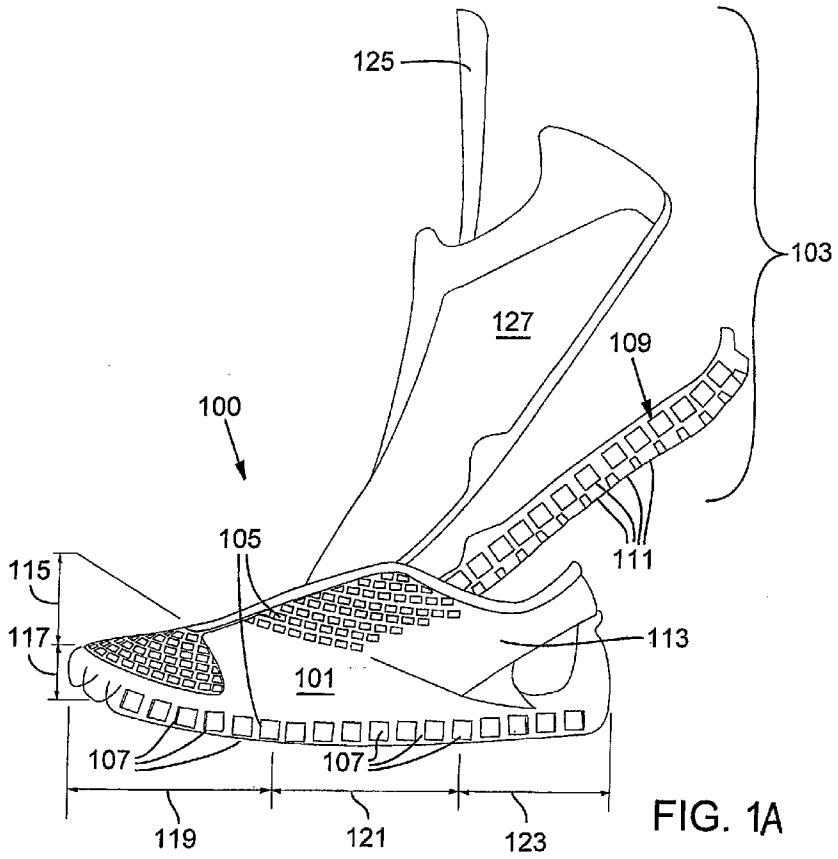

FIG. 1A

(57) Abstract: An article of manufacture may be adjustable and may include a cage (101) having a plurality of apertures (107) and an insert (103) having a frame (109) with a plurality of projections (111) that extend from the frame. The insert may be inserted into the cage and may cause the cage to expand to the shape of the insert. The projections on the frame may extend through the apertures of the cage when the insert is inserted into the cage. The cage may be capable of expanding to a plurality of sizes and shapes of various inserts. The article of manufacture may be an article of footwear, a container, an article of apparel, a textile, and any other object of manufacture.

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ARTICLE OF MANUFACTURE WITH ADJUSTABLE SIZE, IN PARTICULAR FOOTWEAR, AND METHOD OF MODULAR CONSTRUCTION THEREOF

[01] This U.S. Patent Application claims priority to U.S. Provisional Patent Application Serial Number 61/022223, which was filed in the U.S. Patent and Trademark Office on January 18, 2008 and entitled "Footwear with Adjustable Size." This prior U.S. Provisional Patent Application is entirely incorporated herein by reference.

FIELD OF THE INVENTION

[02] Aspects of this invention relate to articles of manufacture having an adjustable size and shape. More specifically, aspects of the invention relate to an article of manufacture that is capable of receiving a plurality of inserts that may be various sizes and shapes.

BACKGROUND

[03] Many articles of footwear contain an upper and a sole structure that are manufactured in a range of standard sizes. The standard sizes are typically two-dimensional, in that they are defined by a length and a width. The length and width are measured for the foot of an average wearer. These standard sizes do not account for differences in the overall shape and contour of a wearer's foot. Wearers often find that footwear by one manufacturer varies significantly in fit from footwear by another manufacturer. Different styles of footwear vary significantly in fit because each article of footwear has different shape and flexibility qualities. Moreover, wearers may also wish to customize their footwear by varying the appearance of elements of the footwear, such as its color, shape, and material.

[04] To meet the needs of the wearers, manufacturers have attempted to customize an article of footwear's fit and appearance. For example, a last shaped to an individual wearer's foot may be used to mold a customized article of footwear,

but this process is time-consuming and expensive. Further, manufacturers have sold footwear having interchangeable inserts of different sizes. These inserts may be placed within the sole structure to customize the length and width of the sole to suit a wearer's individual needs. Still further, some footwear may be customized to fit a variety of lengths and widths by providing an upper to which may be attached a plurality of removable sole structures of different lengths and widths, as taught in U.S. Patent No. 6,915,596 to Grove, et al. Although these manufacturing techniques may permit a wearer to customize the length and width of an article of footwear, none of them allow for the overall shape of the article of footwear to be customized to the unique shape and contour of the wearer's foot.

[05] Additionally, manufacturers face high costs to produce a wide variety of sizes and appearances for articles of footwear that fit various foot shapes and fashion needs. The manufacturer must assume a high risk of maintaining an inventory of articles of footwear that are customized to the shape and appearance needs of a small portion of wearers, which runs a significant risk of a poor profit margin. However, manufacturers also do not realize a large profit from the sale of articles of footwear that do not provide the wearer with a comfortable fit having a desirable fashion and a reasonable price.

[06] Many manufacturers have attempted to reduce inventory risk and decrease production costs for articles of footwear. Other manufacturers simply pass along the increased inventory risks and costs of production to wearers of the articles of footwear. For example, a wearer wanting an article of footwear that has a custom size or style is likely to pay a high price, which does not appeal to many consumers.

[07] Some manufacturers have attempted to decrease production costs for articles of footwear by making an element, such as an upper, that may be interchangeable between sizes. Rather than customizing an upper for every wearer, some manufacturers have proposed footwear with a versatile upper that may be attached to soles having different lengths and widths. The removable sole structure

described in the Grove, et al. patent discussed above, for example, may reduce a manufacturer's inventory risk because several sole structures of different sizes may be fitted to a single upper to provide a wide range of wearers with a sole having a customized length and width. This construction reduces the number of uppers that would need to be manufactured to provide customized lengths and widths, and thus decreases the production costs for the manufacturer.

[08] Moreover, an upper and removable sole structure decreases the inventory risk for a manufacturer. Such a modular construction permits the manufacturer to mix and match many different combinations of colors, materials, and other custom characteristics to create customized products for customers without incurring excessive inventory costs that are associated with maintaining large quantities of customized articles .

[09] Therefore, it is desirable to manufacture an article of footwear that may be customized to the shape of the wearer's foot and to each wearer's fashion needs. It is also desirable to reduce inventory risk and production costs for providing the wearer with a customizable article of footwear.

SUMMARY

[10] The following presents a general summary of aspects of the invention and is not an extensive overview of the invention. It is not intended to identify key or critical elements of the invention and/or to delineate the scope of the invention. The following summary merely presents some concepts of the invention in a general form as a prelude to the more detailed description provided below.

[11] This invention relates to articles of manufacture that may be stretched to expand to dimensions of an insert, wherein the insert includes a frame and a plurality of projections. A cage, including a plurality of apertures and a stretchable portion, may be expanded so that the plurality of projections extends through the plurality of apertures when the insert is inserted into the cage. In some embodiments, the

stretchable portion of the cage may maintain its general shape when it is expanded. One embodiment may include a first insert having a first frame that defines a first dimension and a second insert having a second frame that defines a second dimension. In this embodiment, the stretchable portion may be expanded to the first dimension that corresponds to the size of a first wearer or a first object, and it may also be expanded to the second dimension that corresponds to the size of a second wearer or a second object.

[12] The insert may cause the stretchable portion to expand to various shapes, such as an article of footwear or a container. The stretchable portion may be shaped to be a portion of an upper of an article of footwear, wherein the upper may receive inserts of various dimension. For example, a first dimension may correspond to the foot size of a first wearer and a second dimension may correspond to the foot size of a second wearer. When the sole portion is inserted into the upper, the first dimension and the second dimension may expand the stretchable portion to the contour and shape of a first wearer's foot and a second wearer's foot, respectively. The insert may also configure the stretchable portion to be the shape of a container, such as a bag, backpack, wallet, or case for electronics, which may be expanded to different sizes.

[13] The sole portion may contain projections that extend through the plurality of apertures defined by the upper when the sole portion is inserted into the upper. In at least some embodiments, the apertures are in the shape of a regular polygon, such as a diamond, or any other polygon with any number of sides (*e.g.,* a hexagon, an octagon, etc.). Additionally, some embodiments may include a plurality of slits that are positioned within the stretchable portion and are configured to expand when an object, such as a foot, is placed into the upper. The slits may have a length and a width, wherein the slits expand a greater distance in the direction of the length than in the direction of the width when the stretchable portion is expanded by an object.

[14] This invention also relates to methods of modular construction, wherein an insert may be inserted into a cage, the insert including a frame and a plurality of projections and the cage including a stretchable portion that defines a plurality of apertures that allow the stretchable portion to expand to the shape of the frame. The plurality of projections are coordinated to extend through the plurality of apertures when the cage is expanded to the dimensions of the frame. The insert may be one of several inserts, wherein each insert is defined by a size that corresponds to the fit of one of a plurality of wearers or each insert defines a differently sized object.

BRIEF DESCRIPTION OF THE DRAWINGS

[15] A more complete understanding of the present invention and certain advantages thereof may be acquired by referring to the following description along with the accompanying drawings, in which like reference numbers indicate like features, and wherein:

[16] Figure 1A illustrates an article of footwear and an insert for defining a size and shape, according to an aspect of the invention.

[17] Figure 1B illustrates a bottom plan view of a cage and a plurality of projections extending through openings in the cage that form a ground contact surface of an article of footwear, according to aspects of the invention.

[18] Figure 2A illustrates a portion of a cage and an insert having a plurality of projections, according to aspects of the invention.

[19] Figures 2B and 2C illustrate a cross sectional view of a cage with a plurality of openings and an insert having a plurality of projections extending through the openings, according to aspects of the invention.

[20] Figures 3A-3C illustrate a bottom plan view of an article of footwear capable of receiving a plurality of inserts, in accordance with aspects of the invention.

[21] Figures 4A-4C show an embodiment of a cage that expands to fit various inserts for an article of footwear, according to aspects of the invention.

[22] Figures 5A-5D show cages defining a plurality of apertures having various shapes, according to aspects of the invention.

[23] Figure 6A and 6B illustrate an embodiment of an article of footwear having expandable slits, according to aspects of the invention.

[24] Figure 7 illustrates yet another embodiment of an article of footwear in accordance with an aspect of the invention.

[25] Figures 8A and 8B illustrate exemplary bags having an adjustable size and shape, according to aspects of the invention.

[26] Figures 9A and 9B illustrate a wallet having an adjustable size and shape, in accordance with aspects of the invention.

[27] Figure 10 illustrates a case for housing electronics having an adjustable size and shape, according to an aspect of the invention.

[28] The reader is advised that the attached drawings are not necessarily drawn to scale.

DETAILED DESCRIPTION

[29] In the following description of various example embodiments of the invention, reference is made to the accompanying drawings, which form a part hereof, and in which are shown by way of illustration various example devices, systems, and environments in which aspects of the invention may be practiced. It is to be understood that other specific arrangements of parts, example devices, systems, and environments may be utilized and structural and functional modifications may be made without departing from the scope of the present invention.

A. General Description of an Article of Manufacture According to Exemplary Embodiments

[30] In general, as described above, aspects of the invention relate to articles of wear having an adjustable size. In accordance with at least some aspects of the invention, an article of manufacture may comprise: (a) a cage that includes at least one stretchable portion, where the stretchable portion defines a plurality of apertures that allow the stretchable portion to expand in at least one direction; and (b) an insert having a frame and a plurality of projections that extend therefrom such that when the insert is inserted into the cage, the projections extend through at least some of the apertures to cause the stretchable portion to expand to dimensions defined by the frame and projections.

[31] An article of manufacture may be any article that may be manufactured, such as an article of footwear, an article of apparel, a container or bag, and the like. The article of manufacture may be any shape and size and may be designed to contain any desired items such as a wearer's foot or other portion of a wearer's body, objects such as money, electronics, writing instruments, food, beverage containers, clothing, etc. The article of manufacture may contain or define features such as a pocket or enclosed space for containing items.

[32] The article of manufacture may also include a securing mechanism that is capable of enclosing at least a portion of the article of manufacture. For example, the article of manufacture may be an article of footwear and the article of footwear may include a securing mechanism. The securing mechanism may be shoelaces, hook and loop fastener, buttons, buckles, snaps, elastic, or any other material or mechanism that may be capable of securing the article of footwear to the foot of a user. Oftentimes, the securing mechanism may be adjusted to a plurality of different sizes. For example, shoe laces may be loosened to increase the opening through which a foot of a user may be inserted. Once the user's foot is inserted into the article of footwear, the shoelaces may be tightened to fittingly engage the

article of footwear with the user's foot and provide the support and comfort that the user desires.

[33] In another example, an article of manufacture may be a wallet and may have a securing means that includes a hook and loop fastener, buckle, snap, magnet, button, or the like. The wallet may include two storage portions, each containing an attached and a free end, where the attached end of each portion may be folded so that the attached ends and the free ends of each portion are generally aligned adjacent to each other. A securing mechanism may be attached to any portion of the wallet to cause the free ends of each portion of the wallet to remain aligned adjacent to one another or in a "closed" position.

[34] The article of manufacture may also define an opening through which objects may be inserted and removed into an interior space of the article of manufacture. The opening may be expandable and may include elastic or other features to selectively expand to the size and shape of the object that is being inserted through the opening. The article of manufacture may also include features such as pockets, hoods, collars, scarves, key chains, zippers, decorative items or designs, handles, tags, or any other feature that a user may wish to employ in the use of the article of manufacture.

[35] The article of manufacture may be an article of footwear and may comprise an outsole, an insole, and an upper. The outsole may be a ground-contacting surface of the article of footwear and may be selectively or fixedly attached to the article of footwear. The outsole may include traction enhancing features in the form of traction elements and/or traction surfaces to create friction and provide the user with "grip" and "stability" when the outsole contacts the ground or other contact surfaces. Oftentimes, the outsole protects the other portions of the article of footwear against wear and damage.

[36] The outsole may be sized to meet the lengths and widths that may be associated with the European and/or the United Kingdom and American standard units or may be customized to the dimensions of a wearer's foot. Articles of footwear for

men may be sized and shaped differently than articles of footwear for women to meet the unique physiological and structural needs of each gender.

[37] Some articles of footwear also may contain an insole that may be engaged with the outsole and/or the upper. The insole may be engaged with the outsole and/or the upper in any manner including, but not limited to, a layered fashion via sewing or stitching, via adhesives, via mechanical connectors, etc. The insole may be removable from the outsole and/or the upper, or it may be permanently affixed to the outsole and/or the upper.

[38] The upper may be attached to the outsole and/or the insole and may define a space for receiving a foot of a wearer. In many conventional articles of footwear, the upper may be constructed to fittingly engage with the foot of a wearer. In some examples, the upper may include an aperture or a plurality of apertures for receiving phalanges of a wearer's foot and through which phalanges of a wearer's foot may extend and fittingly engage with the upper (*e.g.*, a "flip-flop" or "thong" style article of footwear). In some examples, the upper may extend over at least a portion of the top of the wearer's foot across the top surface of the wearer's foot in the forefoot region of the article of footwear.

[39] Generally, an article of footwear may include three regions: (a) a forefoot region; (b) a midfoot region; and (c) a heel region. The forefoot region may include the portion of the article of footwear that extends beneath and around the toes and/or the forefoot regions of the wearer's foot. The midfoot region may include the portion of the article of footwear that extends beneath and around the arch and/or the midfoot regions of the wearer's foot, and the heel region may include the portion of the article of footwear that extends beneath and around the heel and ankle areas of the wearer's foot. An article of footwear is not necessarily confined to be described by only these regions and may include additional regions, such as a lateral side (outside) and a medial side (inside). Each of the regions is a reference to a region or portion of the article of footwear and may include each or any of an outsole, an insole, and an upper.

[40] The article of manufacture may include a cage and an insert, as described above. The cage may extend along a portion or the whole of the article of manufacture. More than one portion of the article of manufacture may contain a cage, and the cage in each portion may have different properties. The cage may include a stretchable portion that may define a plurality of apertures, wherein expansion of the apertures may cause the stretchable portion to expand in one or more directions. The stretchable portion may be a first portion and the cage may include a second portion that is discrete from the first or stretchable portion. The second portion may or may not be stretchable and the second portion may contain stretchability and/or other characteristics that are different from the stretchable portion.

[41] As described above, the stretchable portion of the cage may define a plurality of apertures that may cause the stretchable portion to expand in one or more directions. The apertures may be a plurality of shapes and may or may not be uniform in shape and size. One or a group of apertures may have different characteristics such as different elasticity and breathability properties. In some examples, the each of the plurality of apertures is a uniform shape and size. Each of the apertures may also have the same elasticity and breathability properties.

[42] Each of the apertures may be configured to expand in at least one direction. The apertures may expand in one, two, or three dimensions. The expansion of the apertures may cause the cage to be adjusted or customized to the size and shape of an insert, object, wearer's foot, or any other item that may be inserted into the cage. For example, an article of footwear may have a cage and an insert. The insert may be sized to fit a wearer having a foot with a narrow forefoot region. The insert may be inserted into the cage and may expand the cage to the dimensions of the insert along the ground contacting surface. The insert may be sized to extend along the bottom surface of a wearer's foot and may be configured to fittingly engage with the bottom surface of a wearer's foot. The cage and the insert may define a space configured to receive the wearer's foot. The cage may comprise a portion that extends over the top of the wearer's foot. The portion of

the cage that extends over the top of the wearer's foot may expand to the shape of the wearer's foot when the wearer's foot is inserted within the space defined by the cage and the insert.

[43] In another example, the insert may be sized to define a container such as a bag, wallet, or a case for electronics. The insert may be sized and shaped to the dimensions of any object. The insert may surround a portion of or the entire object when the object is positioned within the cage and insert. For example, the insert may be shaped to be a handbag having at least two side walls, a bottom wall, and a top opening. In one example, the insert may be shaped to extend along the bottom wall and cause the cage to expand to be shaped to the structure of the insert along the bottom wall. Oftentimes, handbags may include a flat panel along the bottom wall of the handbag. In other examples, the insert may be shaped to extend along both of the side walls and the bottom wall and may cause the cage to expand to be shaped to the insert along the bottom wall and the side walls. Portions of the cage in the handbag may not be engaged with the insert and may or may not be expandable. The portions of the cage that are not engaged with the insert may be any shape and size and may include any characteristics such as elasticity and breathability.

[44] The insert may have a frame and a plurality of projections that extend from the frame. The projections may be positioned to extend through the apertures of the cage when the insert is positioned within the cage. The projections may cause the apertures to expand to the dimensions that may be defined by the frame. The projections that extend from the frame of the insert may extend through the apertures of the cage to cause the cage to expand to the dimensions of the insert. The projections may be similarly shaped (*e.g.,* in a complimentary shape) to the shape of the apertures so that they may fittingly engage with the perimeter of the aperture. One or more projections may extend through the aperture and cause the aperture to expand to the shape of the one or more projections.

[45] Specific examples of the invention are described in more detail below. The reader should understand that these specific examples are set forth merely to illustrate examples of the invention, and they should not be construed as limiting the invention.

B. Specific Examples of the Invention

[46] The various figures in this application illustrate examples of articles of manufacture according to this invention. When the same reference number appears in more than one drawing, that reference number is used consistently in this specification and the drawings to refer to the same or similar parts throughout.

[47] Figure 1A illustrates an example of an article of manufacture embodied in an article of footwear 100 comprising a cage 101 and an insert 103. The cage 101 may include at least one stretchable portion 105 that may define a plurality of apertures 107. The apertures 107 may cause the stretchable portion 105 to expand in at least one direction. The insert 103 may have a frame 109 and a plurality of projections 111 that extend from the frame 109. When the insert 103 is inserted into the cage 101, the projections 111 cause the stretchable portion 105 to expand at the apertures 107 to dimensions that may be defined by the frame 109.

[48] As illustrated in Figure 1A, the cage 101 may include a stretchable portion 105 and a non-stretchable portion 113. The stretchable portion may be expandable, as described above. The non-stretchable portion 113 may be generally inelastic and may not generally be expanded to an alternate shape. The non-stretchable portion 113 may be positioned along portions of a wearer's foot that may not benefit from being expandable, such as along the arch of the wearer's foot or at areas that may require greater support or stability. For example, the cage 101 illustrated in Figure 1A includes at least three discrete stretchable portions 105 that extend over the top surface of the foot of a wearer in both the forefoot and midfoot regions of the wearer's foot and extending along the bottom surface along the length of the wearer's foot.

[49] For reference purposes, the article of footwear 100 illustrated in Figure 1A is divided into three general regions: a forefoot region 119, a midfoot region 121, and a heel region 123. Each of the forefoot region 119, the midfoot region 121, and the heel region 123 are intended to illustrate general portions of the article of footwear 100 and are not intended to demarcate precise areas of the article of footwear 100. The forefoot region 119, the midfoot region 121, and the heel region 123 may be used in this specification to refer to more specific portions of an upper 115, an insole 125, an outsole 117, and any other layer or feature of the article of footwear 100 that may be positioned within the respective region.

[50] The article of footwear 100 may include a cage 101 that is configured in the general shape of a wearer's foot. The cage 101 may include upper 115 and an exterior sole portion 117 of the article of footwear 100, as illustrated in Figure 1A. The cage 101 may form the portion of the upper 115 that extends over the top surface of the wearer's foot, as illustrated in Figure 1A. The cage 101 that provides the upper 115 and the exterior sole portion 117 may be a unitary structure or may be a plurality of structures (or cages) that may be fixedly or selectively attached to one another.

[51] The cage 101 may comprise one or more suitable materials, including materials that may be conventionally used in manufacturing articles of footwear 100. The cage 101 may include one or a combination of leather, synthetic leather, natural or synthetic textiles, polymer sheets, polymer foams, mesh textiles, felts, non-woven polymers, or any other suitable material. The material making up the cage 101 may have varying degrees of elasticity, breathability and other materials characteristics. The cage 101 may comprise a first region or upper region and a second region or sole region. The first region or upper region may have a first set of materials properties and the second region or sole region may have a second set of materials properties that is different from the first set of materials properties.

[52] In some examples, the cage 101 may form all or a portion of the upper 115 of an article of footwear. When the cage 101 forms the entire upper 115, the cage 101

may be fittingly engaged with and positioned adjacent to the foot of a wearer. In this case, the cage 101 may wrap around the foot of a wearer to secure the outsole or ground contacting surface of the article of footwear 100 to the bottom surface of the foot of a wearer. Figure 1B illustrates a bottom surface of the cage 101 and insert 103 combination in which the cage extends along most of the length and width of a bottom surface of the wearer's foot.

[53] In another example, a sock 127 or bootie member may be inserted within the cage and may be configured to receive the foot of a wearer. The sock 127 may be selectively removable from the cage 101 and may be fitted to compliment the shape of a wearer's foot. The interchangeable nature of the sock 127 permits the wearer to selectively wear protective knitted hosiery, as oftentimes may be worn to prevent chafing between the wearer's foot and the article of footwear 100 and to absorb moisture and odor.

[54] The sock 127 may include an elastic material that is capable of expanding to the size and shape of the wearer's foot. The sock 127 may be made of a variety of suitable materials including, but not limited to, cotton, wool, nylon, acrylic, polyester, and spandex. The sock 127 may be removed from the cage 101 to permit the wearer to replace a worn sock 127 with a new sock 127, to wash the sock 127, or the change the color or appearance of the sock 127.

[55] The sock 127 may be comprised of a rigid, semi-rigid, or flexible material. For example, a sock 127 may include a rigid polymer material that encases the heel region 123 of the wearer's foot to secure the heel of a wearer's foot with respect to the upper 115 and outsole 117. In another example, the forefoot region 119 of the upper 115 may include a flexible and elastic sock 127 that is capable of being configured to the size and shape of the wearer's foot when the foot is inserted within the sock 127. In yet another example, the midfoot region 121 may include a sock 127 containing a semi-rigid material extending along the instep (not shown) of a wearer's foot to provide the wearer with support for the arch and to provide the wearer with flexibility during the pronation, supination, flexion,

extension, and any other motions that occur during normal activity of the wearer's foot.

[56] The sock 127 may comprise a plurality of regions, where each region may have different characteristics. For example, a first region of the sock 127 may be positioned within the forefoot region of the wearer's foot and may be highly absorbent of moisture. A second region of the sock 127 may be positioned within a midfoot region of the wearer's foot and may be moderately absorbent of moisture, but somewhat more supportive.

[57] In this example, the sock 127 may be inserted within the cage 101 and may be fittingly engaged with the insert 103, as illustrated in Figures 1A and 1B. If desired, an insole 125 may be fitted along the bottom surface of the sock 127 and may be configured to receive the bottom surface of a wearer's foot.

[58] Referring again to Figure 1A, the cage 101 may include one or more stretchable portions 105. Each stretchable portion 105 may define a plurality of apertures 107. The apertures 107 may be openings that extend through a width of the cage 101. The apertures 107 may be any shape, including a polygon, a circle or oval, or any other suitable shape, as described in greater detail below. In Figure 1A, each of the plurality of apertures 107 is shaped in a similar or uniform shape of a four-sided polygon. The shape of the apertures 107 may have straight, angled, and/or curved edges and may be expandable in one or more directions, as described below.

[59] The insert 103 may have a frame 109 and a plurality of projections 111 that extend from the frame 109. The frame 109 may include any suitable material including, but not limited to, rubber, polyurethane, nylon, leather, and polyvinyl chloride (PVC). The frame 109 may include at least portions of the shoe sole 117 that are configured to be the ground contacting surface of the article of footwear 100. The frame 109 may include any portion of the article of footwear 100 that may have projections 111 that may extend through the apertures 107 in the cage

101. The frame 109 may be inserted into the cage 101 and fittingly engage with the cage 101 to form the ground contacting surface of the article of footwear 100.

[60] Projections 111 may be selectively or fixedly attached to the frame 109. The projections 111 may be shaped in a complimentary fashion to the shape of the apertures 107 of the cage 101. For example, if the apertures 107 are shaped to define a square or rectangular opening, then the projections 111 may be square or rectangular shaped so that they may extend through the apertures 107 in a complimentary fit. The projections 111 may be any desired size or shape. The projections 111 may form the ground contacting surface for the article of footwear 100 as shown in Figure 1B.

[61] The projections 111 may be spaced apart in any suitable configuration on the frame 109. For example, the projections 111 may be evenly spaced apart over the surface of the frame 109. In another configuration, a plurality of projections 111 may be grouped together in a particular section of the frame's 109 surface. The spacing between each of the projections 111 may or may not be uniform. In yet another configuration, the projections may be spaced at varying distances along the surface of the frame 109. The size and/or shape of the projections 111 may vary over a single frame 109. The spacing apart of the projections 111 may be determined by various considerations such as, but not limited to, appearance, additional traction, contour and/or shape of the wearer's foot, and the like.

[62] The projections 111 may comprise traction elements that form at least a portion of the ground contacting surface of the sole 117. Traction elements may create friction between the article of footwear 100 and the ground and may help prevent the article of footwear 100 from slipping, sliding, or the like. Such traction elements may also increase the wearer's stability while wearing the article of footwear 100. Tractions elements may include a traction surface (not shown) attached to the projections 111 or integrally formed as part of the projections 111 to form at least a portion of the ground contact surface of the outsole.

[63] Figure 2A illustrates a portion of a cage 101 having a plurality of openings 107 and an insert 103 having a frame 109 with a plurality of projections 111 that may be caused to extend through the openings 107. As described above, the each projection 111 may extend through and fittingly engage with an opening 107. In some examples, the openings 107 may expand to accommodate projections 111 of various sizes and shapes.

[64] Figures 2B and 2C illustrate a cross sectional view of a plurality of projections 111 that are extending through and are fittingly engaged with openings 107 of a cage 101. Figure 2C illustrates projections 111 having a width of "x" and the openings 107 expanding to a width of "x" to permit the projections 111 to extend through and fittingly engage with the openings 107. In Figure 2B, the projections 111 have a width of "x+n" and cause the openings 107 to expand to the width of "x+n." The openings 107 in a single cage 101 may be expandable to accommodate any suitably sized and shaped projection 111.

[65] Figures 3A-3C illustrate a bottom surface 129 of a cage 101 of an article of footwear 100. The cage 101 may be expanded to a plurality of widths. For example, Figure 3A illustrates a cage 101 that may be expanded to the width and/or size of a typical article of footwear 100 having a wide width 131. Figure 3B illustrates the same cage 101, but the cage 101 is expanded only to the width and/or size of an article of footwear 100 having an average width 133. Figure 3C illustrates the same cage 101, but in this instance the cage 101 is expanded only to the width and/or size of an article of footwear 100 having a narrow width 135. The wide width 131 may be greater than both the average width 133 and the narrow width 135. The average width 133 may be greater than the narrow width 135 and may be less than the wide width 131. The narrow width 135 may be less than both the wide width 131 and the average width 133.

[66] The width of the article of footwear 100 may be uniformly wide, average, or narrow through each of the forefoot region 119, the midfoot region 121, and the heel region 123 of the article of footwear 100. The width of the article of

footwear 100 may also comprise an average width 133 for the heel region 123 and a wide width 131 in the forefoot region 119. In another example, the heel region 123 of an article of footwear 100 may include a narrow width 135 and the forefoot region 119 may be sized for an average width 133. The width may also be customized to the width of a wearer's foot in each of the forefoot region 119, the midfoot region 121, and the heel region 123. The width may be any suitable width for a wearer. The width of any region of the article of footwear 100 may include a stretchable or expandable portion to permit the corresponding element (*e.g.,* upper, etc.) to expand to the suitable width. A single cage member 101 may be used to accommodate this widely varying combination of sizes, *e.g.,* by using the cage member 101 with different frame members 109 having the desired width and/or other sizing characteristics.

[67] Figure 4A-4C illustrate a portion of the stretchable portion of the cage having apertures that may be shaped to expand and/or contract in one or more directions. For example, the apertures may be shaped to be a diamond 137 having a pair of first opposing vertices 139 that are expandable in a first direction 141 and a pair of second opposing vertices 143 that are expandable in a second direction 145, depending on the sizes and shapes of the projections that extend therethrough. The first direction 141 may be a direction generally opposing the center point 147 of the diamond 137 and may be generally in 180° directionally opposed forces away from the center point 147 of the diamond 137 (*e.g.,* directing a force away from the center point), as illustrated in Figure 4A. The first vertices 139 may extend to a position that is a greater distance from the center point 147 of the diamond 137 along the first direction 141. The second opposing vertices 143 may extend in the second direction 145, which is different than the first direction 141. In the examples illustrated in Figs. 4A-4C, the first direction 141 is substantially perpendicular to the second direction 145. Any suitable orientation of the angle between the first direction and the second direction 145 may be implemented.

[68] Figure 4B illustrates a cage 101 having a first pair of vertices 143 that are positioned in a resting position. The first pair of vertices 139 may be at a first

distance 149 apart. The first distance 149 is less than an expanded distance 151 (*e.g.,* a distance of the first pair of vertices 139 in the expanded position 151 of Figure 4A). In contrast, the first pair of vertices 139 may be retracted to a retracted distance 153 that is illustrated in Figure 4C (*e.g.,* by expanding in the direction 145). The retracted distance 153 may be less than the expanded distance 151 and the first distance 149.

[69] When the first pair of vertices 139 of the cage 101 expand to the expanded position 151 of Figure 4A, the second pair of vertices 139 may be retracted to a position that is closer to the center point 147 of the diamond 137. Moreover, the first pair of vertices 139 and the second pair of vertices 143 may act in opposing motion and force, *e.g.,* when the first pair of vertices 143 expands to a position farther away from the center point of the diamond 137, the second pair of vertices 143 retracts to a position closer to the center point 147 of the diamond 137. In contrast, when the first pair of vertices 139 retracts to a position closer to the center point 147 of the diamond 137, the second pair of vertices 143 expands to a position that is farther away from the center point 147 of the diamond 137.

[70] The frame 109 size and projections 111 extending through the first pair of vertices 139 and the second pair of vertices 143 may cause both sets of vertices 139 to expand. The first pair of vertices 139 may also expand in unison with the second pair of vertices 143, *e.g.,* both the first pair and the second pair expand at the same time. The general shape of the cage 101 may be maintained during the expansion and retraction of the cage 101. The shape of the cage 101 at a resting position may be similar to the shape of the cage 101 at an expanded position; however, the expanded position may define a larger interior space for the wearer's foot as compared to the interior space defined by the cage 101 while it is in a resting position. The shape of the case 101 may be altered when it expands and contracts.

[71] For example, both the first pair of vertices 139 and the second pair of vertices 143 may expand in a direction away from the center point 147 of the diamond 137

(*e.g.*, if the projection 111 is larger in two dimensions that the aperture 107). Likewise, both the first pair of vertices 139 and the second pair of vertices 143 may retract in a direction toward the center point 147 of the diamond 137 (*e.g.*, when a large projection 111 is removed from the aperture 107). The first pair of vertices 139 may also expand in an independent motion from the second pair of vertices 143 (and vice versa). Figures 4A-4C illustrate one pair of vertices (in this example, the first pair of vertices) of the diamond shape of the apertures 137 that are in various levels of expansion.

[72] The apertures 107 may be shaped in any suitable or desired shape. Figures 5A-5D illustrates various shapes that may be suitable for the cage 101. The apertures 107 may be expandable in any direction. In many examples, the apertures 107 may be expandable in various directions that provide comfort for the wearer's foot.

[73] Figures 5A and 5B illustrate apertures that may be shaped in a regular polygon 155 having four sides, such as a square or rectangular shape 155. Figures 5A and 5B illustrate 4-sided polygon apertures 155 that are positioned in the cage so that they extend along the length of an upper 115 and/or along the exterior of the sole 117 of an article of footwear 100. For example, the bottom surface 129 of the cage 101 may extend along the entire length of the sole 117 (and hence the entire length of the article of footwear 100, along a longitudinal axis of the wearer's foot).

[74] For example, in Figure 5A and 5B, the cage comprises a plurality of rows of apertures. Any configuration of apertures 107 may be included in cage, *e.g.*, a plurality of rows and/or columns of apertures. The orientation of the apertures 107 also may be a custom design such as a crescent shape or hemispherical shape.

[75] In the example illustrated in Figures 5A and 5B, the first row of apertures 157 and the second row of apertures 159 may be positioned adjacent one another so that each side of the apertures 107 may be shifted the distance of approximately 0.5 length of an aperture so that the center point 161 of the apertures is a first row of

apertures 157 is approximately aligned with the side 163 of each aperture in the second row of apertures 159.

[76] The plurality of apertures 107 may be oriented to cause the cage 101 to expand in any suitable direction. Further, the plurality of apertures 107 may be oriented to encourage the cage 101 to extend along a line of force that may be comfortable for the wearer's foot. The material(s) of the various portions of the cage 101 also may be selected so as to, at least in part, control the extent of stretchability.

[77] Figures 5C and 5D illustrate cages having a plurality of apertures 107 that are each configured to be a shape having two substantially straight sides and two generally curved sides. In Figures 5C and 5D, the apertures 107 may be oriented to expand along the line defined by the arrow 165. Any combination of shapes may comprise the plurality of apertures. In some example, a plurality of apertures may have a first aperture configured in a first shape and a second aperture configured in a second shape that is different from the first shape.

[78] Figures 6A and 6B illustrate another example of an article of manufacture according to this invention embodied in an article of footwear 200. The cage 101 may extend around one or more of the forefoot region 119, the midfoot region 121, and the heel region 123 of the wearer's foot. For example, Figures 6A and 6B illustrate a cage that is positioned to extend through the upper in the midfoot region 121 of the wearer. A textile portion 167 of the upper 115 may be attached to the cage 101 or may be attached to the upper 115, outsole 117, or any other suitable element of the article of footwear 200. The textile portion 167 may be positioned to extend over the forefoot region 119 of the upper 115. The textile portion 167 may comprise a breathable material and/or an expandable material. The textile portion 167 may be capable of expanding to the shape of the forefoot region 119 of the upper 115. The textile portion 167 may be unitary with the cage 101 and may be fitted to be positioned adjacent to the wearer's foot.

[79] The textile portion 167 may include a plurality of slits 169. The slits 169 may be a longitudinal cut or slice through at least a portion of the textile portion 167 to

permit the textile portion 167 to expand. The slits 169 may be a cut that extends through the entire width of the textile portion 169 and may provide for the exchange of moisture and air between a space defined by the interior of the article of footwear 200 and the exterior of the article of footwear 200. The slits 169 may be caused to expand when an object, such as a wearer's foot may be inserted into the cage or when the wearer's foot moves when the article of footwear 200 is engage therewith.

[80] Figure 7 illustrates another example an article of manufacture according to this invention that is shaped to be an article of footwear 300. Figure 7 illustrates a sandal having a cage 101 that extends over the top portion of the midfoot region 121 of the wearer's foot and that extends along the longitudinal length of the sole. The cage 101 of the article of footwear 300 illustrated in Figure 7 may be capable of receiving a first insert and a second insert, where the first and the second insert are different sizes and/or widths. The cage 101 may expand to the size and shape of the insert 103 in the same fashion as described above in greater detail. The sandal configuration may also comprise a cage 101 that extends along the longitudinal length of the bottom surface of the article of footwear 300 and a textile portion (or other material) that extends across the top surface of the wearer's forefoot and/or midfoot region (across the top of the wearer's foot to secure the article of footwear to the wearer's foot).

[81] The article of manufacture may also be configured to be in the shape of a container. The container may define a space for receiving an object. The space may fittingly engage with the objects or may permit the objects to be contained in any suitable fashion. The insert 103 may be shaped to cause the cage 101 to expand to the shape of a container. The insert 103 may be shaped to be a bag or other container that is capable of containing or storing objects. For example, Figures 8A and 8B illustrate a handbag 171 that includes a cage 101 made of stretchable material and an insert that is capable of expanding the handbag cage 101 to a suitable shape that is shown by the dashed lines 173 and 175 in Figures 8A and 8B, respectively. The handbag 171 may include any desired decorative or

functional features such as pockets, key chains, and the like. The handbag 171 may be capable of containing objects and may be used for any purpose such as for storing and containing personal items.

[82] Figures 9A and 9B illustrate an article of manufacture that includes an insert that is shaped to be a wallet 177. The wallet 177 may include a cage 101 having a first wall 179 and a second wall 181, each of the first wall 179 and the second wall 181 having a free end 183 and an attached end 185. The attached ends 185 of each of the first wall 179 and the second wall 181 may be affixed together and aligned so that their edges are positioned adjacent to one another. In some examples, the wallet is a single, unitary element that is folded over at a midpoint, the midpoint defining the "two attached ends." The free ends 183 of the first wall 179 and the second wall 181 of the wallet 177 may also be aligned or may define opposing ends of an open wallet in a similar fashion to a free end of opening a book. A securing mechanism 187 may be attached to the wallet 177 for securing the free end 183 of the first wall 179 to the free end 183 of the second wall 181. The securing mechanism 187 may be attached to the wallet 177 at or near the free end 183 of either or both of the first wall 179 or the second wall 181.

[83] Figure 10 illustrates yet another embodiment of an article of manufacture according to this invention that is configured to be a case for electronics 189. The article of manufacture may include a cage 101 and an insert shaped to cause the cage to expand to the shape of a case for electronics 189 when the insert 103 is inserted into the cage 101. In this manner, a single cage may be used to create electronics cases for electronics elements of a variety of different sizes (*e.g.*, depending on the insert size placed within the case).

[84] The article of manufacture may include any object or article that may comprise a cage having a plurality of apertures and an insert having a frame that may be inserted into the cage, where the frame may have a plurality of projections that may extend through the apertures to expand the cage to the shape of the insert. The case and/or inserts each may be one piece or multi-piece construction.

[85] A method of modular construction according to examples of this invention may comprise: (a) inserting an insert into a cage, the insert having a frame and aplurality of projections and the cage including at least one stretchable portion to expand to the shape of the frame and/or the projections; and (b) coordinating the plurality of projections to extend through the plurality of apertures when the cage is expanded to the dimensions of the frame. The method of modular construction may be used to form articles of manufacture, such as articles of footwear, containers, articles of apparel, or any other suitable object.

[86] The modular nature of the method of modular construction permits articles of manufacture to be customized, *i.e.* to be fitted to a various sizes and shapes of the user/wearer or other contained item. The cage may be capable of expanding to various sizes and shapes when different inserts are placed into the cage. As described in detail above, the cage may have a stretchable portion including a plurality of apertures and the insert may have a frame and a plurality of projections. The cage may be manufactured in many different sizes, shapes, and colors. The inserts may be manufactured in many different sizes, shapes, and colors. The cage and inserts may be interchangeable to customize or "mix and match" the size, shape, and appearance of the article of manufacture to meet the anatomical and fashion needs of the wearer or user.

[87] An article may be customized by: (a) inserting a first insert into a cage, the first insert having a first frame and defining a first plurality of projections that may extend from the first frame, the cage including at least one stretchable portion that may define a plurality of apertures, wherein the first plurality of projections extend through the plurality of apertures when the cage expands to the shape of the first frame; (b) removing the first insert from the cage; and (c) inserting a second insert into the cage, the second insert having a second frame that may be different (*e.g.,* in size, shape, color, etc.) from the first frame and defining a second plurality of projections that may extend from the second frame, wherein the second plurality of projections extend through the plurality of apertures when the cage expands to the shape of the second frame.

[88] The article may be any textile, plastic, or other article that may be manufacturable. The article may be an article of footwear, a container, an article of apparel, or the like. The article may be modular in nature and may have interchangeable elements such as one or more of the cage, the first insert, the second insert, the stretchable portion, or any other element. The first insert may be sized differently than the second insert. The first insert may be sized to fit a first wearer or user and a second insert may be sized to fit a second wearer or user, wherein the first and the second inserts may be placed into the same cage. The various inserts also may be sized and/or shaped to create containers having different sizes and/or shapes.

[89] For example, the article may be an article of footwear and may have a first insert that is sized for a first wearer and a second insert that may be sized for a second wearer. The first insert may be a wearer with a small foot and the second insert may be a wearer having a somewhat larger foot. The first insert may also be shaped and sized for a woman's foot whereas the second insert may be shaped and sized for a man's foot.

[90] When the first insert is removed from the cage and replaced with the second insert, the article of manufacture may be customized and adjustable. The first and the second inserts may also be the same size and shape for a single user, but may have different features, decorations, or colors. The first insert may also replace the second insert when the first insert is worn. The cage is capable of receiving any number of inserts having different sizes and shapes.

C. Conclusion

[91] While the invention has been described with respect to specific examples including presently preferred modes of carrying out the invention, those skilled in the art will appreciate that there are numerous variations and permutations of the above described systems and methods. Thus, the spirit and scope of the invention should be construed broadly as set forth in the appended claims.

Claims:

1. An article of manufacture, comprising:

a cage including at least one stretchable portion, wherein the stretchable portion defines a plurality of apertures that allow the stretchable portion to expand in at least one direction; and

an insert having a frame and a plurality of projections extending therefrom such that when the insert is placed into the cage, the projections extend through the apertures to cause the stretchable portion to expand to dimensions defined by the frame.

2. The article of manufacture recited in claim 1, wherein the stretchable portion is configured to be expanded without deviating from a general shape of the stretchable portion prior to being expanded.

3. The article of manufacture recited in claim 1, wherein the insert is a first insert having a first frame defining a first dimension, and wherein the article of manufacture further comprises a second insert having a second frame defining a second dimension different from the first dimension such that when the second insert is placed into the cage, projections included with the second frame extend through the apertures to cause the stretchable portion to expand to the second dimension.

4. The article of manufacture recited in claim 1, wherein at least a portion of the apertures are in the shape of a regular polygon.

5. The article of manufacture recited in claim 4, wherein the regular polygon is four-sided.

6. The article of manufacture recited in claim 1, wherein the cage further includes a textile portion that contains one or more slits that are configured to expand when an object is placed within the insert.

7. The article of manufacture recited in claim 1, wherein the insert is shaped to configure the cage to be a container.

8. The article of manufacture recited in claim 7, wherein the container is at least one of a handbag, a backpack, a wallet, and a case for electronics.

9. An article of footwear, comprising:

a cage including at least one stretchable portion, wherein the stretchable portion defines a plurality of apertures that allow the stretchable portion to expand in at least one direction without deviating from a general shape of the stretchable portion; and

an insert shaped to configure the cage to be an article of footwear, wherein the insert includes a frame and a plurality of projections extending therefrom, the insert causing the stretchable portion to expand to dimensions defined by the frame.

10. The article of footwear recited in claim 9, wherein the insert is a first insert having a first frame defining a first dimension, wherein the article of footwear further comprises a second insert having a second frame defining a second dimension that is different from the first dimension such that when the second insert is placed into the cage, projections included with the second extend through the apertures to cause the stretchable portion to expand to the second dimension.

11. The article of footwear recited in claim 9, wherein at least a portion of the apertures are in the shape of a regular polygon.

12. The article of footwear recited in claim 11, wherein the regular polygon is four-sided.

13. The article of footwear recited in claim 9, wherein the cage further includes a textile portion that contains one or more slits that are configured to expand when an object is placed into the article of footwear.

14. The article of footwear recited in claim 9, wherein the cage forms at least a portion of an upper of the article of footwear and at least some of the projections of the insert form at least a portion of a sole structure of the article of footwear.

15. A method of modular construction, comprising:

placing an insert into a cage,

the insert having a frame and a plurality of projections; and

the cage including at least one stretchable portion that defines a plurality of apertures that allow the stretchable portion to expand to the shape of the frame; and

coordinating the plurality of projections to extend through the plurality of apertures when the cage is expanded to the dimensions of the frame.

16. The method recited in claim 15, wherein the stretchable portion is expanded without deviating from a general shape of the stretchable portion.

17. The method recited in claim 15, wherein the insert is a first insert having a first frame defining a first dimension and a first plurality of projections, the method further comprising:

removing the first insert; and

placing a second insert into the cage,

the second insert having a second frame defining a second dimension different from the first dimension and a second plurality of projections; and

coordinating the second plurality of projections to extend through the plurality of apertures when the cage is expanded to the dimensions of the second frame.

18. The method recited in claim 15, wherein at least a portion of the apertures are in the shape of a regular polygon.

19. The method recited in claim 18, wherein the regular polygon is four-sided.

20. The method recited in claim 15, wherein the cage includes a plurality of slits that are capable of expanding when an object is placed within the article of footwear.

21. The method recited in claim 15, wherein the insert is shaped to configure the cage to be an article of footwear.

22. The method recited in claim 15, wherein the insert is shaped to configure the cage to be a container for defining a space for receiving an object.

23. The method recited in claim 22, wherein the container is at least one of a handbag, a backpack, a wallet, and a case for electronics.

24. A method for customizing a an article of manufacture, comprising:

placing a first insert into a cage,

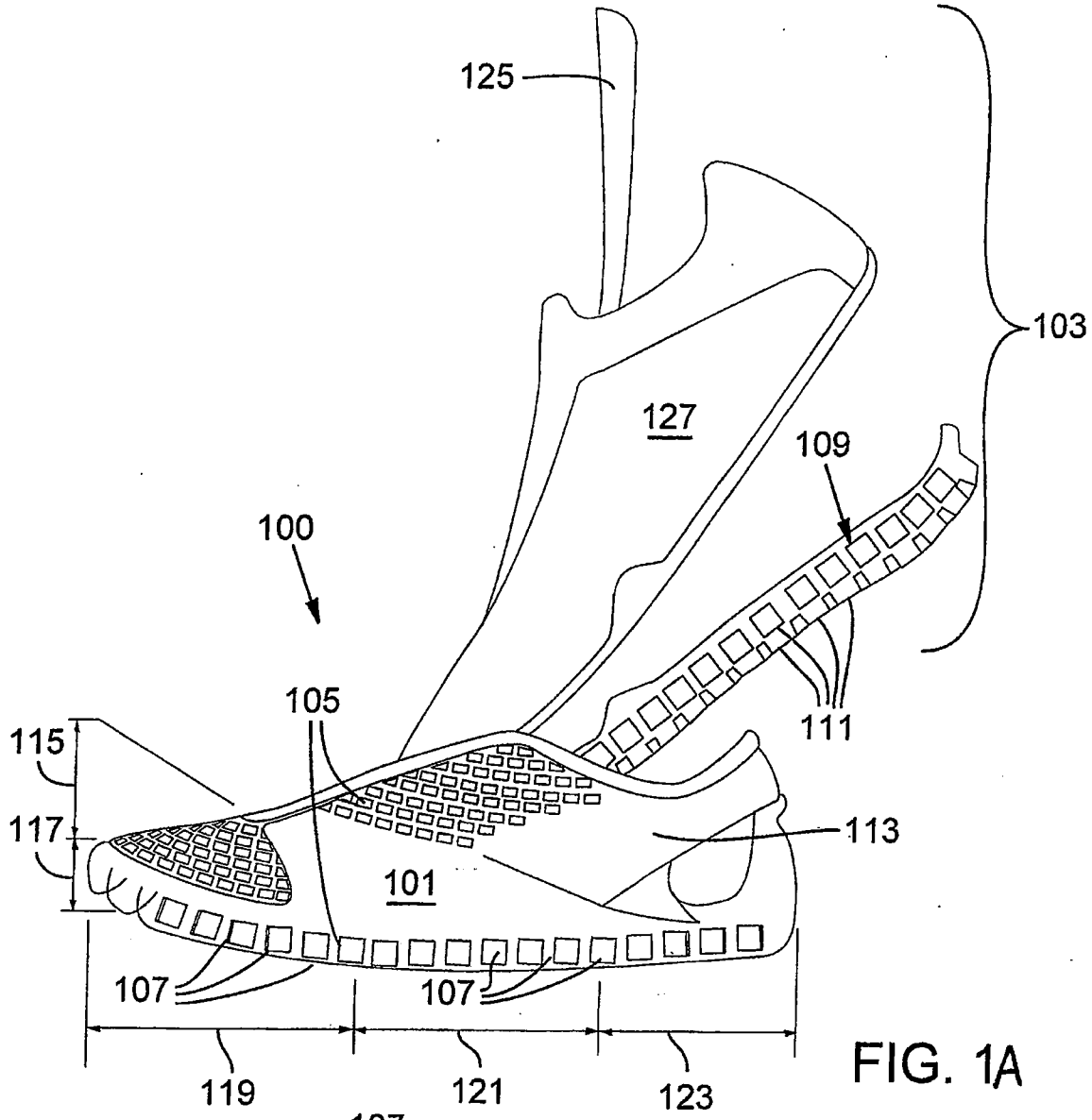
the first insert having a first frame and defining a first plurality of projections extending from the first frame,

the cage including at least one stretchable portion that defines a plurality of apertures, wherein the first plurality of projections extend through the plurality of apertures when the cage expands to the shape of the first frame;

removing the first insert from the cage; and

placing a second insert into the cage, the second insert having a second frame different from the first frame and defining a second plurality of projections extending from the second frame, wherein the second plurality of projections extend through the plurality of apertures when the cage expands to the shape of the second frame.

25. The method recited in claim 24, wherein the first frame has at least one of a different size, a different shape, or a different color from the second frame.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101
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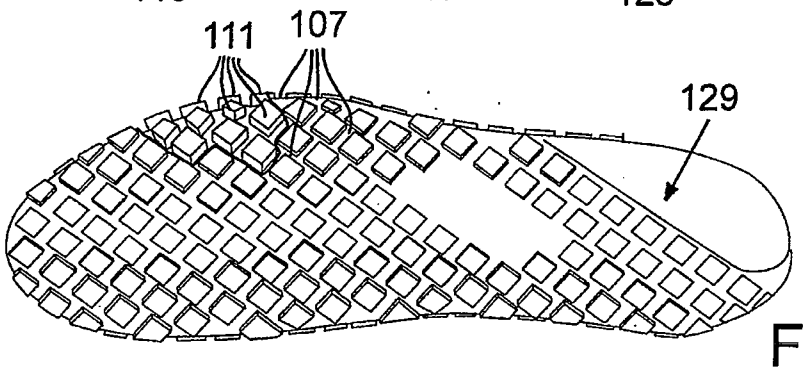
123

FIG. 1A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107
129

FIG. 1B

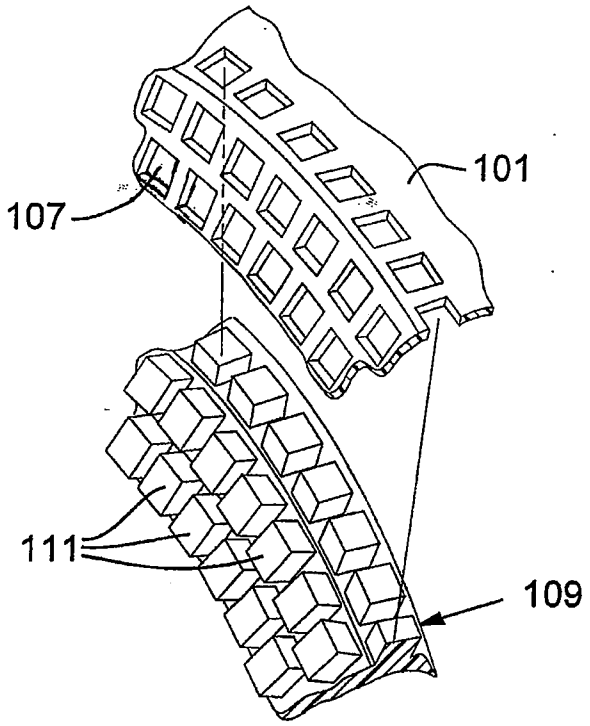

FIG. 2A

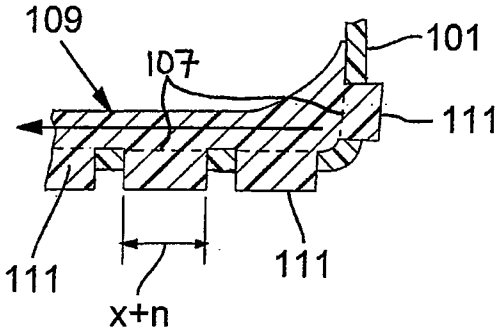

FIG. 2B

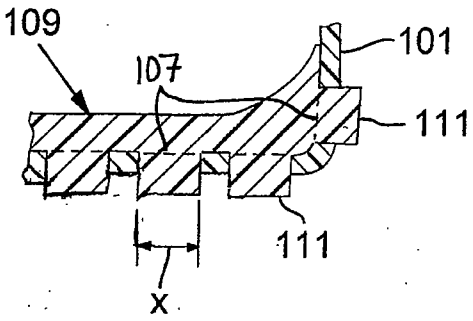

FIG. 2C

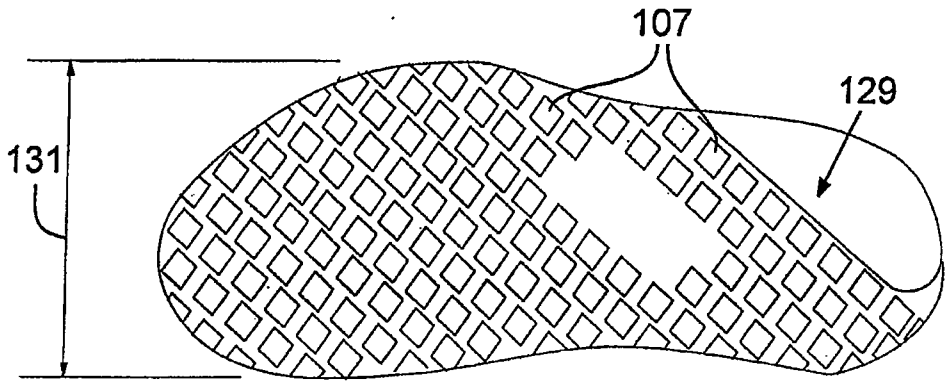

FIG. 3A

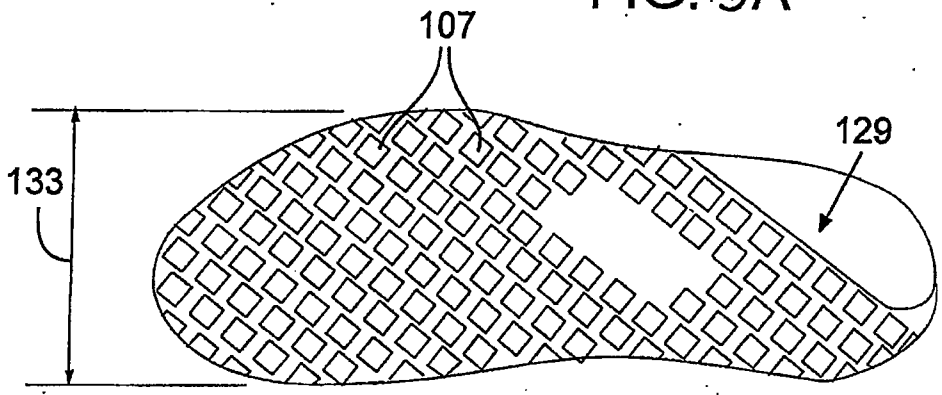

FIG. 3B

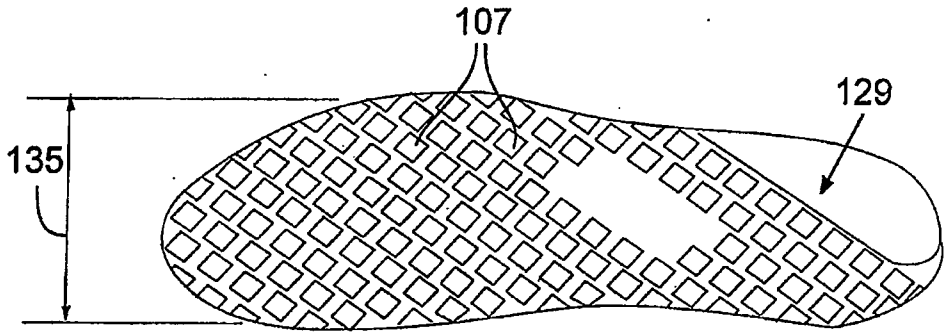

FIG. 3C

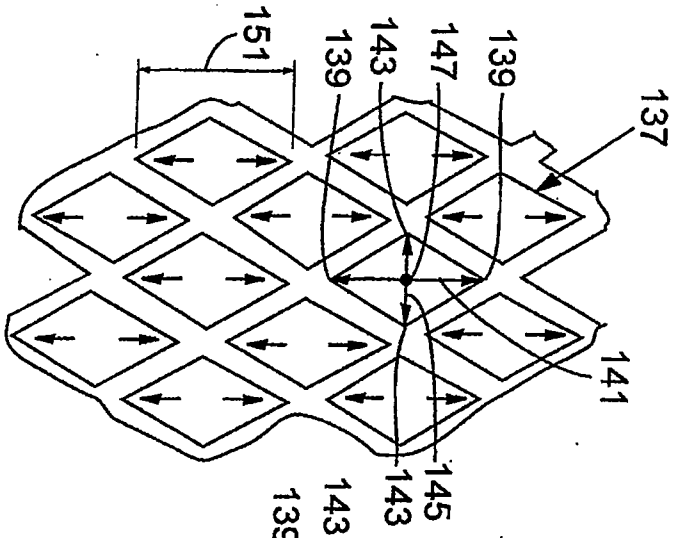

FIG. 4A

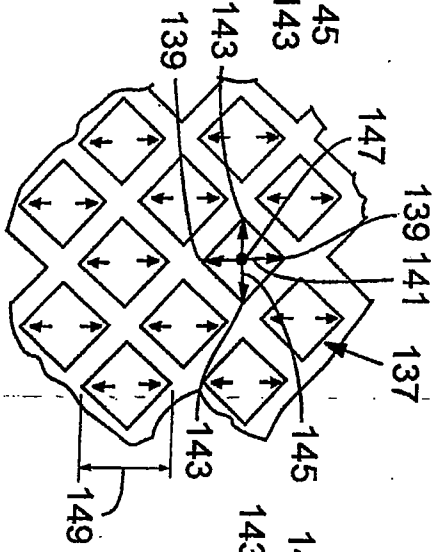

FIG. 4B

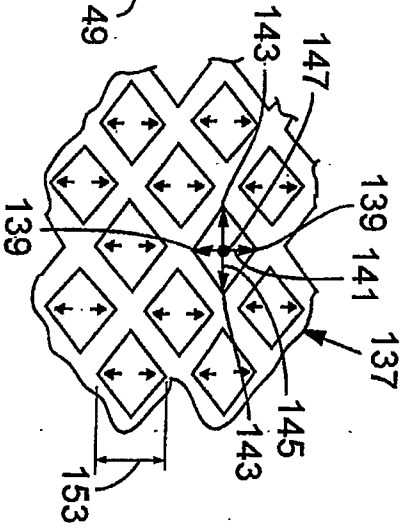

FIG. 4C

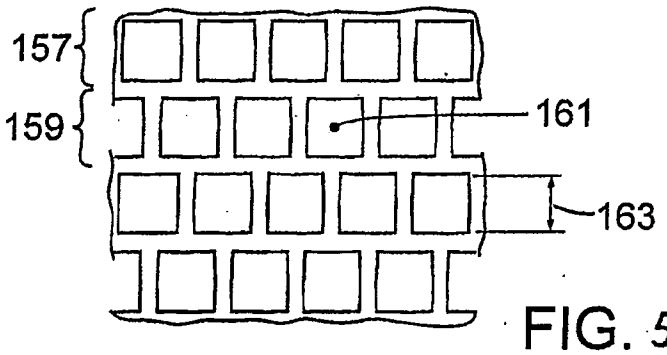

FIG. 5A

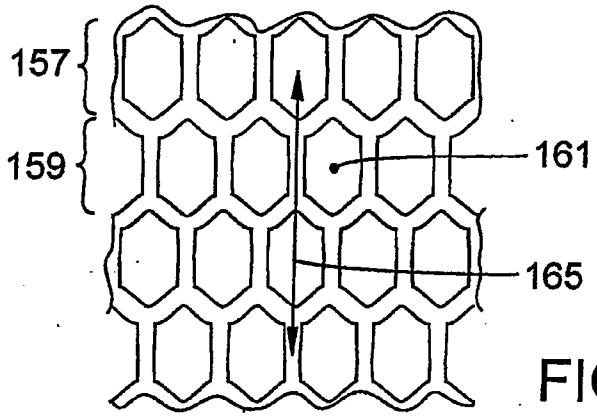

FIG. 5C

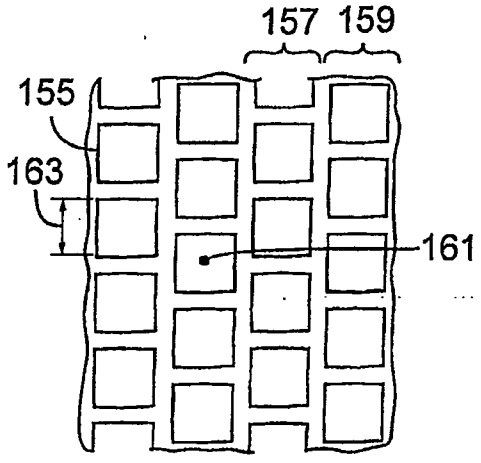

FIG. 5B

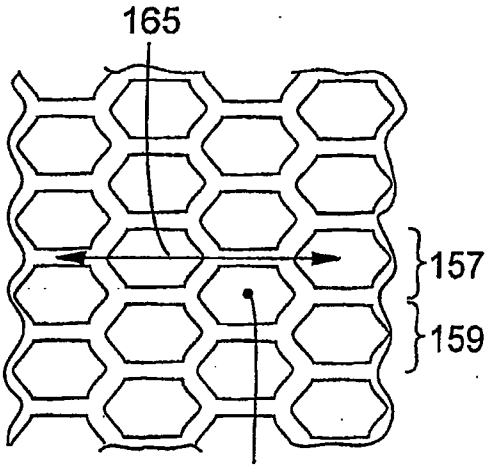

FIG. 5D

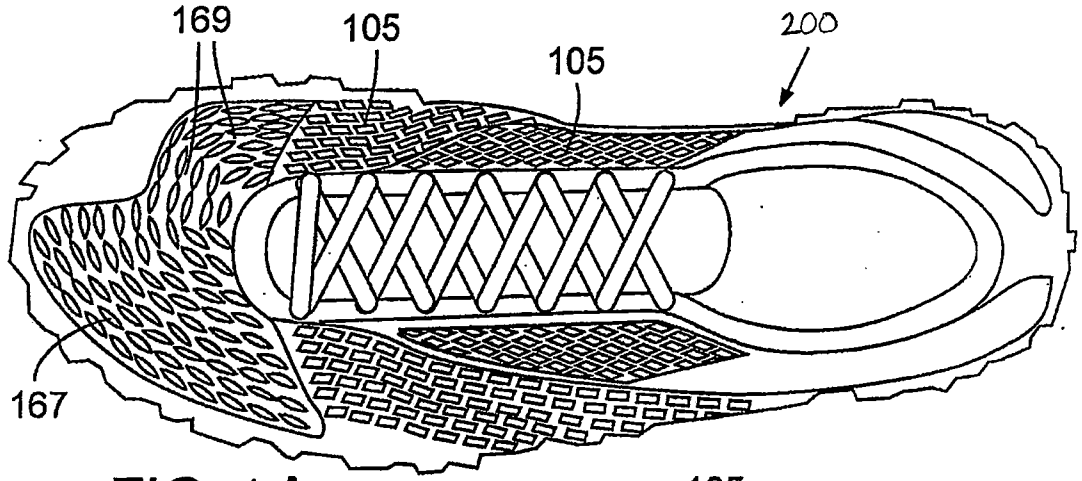

FIG. 6A

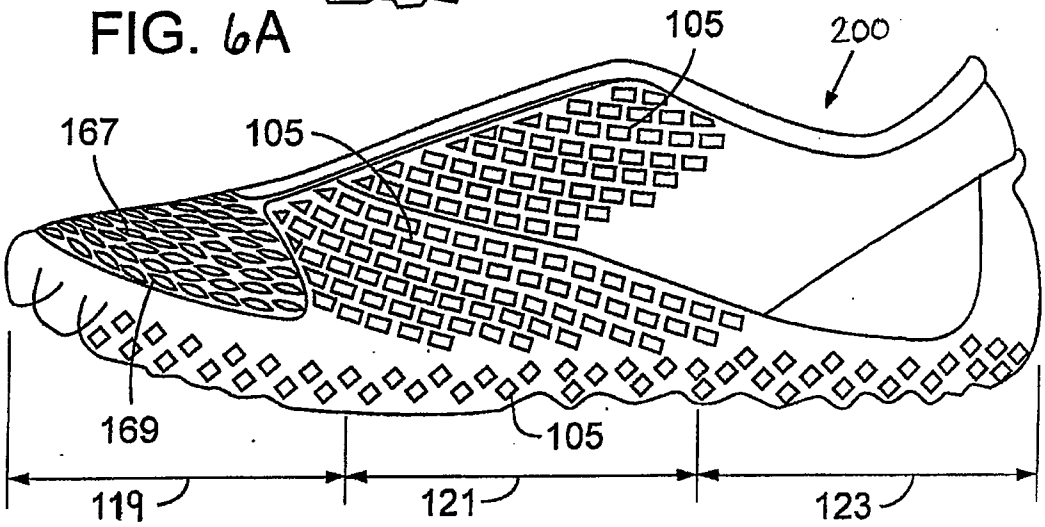

FIG. 6B

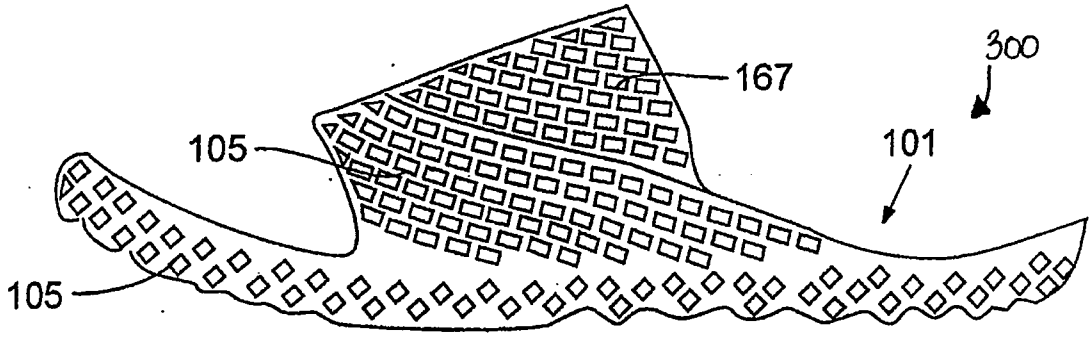

FIG. 7

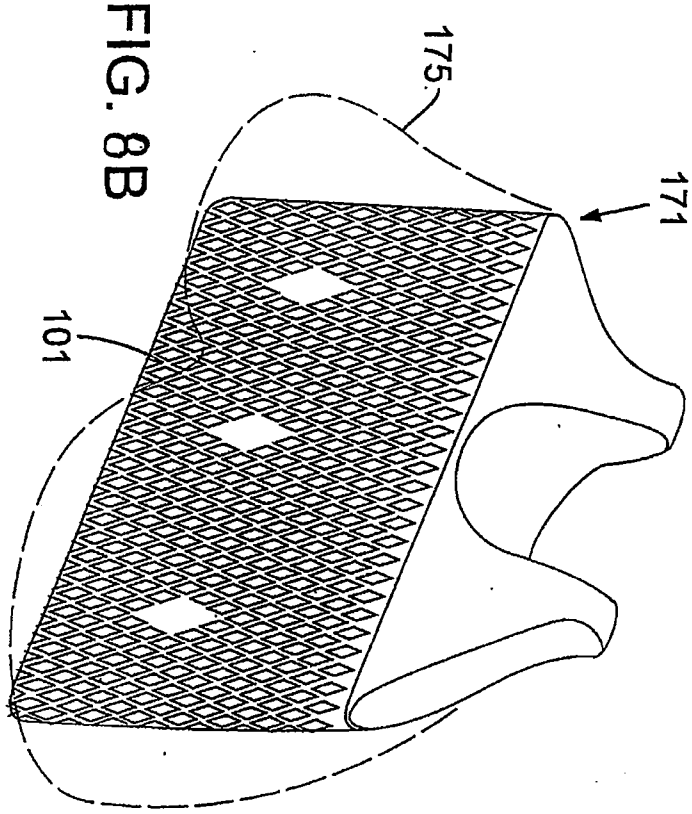

FIG. 8B

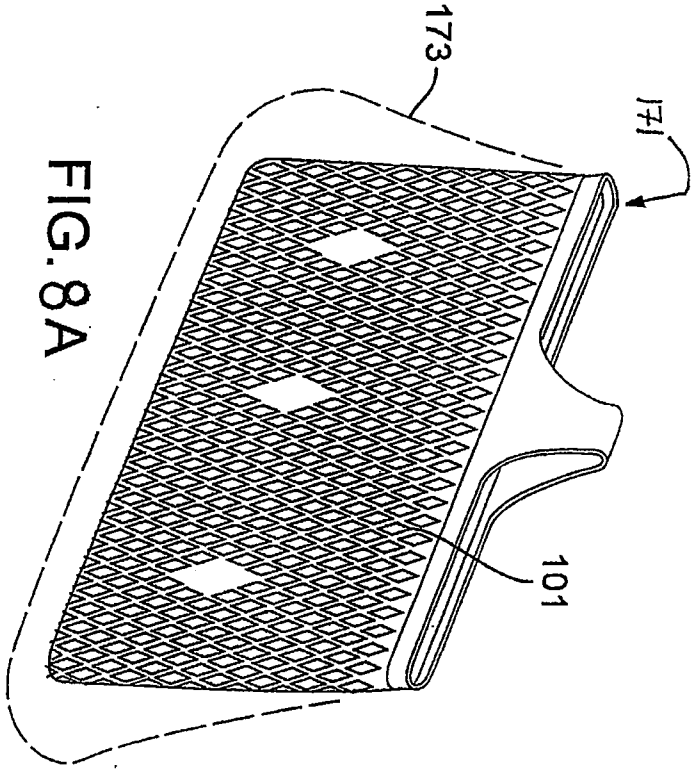

FIG. 8A

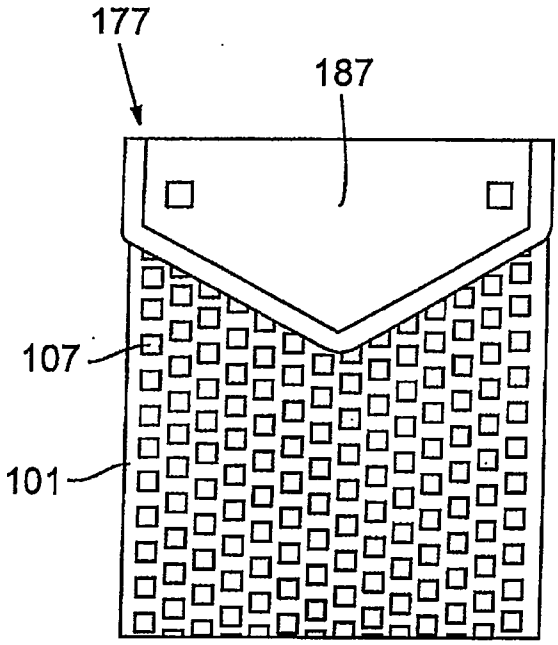

FIG. 9A

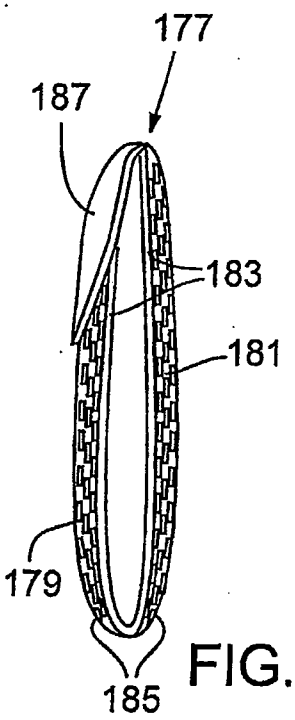

FIG. 9B

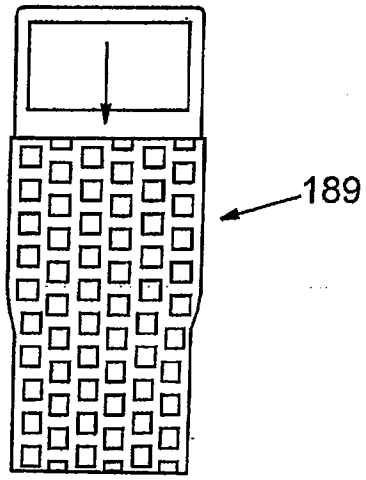

FIG. 10

INTERNATIONAL SEARCH REPORT

International application No
PCT/US2009/031268

A. CLASSIFICATION OF SUBJECT MATTER
INV. A43B3/24 A43B3/26 A43B13/26 A43B13/36 A45C3/08
H04B1/38

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
A43B A45C H04B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)
EPO-Internal, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 2007/096880 A (KAPLAN-SIROTA KEREN [IL]; KAPLAN-SHALEV LIYA [IL]) 30 August 2007 (2007-08-30) the whole document	1-25
X	US 6 915 596 B2 (GROVE JAMES A [US] ET AL GROVE JAMES A [US] ET AL) 12 July 2005 (2005-07-12) cited in the application the whole document	1-6, 9-21,24, 25
X	WO 00/25621 A (EADE DARREN WAYNE [AU]) 11 May 2000 (2000-05-11)	1,2,4-8, 15,16, 18,19, 22,23
A	page 4, paragraph 21-28; figures	9,24

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[X] Further documents are listed in the continuation of Box C.

[X] See patent family annex.

* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

"E" earlier document but published on or after the international filing date

"L" document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

"O" document referring to an oral disclosure, use, exhibition or other means

"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search	Date of mailing of the international search report
5 May 2009	15/05/2009

Name and mailing address of the ISA/	Authorized officer
European Patent Office, P.B. 5818 Patentlaan 2 NL - 2280 HV Rijswijk Tel. (+31-70) 340-2040, Fax: (+31-70) 340-3016	Herry, Manuel

C(Continuation). DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 2005/116334 A1 (BUEHLER DOYLE [CA]) 2 June 2005 (2005-06-02)	1,2,4-8, 15,16, 18,19, 22,23
A	paragraphs [0040] - [0042], [0073]; figures	9,24
X	US 6 701 159 B1 (POWELL ANDEW P [US]) 2 March 2004 (2004-03-02)	1,15
A	the whole document	9,24

INTERNATIONAL SEARCH REPORT

International application No.
PCT/US2009/031268

Box No. II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This international search report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

2. ☐ Claims Nos.:
because they relate to parts of the international application that do not comply with the prescribed requirements to such an extent that no meaningful international search can be carried out, specifically:

3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box No. III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this international search report covers allsearchable claims.

2. ☒ As all searchable claims could be searched without effort justifying an additional fees, this Authority did not invite payment of additional fees.

3. ☐ As only some of the required additional search fees were timely paid by the applicant, this international search reportcovers only those claims for which fees were paid, specifically claims Nos.:

4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this international search report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

☐ The additional search fees were accompanied by the applicant's protest and, where applicable, the payment of a protest fee.

☐ The additional search fees were accompanied by the applicant's protest but the applicable protest fee was not paid within the time limit specified in the invitation.

☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1-8, 15-19, 22-25

Claims 1-8, 15-19 and 22-25 relate to articles of manufacture, and more particularly to containers such as handbags, wallets and cases for electronics.
This wording encompasses cages in the form of stretchable covers, receiving inserts which can be electronic devices.
These features provide cages or covers which may fittingly engage with the inserts received therein (see paragraph 81 of the application).

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2. claims: 9-14, 20-21

Claims 9-14 and 20-21 relate to an article of footwear, in which the insert is shaped to configure the cage to be an article of footwear. With these features an article of footwear may be customized to the shape of the wearer's foot and to the wearer's fashion needs (see paragraph 9 of the application).

INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No
PCT/US2009/031268

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
WO 2007096880 A	30-08-2007	AU 2007219086 A1	30-08-2007
		CA 2643966 A1	30-08-2007
		EP 1988792 A2	12-11-2008
		US 2009055997 A1	05-03-2009
US 6915596 B2	12-07-2005	AT 384452 T	15-02-2008
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		EP 1587385 A1	26-10-2005
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		US 2005210705 A1	29-09-2005
		US 2009000149 A1	01-01-2009
		US 2004148803 A1	05-08-2004
WO 0025621 A	11-05-2000	NONE	
US 2005116334 A1	02-06-2005	NONE	
US 6701159 B1	02-03-2004	NONE	