

article of footwear, for example a slipper or casual shoe. The particular blank, indicated generally by the reference numeral 10, comprises a surface fabric layer 11, for instance of coloured interlock knit fabric, a cushioning layer 12 of a resilient foamed material such as polyurethane, a bonding layer 13, e.g. of unbleached interlock knit fabric, and an outer layer 14 of an elastomer imparting an appearance or feel of soft and pliable leather, but of course, any suitable upper material may be used. In Fig. 1, the blank is shown with the surface fabric layer 11 uppermost.

As can be seen from Fig. 1, the blank 10 comprises an upper panel 15 generally of U-shape providing side-by-side limbs 16, 17. The limb 16 has formed integrally therewith a sole piece 18, the overall shape of which conforms to a conventional sole-piece or sock, with one side edge of said sole-piece contiguous with the corresponding side edge of the limb 16, free outer edge 23 of the upper panel 15 and free outer edge 22 of the sole-piece having no discernable allowances other than registration marks 26, 27, 28, 30, 31 to facilitate securement thereof together, as will be described later.

Figs. 3 to 7 illustrate the steps involved in making a slipper or other soft-topped article of footwear using the blank of Figs. 1 and 2.

Firstly, the free heel end edges 19 of the limbs 16, 17 of the U-shaped upper blank 15 are brought together, with the surface fabric layer 11 outwards, and then these free heel end edges 19 are secured together with one or more lines of stitching as indicated at 20, as shown in Fig. 3. Thereupon, a binding tape 21 is sewn over the heel end edges 19 at the resultant seam or join, and the closed upper is then turned right-side-out as shown in Fig. 4.

If it should be desired to reinforce the footwear article's heel, appropriate reinforcing panels (not shown) are stitched in place instead of, or in addition to, the binding tape 21, prior to turning right-side-out.

The next step is to secure the sole-piece 18 in position. As is shown in Fig. 5, this is done by sewing the free outer edge 22 of the sole-piece 18 to the corresponding free outer edge 23 of the upper panel 15, as at 25, the edge 23 of the upper panel 15 being pleated where necessary, for example around the toe region as indicated at 24 in Fig. 5. To ensure proper registration of the various parts of the edge 22 and 23, during this sewing operation, the registration marks 26, 27 and 28, which are in the form of pointed protuberances, on the sole-piece 18 are registered respectively with the heel stitching 20 and with the corresponding registration marks 30 and 31 on the upper panel 15.

This securement of the sole-piece 18 hav-

ing been completed, inner free edge 32 of the upper panel 15 is finished by folding inwards as a hem 33 and securing it in position by stitching, for example of a decorative configuration, as indicated at 34 in Fig. 6.

As a final stage in the making of the slipper or other article of footwear, the assembly, formed as above described and indicated by the numeral 35, is pulled onto a last 36 which is then positioned accurately in a heated multi-part mould 37 so as to define a mould space 38 corresponding to the desired outer configuration of a combined sole and heel of the slipper. An appropriate plastics or rubber material (not shown) is then injected into the mould space 38 thereby to mould said combined sole and heel onto the underside of the sole-piece 18, overlapping the stitched connection between the latter and the upper panel 15.

Upon removal from the last, any moulding sprue is cut away and the completed article of footwear is left to permit cooling and setting of the combined sole and heel, being otherwise substantially finished upon removal from the last and not requiring the addition of any further components.

The resultant slipper or other article of footwear is smart in appearance and snug in wear. Its primary advantage lies in the fact that it is significantly more economical to produce than in the case where traditional techniques are employed. Only one component is employed for the upper and sock, compared with three components in the traditional manufacture. Furthermore, the amount of sewing is less, and the steps of applying adhesive and assembling a component after moulding-on of the sole and heel are obviated.

Naturally, the invention is not confined to the precise details of the foregoing example, and variations may be made thereto within the scope of the following claims. Thus, it will readily be understood that the configuration of the blank and the material from which it is made may differ from what is illustrated, and the registration marks may be, for example, notches or small perforations. Naturally, decorative panels and/or trimmings, braids or ribbons may be provided on the finished article. The invention is not confined to the production of slippers but can be employed in relation to various styles of casual and soft-topped footwear.

WHAT WE CLAIM IS:—

1. A blank, for use in making an article of footwear, comprising a U-shaped panel which serves to form the footwear upper, characterised in that the said U-shaped panel has formed integrally therewith a sole-piece which is contiguous with and extends from the outer edge of one limb of the U, the free outer edge of the U-shaped panel

and the free edge of the sole-piece having registration marks to facilitate securement thereof together and being formed to define the discernable allowances.

- 5 2. A blank as claimed in Claim 1, wherein the registration marks are in the form of pointed protuberances, notches or perforations.
- 10 3. A blank as claimed in Claim 1 or 2 and which is of elastomer-coated fabric.
4. A blank as claimed in Claim 3, in which a cushioning layer, of resilient foamed material, is bonded to the fabric layer.
- 15 5. A blank, for use in making an article of footwear, substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings.
- 20 6. A method of making an article of footwear, using a blank as claimed in any preceding claim, which comprises closing the upper by bringing together the free heel end edges of the limbs of the U-shaped panel and securing said heel end edges together, connecting the free edge of the sole-piece to the corresponding lower free edge
- 25 of the upper using the said registration marks on said edges to facilitate their alignment; and moulding a combined sole and heel, of plastics material or rubber, to the assembly so formed.
- 30 7. A method as claimed in Claim 6,

wherein a binding tape is sewn over the heel end edges at the joint or seam at the heel of the upper.

8. A method as claimed in Claim 6 or 7 35 wherein a reinforcing panel is stitched to the upper at the heel thereof.

9. A method as claimed in Claim 6, 7 or 8 wherein the inner free edge of the upper panel is finished by folding it inwards as a hem and securing it in position by stitching. 40

10. A method as claimed in any of claims 6 to 9 wherein the combined sole and heel is moulded-in so as to overlap the stitched connection between the sole-piece 45 and the upper panel.

11. A method of making an article of footwear substantially as hereinbefore described with reference to and as illustrated in the accompanying drawings. 50

12. An article of footwear made by the method of any of claims 6 to 11.

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Printed for Her Majesty's Stationery Office by Burgess & Son (Abingdon), Ltd.—1979.
Published at The Patent Office, 25 Southampton Buildings, London, WC2A 1AY
from which copies may be obtained.

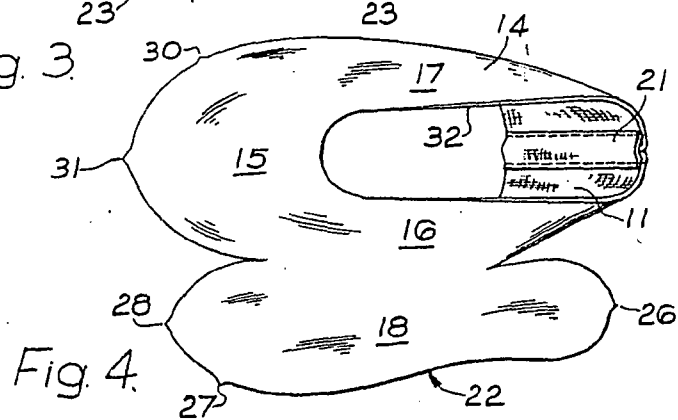
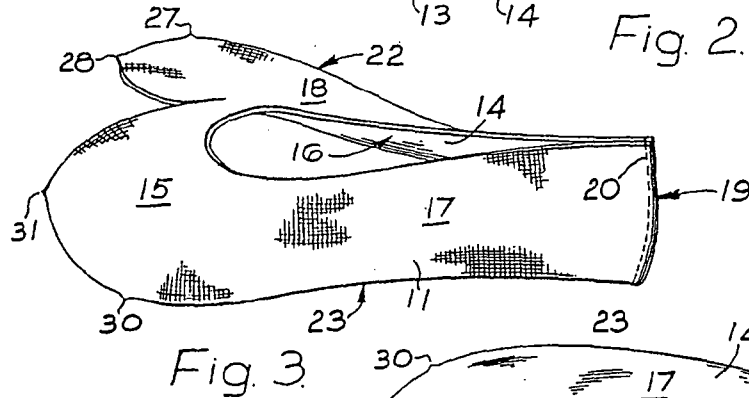
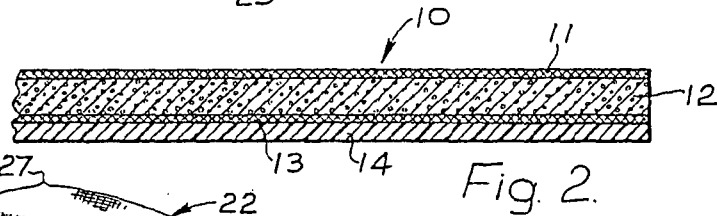
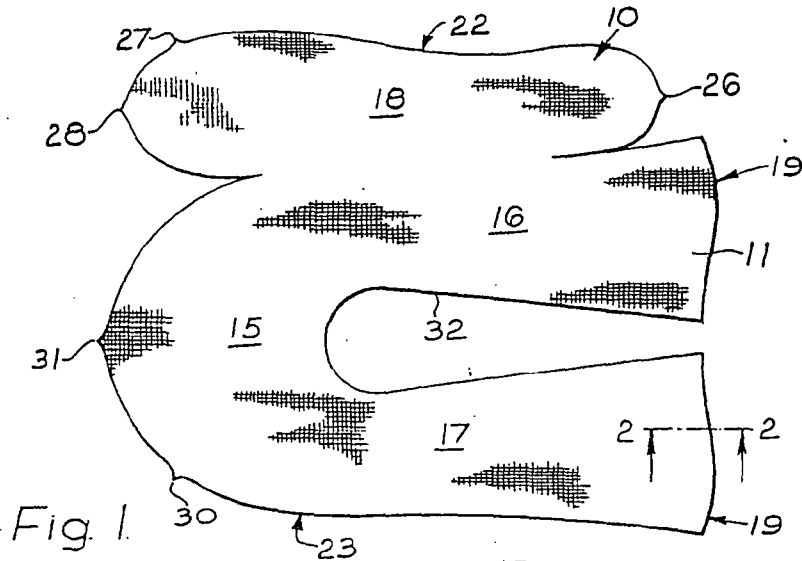
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COMPLETE SPECIFICATION

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SHEET 1



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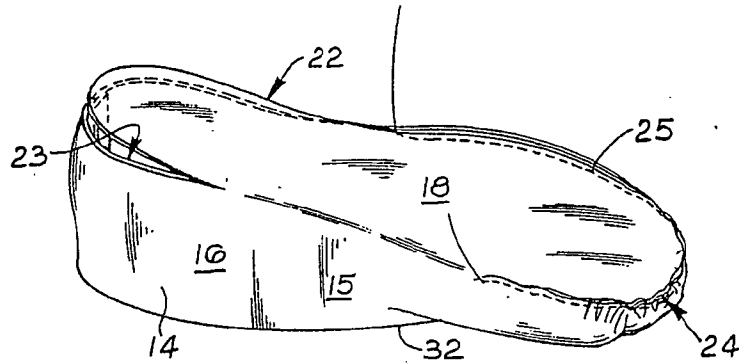


Fig. 5.

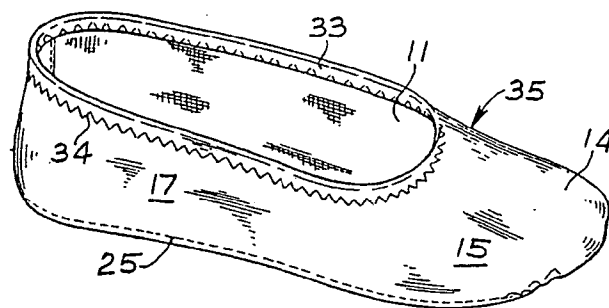


Fig. 6.

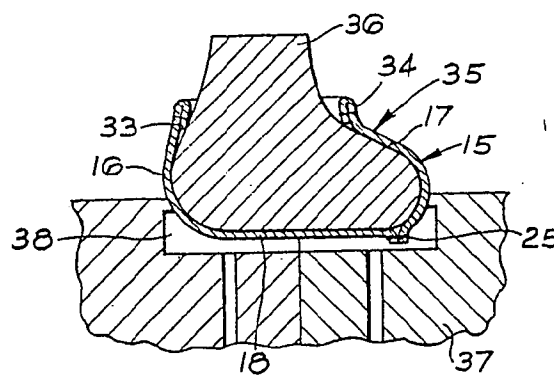


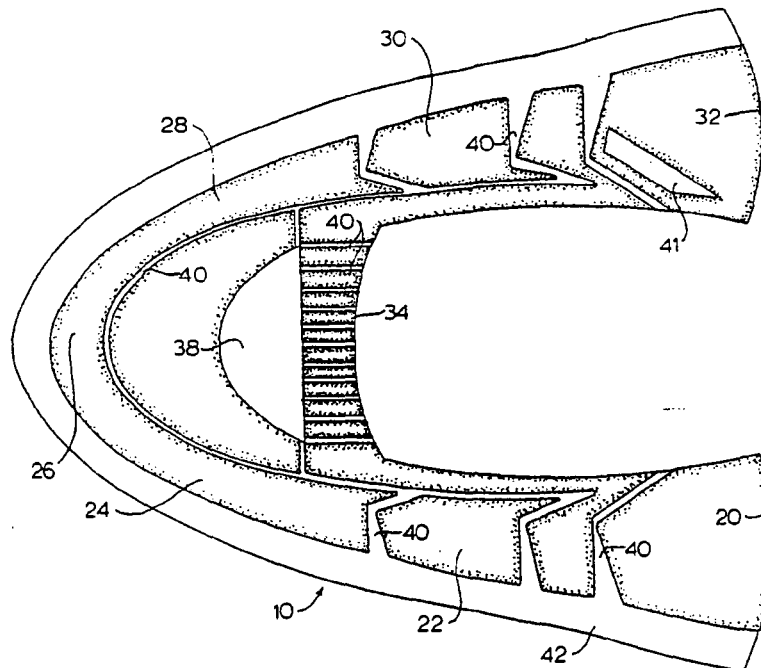
Fig. 7.

INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification ⁵ : A43D 8/24		A1	(11) International Publication Number: WO 90/03744
			(43) International Publication Date: 19 April 1990 (19.04.90)
(21) International Application Number: PCT/US89/04370		(74) Agents: SMITH, James, M. et al.; Hamilton, Brook, Smith & Reynolds, Two Militia Drive, Lexington, MA 02173 (US).	
(22) International Filing Date: 3 October 1989 (03.10.89)			
(30) Priority data:		(81) Designated States: AT (European patent), AU, BE (European patent), BR, CH (European patent), DE (European patent), DK, FR (European patent), GB (European patent), HU, IT (European patent), JP, KR, LU (European patent), NL (European patent), SE (European patent), US.	
251,305 3 October 1988 (03.10.88) US			
279,308 28 November 1988 (28.11.88) US			
347,813 4 May 1989 (04.05.89) US			
(60) Parent Applications or Grants		Published <i>With international search report.</i> <i>Before the expiration of the time limit for amending the claims and to be republished in the event of the receipt of amendments.</i>	
(63) Related by Continuation			
US 251,305 (CIP)			
Filed on 3 October 1988 (03.10.88)			
US 279,308 (CIP)			
Filed on 28 November 1988 (28.11.88)			
US 347,813 (CIP)			
Filed on 4 May 1989 (04.05.89)			
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(54) Title: HEAT EMBOSSED SHOES



(57) Abstract

A labor-saving shoe making process provides multilayered, heat embossed, shoe components including a one-piece upper. The components comprise a resilient foam layer and other layers for flexibility, strength and durability. Embossing of the shoe components serves to reduce the thickness of the material, provide sealing of the material, provide form and shape to the shoe, and allow strain control management. The connecting of shoe components is accomplished in part through the use of thermoplastic rivets which are heated and melted by the application of a high frequency field.

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HEAT EMBOSSED SHOES

Background of the Invention

5 The process of shoe manufacturing is generally very labor intensive and the most expensive component of the manufacturing process today is labor. For a particular shoe style, after the pattern is made for all sizes and the production schedule of manufacturing steps is determined, the labor-intensive assembly process occurs. The assembly process for a shoe having its specific design and number of pieces begins with the process of cutting the upper material. With a more complicated shoe pattern or with more pieces in the shoe design, more elaborate cutting procedures must be designed to minimize waste of materials.

15 In a typical shoe manufacturing process, after the upper pieces are cut, they are prepared for stitching in the fitting process. The upper pieces are first marked for stitching. The edges of the pieces that are to be joined to other pieces must be reduced in thickness in the skiving process in which a machine cuts a bevel on the edge of the material on the flesh side, or underside of each piece. Some or all of the upper parts, particularly thick leather uppers, may also need to be reduced in thickness or made more even in thickness by a "splitting" machine. Each of these steps requires handling of the individual upper pieces and skilled manipulation to achieve the desired change in the upper.

30 After the upper pieces are prepared by skiving and splitting, in a typical process, the interlining is cemented to the upper in the doubling process to add thickness and to improve the comfort and smoothness of the interior of the shoe. This requires careful

alignment of the interlining and the upper. To further improve the comfort and to add strength, the insides of the seams are often "rubbed" to reduce their bulk and then reinforced with fabric tape that is adhesive coated.

5 Similar fabric tape is also often applied to the edges of the uppers that are around the top of the shoe opening. Each of these top edges as well as other visible edges may also have cement applied to them prior to folding them into a narrow fold and heat-cementing or stitching
10 the fold in place to provide a neat appearance to the edge.

If the shoe has eyelets, these are applied by a machine that punches, spaces, and aligns the holes and sets the eyelets in the appropriate place. The eyelets
15 then are laced by a machine with thread so that the piece(s) are held in the correct position in the subsequent steps.

The upper pieces are stitched together after or during the fitting process depending on the manufacturing
20 steps for the particular shoe. The stitching process may be by machine or by hand and may include reinforcement stitching at the front corners in laced shoes and decorative stitching.

In the final segment of the traditional shoe
25 manufacturing process, the uppers are then shaped over a last (a shoe form shaped like a foot). A variety of lasting techniques may be used to assemble the upper and interlining over the last and to fasten them to the insole. In this process the heel, toe and side portions
30 of the shoe upper are pulled into place around the last so that they are in the desired shape of the final shoe product. The shoe upper may then remain in that pulled position for several days to set the shape.

Alternatively, the position of the upper may be set by a heat setting process. The bottoms of the shoes are added in the "bottoming" process by cementing, molding or sewing. Laces are then added and the product is boxed and warehoused.

Summary of the Invention

Provided with the present invention is a component of a shoe comprising a multi-layered material embossed in a manner which serves several functions, including but not limited to closing or sealing of edges, incorporation of functional design or pattern lines to facilitate flexing for contouring to maintain shape, and for strain management. The embossing seals the layers of the material together at the edge and reduces the thickness of the material in the embossed regions. One layer of the multi-layered material is a breathable porous foam which, when subjected to heat, or other forms of fusing energy, becomes viscous to a point that an internal bonding of the foam cell matrix is accomplished.

The shoe component is any one of a number of different elements of the shoe. Possible components include an entire one-piece upper or overlay portions. The shoe component may have embossing away from the edges of the material, such as embossing to facilitate design or pattern. Such embossing serves to control shape and texture of the shoe component, and may additionally serve to provide specific strain performance factors in end use application.

Also provided in the present invention is a method of fastening together portions of a shoe. The method involves aligning the shoe portions and inserting a thermoplastic connector through the material of the shoe

portions. The thermoplastic connector is then subjected to sufficient energy to soften the thermoplastic connector. The shape of the connector is then deformed such that when it hardens its new shape restricts the shoe portions from separating from one another.

The first thermoplastic connector may be inserted through a second thermoplastic member as well as the aligned portions of the shoe. The connector may be subjected to a high frequency electromagnetic field of sufficient energy to melt the two pieces of the connector to the point that they adhere to one another, thus securing the shoe portions together.

Brief Description of the Drawings

Figure 1 is a sectional perspective view of the layered upper material prior to heat embossing.

Figure 2 is a sectional perspective view of the layered upper material after heat embossing.

Figure 3 is a plan view of a first embodiment of an embossed pattern for an upper.

Figure 4 is a plan view of a second embodiment of an embossed pattern for an upper showing one side of the upper.

Figure 5 is a plan view of a third embodiment of an embossed pattern for an upper.

Figure 6 is a plan view of a fourth embodiment of an embossed pattern for an upper.

Figure 7 is a plan view of a fifth embodiment of an embossed pattern for an upper.

Figure 8 is a perspective drawing of a shoe made from the first embodiment of the upper.

Figure 9 is a schematic drawing of placement of uppers in a multiple-upper cutting pattern.

Figure 10 is an elevational view of an embossing mold as used in the process of the invention.

Figure 11 is a partial sectional side view of the upper material on the bottom mold plate prior to
5 embossing.

Figure 12 is a partial sectional side view of the upper material on the bottom mold plate after embossing.

Figure 13 is a perspective view of a mold used according to the process of the invention.

10 Figure 14 is a side view of a shoe having a quarter overlay secured by a thermoplastic rivet.

Figure 15 is a side view of the thermoplastic rivet of Figure 14.

15 Figure 16 is a plan view of a one-piece upper used in the shoe of Figure 14.

Figure 17 is a side view of a shoe having a quarter overlay, a forefoot stabilizer, and a tongue secured by thermoplastic rivets.

20 Figure 18A is a plan view of the one-piece upper used in the shoe of Figure 17.

Figure 18B is a cross section of Figure 18A.

Figure 19A is a plan view of two quarter overlays of a thermal plastic urethane material.

Figure 19B is a cross section of Figure 19A.

25 Figure 20A is a plan view of a forefoot stabilizer of a thermal plastic urethane material.

Figure 20B is a cross section of Figure 20A.

Figure 21A is a plan view of two quarter overlays of a heat embossed foam/fabric material.

30 Figure 21B is a cross section of Figure 21A.

Figure 22A is a plan view of a forefoot stabilizer of a heat embossed foam/fabric material.

Figure 23A is a perspective view of a thermoplastic fastener.

Figure 23B is a side view of an unfolded thermoplastic fastener.

5 Figure 23C is a rear view of a shoe upper partially fastened at the heel by a thermoplastic fastener.

Figure 24 is a side view of a casual shoe embodying the present invention.

10 Figure 25 is a plan view of a main upper portion used to form the shoe of Figure 24.

Figure 26 is a plan view of a quarter overlay in the shoe of Figure 24.

Figure 27 is a cross sectional view of the overlay of Figure 26 taken along line 27-27.

15 Figure 28 is an alternative quarter overlay.

Figure 29 is a side view of a shoe using the upper of Figure 28.

Detailed Description of the Preferred Embodiments

20 The present invention comprises a method for making shoes and shoe components and the shoes and shoe components made by this process.

Most types of shoes may be made with the method of the invention. Thus, flat heeled shoes, high-heeled shoes, and shoes with buckles, straps connected to both
25 sides of the shoe and extending across the top of the foot, lacing, velcro attachment straps or other fasteners may be made with the process of the invention. Additional decorations or cut outs may also be added to the basic shoe pattern.

30 As shown in Figures 1 and 2, the upper 10 is preferably comprised of a plurality of layers and most preferably of three layers. Additional layers may be

added for durability or strength. A process known as a combining process which is well known in the footwear manufacturing field, may be used to make a layer of fabric adhere to each side of a foam core 12 layer. In the preferred embodiment, the layers are held together by neoprene cement. The bottom sheet (lining) is placed in a mold and coated with cement and then the foam layer is placed on the lining. Finally, another layer of cement is applied and the fluid layer is added. The mold is then closed to press the layers together. Other methods of layer formation may be used.

In a preferred embodiment, the layers are held together by adhesive systems of a thermo-set (cross-linked) nature. However, adhesives in the thermoplastic family may also be used providing they exhibit melting properties in excess of the process temperatures associated with the other components of the material. Alternatively, flame lamination techniques can be used which eliminate the need for adhesives altogether.

A preferred core material 12 is a foam product of the polyurethane family of an ether origin (i.e. polypropylene glycol), which is treated with a diisocyanate in the presence of water and catalyst agents. Density of preferred foams run 1.5 - 4.0 lbs/ft but foams of higher and lower density have application in some end use categories. Many foam core materials originate from variations inside of the polyurethane family. Others utilizing polymer backbones which fall outside the polyurethane group can also be used as core materials.

In one preferred embodiment, the outer layer is a warp knit fabric classified as "tricot." The term refers

to a fairly wide range of finished goods, some of which are acceptable in a shoe molding process, and some which are not. In particular, two bar knits such as full tricot and warp lockknit have shown particularly good characteristics with regard to the molding process as well as end use.

In another preferred embodiment, the outer layer is a weft knit fabric of jersey, rib, or purl designation. Variations of the jersey designation show particularly good properties due to their dimensional equality in elasticity. Many other variations of weft knitted fabric have also shown good success in the process and end use.

In still another preferred embodiment, the outer layer is of the woven classification. In utilizing woven structure fabrics in the fabrication process, success is more dependent upon yarn schemes than in knit fabrics. While a characteristic of knitted structures is fabric stretch or elasticity, wovens possess lower stretch values due to the somewhat linear relationship between fabric and yarn width/length. Therefore, in utilizing woven materials in the process, it is necessary to focus on yarn elasticity properties. Methods of incorporating elasticity in yarns are well known and may include texturing or using bi-component or bi-constituent yarn or fiber.

A different preferred embodiment uses an outer layer made of a product of the leather designation. Such leathers may be derived from cow, steer, bull, water buffalo, pig, calf, etc. Hides can be tanned by methods which produce leather products compatible to the shoe, fabrication method of the present invention. Considering the durability of general leather products, a property necessary to use leather successfully is

multi-directional extension with a low corresponding loss of basic strength properties such as tear. In one application, this is accomplished by splitting the leather hide down to relatively low gauge (0.4 - 0.6 mm.)
5 and laminating the resulting veneer to a substrate of substantial properties. Substrate nomination is contingent upon final component requirements.

In another preferred embodiment, the outer layer is of synthetic polymer products such as polyurethane,
10 P.V.C., or synthetic rubbers, in either cellular or solid state. Industrial processes may be used to fabricate products that use synthetic skins or coatings on a fabric substrate. Two such methods used extensively in the industry are "wet" and "dry" processing. Because of
15 their low cost, such materials can be engineered in a multitude of methods to produce a wide range of physical properties and appearances.

Considerations governing choice of inner and outer layer materials include embossability of the outer layer,
20 which includes scorch resistance to heat but also requires ability to take the embossing and retain the form in conjunction with the foam layer; sufficient tear strength of one or both layer; comfort of the inner layer; durability of both layers; appearance of the outer
25 layer; and flexibility of both layers.

The uppers 10 are cut from the embossed, layered material using a variety of methods. These include, but are not limited to, standard knife edge die, knife edge gang die, dual function mold/die method, automated
30 vertical die cutting, automated roller die cutting, automated laser method, and template/guide automated cutting. The die or template may be designed to cut one or more uppers at a time.

One example is the spacing of four upper patterns 18 as shown in Figure 9 on a single cutting die or template guide will allow interlocking of the patterns on the upper material and will minimize material waste.

5 Generally, a square sheet of material about the size of the mold is used. After embossing, the embossed sheet is demolded and the molded upper is then cut out of the square sheet. A gang cutting die with a template guide is generally used for a multi-cavity mold.

10 The shape of the upper 10 is constrained by the shape and size of the foot but may be designed for a wide variety of shoe styles. As shown in Figure 3, beginning on one side of the shoe, the one-piece shoe upper 10 extends in a "U" or "V" shape from a first central back side 20 of the upper to a first shoe side 22 to the first side front 24, to the toe area 26; and then the second side extends in mirror image to the first side from the toe area 26 to the second side front 28, the second shoe side 30 and the second back side 32 of the upper 10. The dotted line in Figures 4-7 show the central point on each side of which the shape of the shoe is a rough mirror image of the other side, the difference between sides being that the shoe side 22 or 40 which is on the inside of the foot may be cut with a small indentation or other variation to assist in lasting the side of the shoe that will be on the inside of the foot. A strap 34 may extend over the top of the foot connecting the sides 22,30 or the side fronts 24, 28 (Figures 3 and 4); or each side may have a laceable strap 36 (Figures 5 and 6) or a strap from the other side. The upper 10 over the top of the foot may be solid without a cut away area 38 or there may be no strap(s) at all (Figure 7).

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Before the layered material is cut (trimmed), it is placed in a heat molding press to emboss a design 40 on the material and to flatten the edges 42. The embossing process heat-fuses the edge seams including the upper edges 48 thus making the multi-layered material totally enclosed without stitching the edge seams and thus enables the labor-saving use of the one-piece upper.

Embossing 40 in the toe area 26 and side fronts 24,28 (Figure 3) helps maintain the toe box shape and embossing lines 40 on the strap 34 help curve the strap across the instep. Additional embossing adds to the rigidity of the shoe upper so that it better retains a desired shape. All of the embossing may be shaped for aesthetic styling. Edge 42 is the lasting margin that is lasted under during the lasting process. A logo may be placed on the shoe in a logo area 41 embossed on the shoe. The design may be formed on any portion of the shoe. In Figures 3-7, a variety of side designs are shown. The design may extend across the strap 34 as shown in Figures 3-4. It is important to note that the heat fusing and embossing of a design on natural materials such as cotton or leather as well as on nylons, polyesters, and other synthetic materials to form a three-layered laminate shoe upper is a unique and important aspect of this invention.

Embossing additionally serves to manage strain in end use. Since embossing lines are used extensively to create designs and patterns, it is possible to use these points, or add additional points which become part of the design pattern. This embossing then serves to control upper component strain by "locking off" outer shell or substrate fiber length. This technology serves to provide the shoe designer with unlimited control over

shoe upper end use dynamic properties, by allowing extensive adjustment of specific modulus properties in locations of stress and associated strain. For example, it is well known that basketball shoe top collars which
5 are properly functional stretch to a degree to allow the wearer a snug fit around the lower portion of the leg when fully laced. However, the shoe portions known as the in/out quarters, when properly engineered, require stretch properties which are considerably less than those
10 of the top collar. By using the described method, a shoe designer may make function an inherent part of the shoe design. The method allows function to be incorporated into the shoe in the fabrication step itself.

A typical embossing mold 100 which is used in the
15 process of the invention is comprised of hydraulic cylinders 102 and 104 that drive a top press plate 106 against a bottom press plate 108, while mold 110 is located in between (Figure 10). Both of the press plates 106, 108 contain heating elements 112 and 114. The
20 heating elements 112, 114 heat the press plates 106, 108 which in turn heat the top mold plate 116 and the bottom mold plate 118 to the desired temperature. It is important to note that it is possible to use different temperature settings between the top press plate 106 and
25 the bottom press plate 112 during the molding operation. This allows the top mold plate 116 to be either a higher or lower temperature than bottom mold plate 118 of mold 110 during the same molding process, thus allowing a more heat sensitive material such as thermoplastic urethane or
30 PVC to be used on one of the surfaces.

For example, Figures 11 and 12 show partial cross sections of mold 110 and an upper prior to and during the embossing process. The use of mold alignment pins 120 on

one of the mold plates as shown in perspective view in Figure 13 and mold pin alignment holes 122 enables proper alignment of the mold plates 116, 118. If outer layer 14 happens to be a heat sensitive material such as PVC, mold press plate 106 may be set at a lower temperature so as not to heat top mold plate 116 above the softening point of layer 14. The temperature of bottom mold plate 118 may or may not need to be increased to compensate for the lower temperature of top plate 116 in order to achieve the proper heat fusing of layers 14 and 16 to foam core 12. After the desired heating time, the top press plate 106 is raised and the embossing mold 110 is removed. The embossed, molded upper is removed and is ready for trimming of the excess material. In a preferred method of the invention with polyurethane foam, a three minute heating cycle at 200 degrees C is used. This temperature, in the presence of molding pressure, is adequate to accomplish internal cell wall bonding. Such bonding is a consequence of the heat and pressure which renders the cell matrix viscous to a point of internal tack. This internal tack accomplishes setting of the areas of embossing. Although the heating of the foam is likely to be to a temperature less than its melting temperature, the embossed regions are here referenced as melted regions. Leather products, fabrics of natural and synthetic fiber, and synthetic material of P.V.C or polyurethane in combination with the foam can withstand this heating treatment without distortion or degradation of original physical properties.

As an alternate method of embossing, ultra-sonic or high frequency welding techniques could be used for embossing materials such as certain plastics that are not porous or discontinuous and have the requisite

characteristics to enable embossing upon exposure to the high frequencies. High frequency heat is produced by using a transformer to raise the main voltage, a rectifier to change alternating current to direct
5 current, and an oscillator valve to stop and start the current at speeds of about 28 million cycles per second or greater, to establish a field between two metal plates.

High frequency heating differs from radiant and
10 conducted heat in that the temperature is raised uniformly throughout a material without a necessary waiting period for heat to spread from an exterior heat source to the interior of the material. In using high frequency heating with the invention an oscillating
15 electronic field is created between two surfaces between which is positioned the upper material. Exposure to this field results in movement of the molecules in the upper and uniform generation of frictional heat throughout the upper. The use of a high frequency heating field plus
20 pressure from the protruding portions of a mold result in the embossed design on the upper. The mold may also be used to cut the perimeter of the upper by having a raised edge around the outside edge of the mold.

High frequency welding with a welding die also may
25 be used to fuse two pieces of material, such as the two back edges of the upper, or to add extra components to the upper (such as a tongue, trim, buckles, etc.). High frequency (HF) welding is particularly suited to such materials as PVC and would allow the fusing of color
30 pigments or appliques to the embossed areas.

After the upper 10 is completely embossed, a back strip 44 is attached to the back sides 20, 32 of the upper 10 using stitching methods known in the art as

shown in Figure 8. The back strip 44 may be a straight narrow strip of 3/8 to 1/2 inch width and approximately double the length of the backside so that it may be sewn to both the inside and outside of the back shoe seam.

5 forming a fold 46 at the top edge 48 of the shoe 50. Alternatively, the back strip 44 may only be placed on the exterior to the shoe 50. The back strip 44 may also be decoratively designed in color and/or shape. If the back strip 44 is omitted, an alternative method of
10 attaching the back sides of the upper, such as overlapping the back sides and stitching, or heat embossing the two sides together may be used.

According to a method of the invention, the shoe 50 is lasted with any of several conventional techniques.
15 Preferably, of these techniques, cold cement lasting is used because it is the simplest lasting method and is less costly than others, but California lasting (full sock lasting) may also be used. The insole board that is used is preferably made of non-woven, cellulose base
20 fiber board prepared by conventional techniques, but it may be made of other hard or soft fiber lasting boards. The sock liner preferably is made of Tricot-covered rubber sponge, but it could be made of any fabric-covered cushioning material. When the shoe is lasted, lines A
25 and B are aligned in parallel in shoes with a strap 34 (Figure 3).

Following attachment of the back strip and lasting, the bottom 52 of the shoe is attached, preferably by a cementing method. Cold cementing is preferably used
30 because it is inexpensive and simple. The bottom 52 is preferably made using molded ethyl vinyl acetate (EVA) by methods known in the art; however cut EVA may be used as may thermal plastic rubber. Other bottoming methods that

do not entail the cement process may be used. These would require "direct-attached" polyurethane or thermal plastic rubber. Both of these latter techniques require California lasted shoes.

5 A preferred embodiment of the invention involves preparation of a three layered upper having an outer layer which is a warp knit, weft knit, woven fabric, leather product, or synthetic coated material. The central layer of the material is a polyurethane foam, and
10 the inner liner may be any one of a number of materials. The laminate is heat embossed at 200 degrees C for approximately three minutes, after which the backsides of the the upper are attached together by means of stitching to a back strip. The upper is then lasted and attached to
15 the bottom of the shoe by cold cementing or other conventional means.

 A number of different components of a shoe may be made using heat embossing methods such as those previously described for the one piece upper. The heat
20 embossing of shoe components is decorative as well as functional in several ways. For a multi-layered material having a layer of porous foam such as polyurethane foam, the heat and pressure of the heat embossing selectively causes the inner cell wall matrix to become viscous to a
25 point that the resulting tack is adequate to accomplish bonding. Thus, when heated, the polyurethane foam becomes a strong bonding adhesive which adheres firmly to surrounding material. For a material having the foam as
30 a central layer between two outer fabric layers, the embossing serves to firmly seal the three layers together. The shoe components of the present invention are embossed along the edges and are thus sealed along

the edges, removing the need for any edge stitching to hold the material layers together.

Another function of the heat embossing is to reduce the thickness of the material in the region of the embossing. Since shoe components are often joined at the edges, it is desirable to have the edges relatively thin compared to the rest of the material to prevent from forming an unusually thick region of the shoe where the connected shoe components overlap. Heat embossing along the edges of a shoe component provide this thinner region without the necessity of skiving, which is the traditional method of edge thickness reduction.

Shown in Figure 14 is a side view of a typical shoe 130 made with a heat embossing process. The shoe 130 has a heat embossed upper 132 and a quarter overlay 134 which is also heat embossed. The edges of the overlay 134 are embossed to reduce and seal them, while a more central region 135 of the overlay is embossed to hold eyelets 136, which in turn hold the laces of the shoe 130. The overlay 134 is stitched to the lasting margin of the upper and may be additionally secured by a thermoplastic rivet 138. During assembly, the two-piece rivet 138 is passed through aligned holes in both the overlay 134 and the upper 132.

A side view of thermoplastic rivet 138 passing through two pieces of material 139, 141 shown in Figure 15. Front rivet plate 140 has two pins 142 which fit into the receiving holes 146 of back plate 144. Heating of the thermoplastic rivet 138 causes the two pieces of the rivet to melt and bond together forming a secure, permanent connection. This heating is preferably done with a high frequency electromagnetic field, which is particularly good for providing uniform heating of the

thermoplastic material. Alternative heating methods such as ultrasonic heating or thermal welding may also be used. The pins 142 of the front plate 140 of the rivet 138 may extend through holes 146 and beyond the rear surface of back plate 144. In such a case, pressure applied to the back of the rivet 138 during heating then causes the end of the pins 142 to spread and flatten out along the rear surface of the back plate 144. Thus when the rivet hardens, the pins 142 are even further prevented from moving back through the holes in the back plate 144.

Using certain thermoplastic materials, the thermoplastic rivet 138 may alternatively consist of just the front plate 140. Once the pins 142 pass through the material to be joined, they are heated and the pins 142 are flattened out to restrict the rivet 138 from passing back through the material. Such a deformation of the rivet 138 may be accomplished through the use of a pressure device which applies pressure to the rivet 138 during heating.

Figure 16 shows a plan view of the upper of the shoe in Figure 14. Quarter region 148 is embossed flat to provide a seat for a quarter overlay 134. The lasting margin 150 is also embossed to seal the edge and to reduce the thickness of the lasting margin 150 without skiving. The upper is shown with one of two quarter overlays 134 in place. The other quarter overlay is left out to show the quarter region 148 of the upper, which is embossed flat to accomodate an overlay 134. Embossing this region 148 prevents the shoe from being abnormally wide in the overlapping quarter region of the shoe. Rivet holes 149 are also shown in both the upper 132 and the quarter overlay 134.

In Figure 17 is shown a shoe 152 having an upper 153 and a number of overlay components. A heel stabilizer 154, a quarter overlay 156, and a forefoot stabilizer 158 are each attached to the shoe 152 during a bottoming process. A tongue 160 is also included, and both the tongue 160 and the forefoot stabilizer 158 are attached to the vamp 162 of the upper by way of a thermoplastic rivet 164. In this case the rivet 164 serves to secure both the tongue 160 and the forefoot stabilizer 158, thus providing an economical use of connection elements.

The overlay components 154, 156, 158 of the shoe 152 of Figure 17 are preferably made by an injection molding process using materials such as thermoplastic elastomers, or in some cases engineering thermoplastics. Some alternatives to the injection molding method include flow molding, casting, and extrusion process. The molded overlays are easy and inexpensive to produce and add support and aesthetic value to the shoe. Other materials such as the foam/fabric material of the upper or a natural material such as leather are also used as overlay material. A combination of different overlay components of different materials is often used on the same shoe.

Both the tongue 160 and the upper 153 of the shoe 152 are formed of a material with a central resilient foam layer. Heat embossing seals and reduces the material in selected areas. Figures 18A and 18B show a plan view and a cross sectional view, respectively, of the upper 153 of Figure 17. The lasting margin 156 of the upper 153 is embossed. Further embossing of the upper 153 provides seats for the overlays shown in the assembled shoe of Figure 17. Since the non-shaded portions of Figure 18A are the regions depressed by heat embossing, it is apparent that the embossed regions seat

the heel stabilizer 154, the quarter overlay 156, and the forefoot stabilizer 156 perfectly. The cross section of Figure 18B shows the relative thickness difference between an embossed region 168 and a non-embossed region 170 of the upper 153.

Figure 19A is a plan view of the quarter overlays 156 and 156' of the shoe 152 of Figure 17 (overlay 156' is not shown in Figure 17). It can be seen from this view that the injection molded components are fabricated in a manner to reduce thickness gauge in the bottom region. These portions of the overlays are turned under during bottoming of the shoe, and it is therefore advantageous to have the thickness reduced in these regions 172. Figure 19B is a cross section of one of the quarter overlays 156, 156' and shows the difference in thickness in different regions of the TPU material. Much of the molded pattern is decorative, but it additionally serves to allow a certain degree of bending movement to the overlay. The mold also gives shape and texture to the surface of the overlay.

Shown in Figure 20A is a plan view of the forefoot stabilizer 158 of the shoe 152 of Figure 17. Like the quarter overlays 156, 156', this particular forefoot stabilizer 158 is made of a TPU material. The forefoot stabilizer is made flat in a central region 174 and at the ends 176 of the extending portions 177. Molded lines 178 in the remainder of the material provide texture and improve bending properties in this region. Holes 180 in the central region 174, support the pins 142 of thermoplastic rivet 138. The cross section of Figure 20B shows the difference in thickness between the different regions of the forefoot stabilizer.

Figure 21A is a plan view of an alternative embodiment of the quarter overlays 156 and 156' of Figures 17 and 19. Quarter overlays 180 and 180' still fit within the recessed regions of the shoe upper 153 of Figure 17, but are made of foam/fabric material instead of a TPU. The foam/fabric material is like that previously disclosed for the upper, and is embossed along the edges to seat the material. The quarter overlays 180 and 180' are also embossed at the bottom portions 182 and in the eyelet regions 184. The eyelets (not shown) are mounted in the regions 184, and the bottom portions 182 are attached to the lasting margin of the upper 153 prior to bottoming of the shoe. The raised non-embossed central regions 186 of the quarter overlays 180, 180' are instrumental in keeping the shape of the overlays. A cross section of one of the quarter overlays is shown in Figure 21B. From this cross section the thickness difference between the embossed and non-embossed regions of the foam/fabric material is apparent.

The forefoot stabilizer 188 of Figure 22A is similarly shaped to the forefoot stabilizer 158 of Figures 17 and 20, but is made of the foam/fabric material. The forefoot stabilizer 188 is embossed in the bottom regions 190, in the eyelet regions 192, in the rivet region 194, and along the edges. The embossing along the bottom region 190 allows proper attachment to the shoe upper. The embossing in the eyelet regions 192 provides a flat region for attachment of the eyelet (not shown). The embossing in the rivet region 194 provides a flat, recessed region in which the rivet 164 fits, passing through rivet holes 196. The raised, non-embossed region 198 gives shape and texture to the surface of the forefoot stabilizer 188. A cross section

of the forefoot stabilizer is correspondingly shown in Figure 22B.

Figures 23A-23C show a folding thermoplastic fastener 200 designed particularly for binding together the left and right heel portions of an upper. The fastener 200 is shown folded up in Figure 23A and partially unfolded in Figure 23B. Two rows of pins 202 on fastener rear plate 204 align with the two rows of holes 206 on fastener hole plate 208 when the fastener is folded over. As shown in Figure 23C, the reduced areas of the heel portions 210 of a shoe upper 212 are punched with holes 214 which align with the pins 202 of the fastener 200 when the heel portions 210 are pulled together. The pins 202 of the fastener 200 are then pushed through the holes 214 of the heel portions 210. The fastener is then closed along a hinge between the rear plate 204 and the hole plate 208, such that the holes 206 in the hole plate 208 engage the ends of the pins 202 sticking through the heel portions 210. Once engaged, the fastener is heated to melt the pin/hole connections such that when rehardened they are permanently secured. Decorative cover plate 216 is hinged to hole plate 208 and is folded over to cover the pin/hole connections. The cover plate 216 has a lip which meshes with a lip on the hole plate 208 to keep it tightly secured when folded over and pressed into engagement with the hole plate 208.

As noted above, the embossing allows for control of stress, contouring and flexibility of various portions of the shoe. Figure 24 illustrates a women's casual shoe which utilizes such functional embossing. The shoe upper is formed of a one-piece upper, illustrated in Figure 25 and quarter overlays, one of which is illustrated in

thickness of the embossed lines 226 and 228 also allows bending along the embossing lines.

Figure 28 illustrates an alternative quarter overlay, and a shoe incorporating that overlay is illustrated in Figure 29. In this design, stretch from the eyelets to the sole is controlled by the horizontal embossing lines such as 236. Depending on the weave of the fabric layers, some stretching is allowed between the embossing lines. In this design, stretching from the eyelets to the shoe must be limited to a larger extent by the weave of the fabric than in the prior design, but the embossing lines allow for greater flexibility which allows the overlay to fold over the foot more readily.

The invention has great industrial applicability particularly in countries with a labor shortage or where it is essential to minimize labor costs to be competitive. The method of the invention may be used in the shoe manufacturing industry to make durable, attractive, inexpensive shoes through elimination or diminishing of most of the labor-intensive shoe fitting steps, such as skiving, multiple-piece stitching, prefitting, splitting, interlining, and edge taping.

While the invention has been described with reference to specific embodiments thereof, it will be appreciated that numerous variations, modifications, and embodiments are possible, and accordingly, all such variations, modifications, and embodiments are to be regarded as being within the the spirit and scope of the invention.

CLAIMS

1. A shoe comprising an upper portion formed substantially of resilient foam material sandwiched between inner and outer layers, the upper portion being embossed by melted, depressed regions of the foam.
5
2. A shoe as claimed in Claim 1 wherein the upper portion has an embossed lasting margin.
3. A shoe as claimed in Claim 1 wherein edges of the upper portion are embossed to seal said edges.
10
4. The shoe component of Claim 1 wherein the resilient foam material is a porous breathable foam which in the presence of heat and pressure transforms internally to a point that the inner cell wall matrix of the foam becomes viscous, providing sufficient tack to accomplish a bonding within the matrix.
15
5. The shoe component of Claim 1 wherein embossing of the shoe component provides a predetermined functional design pattern on the shoe component.
20
6. The shoe component of Claim 1 wherein embossing of the shoe component contributes to specific strain performance factors in the shoe component.
7. The shoe component of Claim 1 wherein the embossing of the shoe component contributes to the maintaining of the proper shape of the shoe component.
25

8. The shoe component of Claim 1 wherein the shoe component is a one-piece upper.
9. The shoe component of Claim 1 wherein the shoe component is an eyestay overlay.
- 5 10. The shoe component of Claim 1 wherein the shoe component is a quarter overlay.
11. A component of a shoe comprising a multi-layered material embossed along the edges of the material, the embossing sealing the layers of the material together at the edge and reducing the thickness of the material in the embossed regions.
10
12. The shoe component of Claim 11 wherein the multi-layered material includes a layer of porous breathable foam which in the presence of heat and pressure transforms internally to a point that the inner cell wall matrix of the foam becomes viscous, providing sufficient tack to accomplish a monogamous bonding within the matrix.
15
13. The shoe component of Claim 1 wherein the shoe component is further embossed away from the edges of the material.
20
14. A shoe comprising an upper portion having back sides, sides and a toe area formed from a single sheet of material, the material being selectively embossed relative to the shoe structure such that depressions embossed in the material help maintain a proper shape of the shoe.
25

15. A shoe as claimed in Claim 14 wherein the shoe comprises a depression curved about the toe area to separate upper and side portions of the toe area.
- 5 16. A shoe as claimed in Claim 14 wherein said upper portion comprises a strap formed between sides of the shoe, the strap having transverse depressions thereacross.
17. A shoe as claimed in Claim 14 wherein said upper portion has a depressed lasting margin.
- 10 18. A shoe as claimed in Claim 14 wherein upper edges of back sides and sides of said upper portion are sealed by depressions.
- 15 19. A shoe as claimed in Claim 14 wherein the sheet of material comprises a resilient foam layer sandwiched between inner and outer layers.
20. A shoe as claimed in Claim 14 wherein the said upper portion has a depressed lasting margin.
- 20 21. A shoe as claimed in Claim 14 wherein upper edges of back sides and sides of said upper portion are sealed by depressions.

22. A shoe comprising an upper portion having back
sides, sides and a toe area formed in a single sheet
of material, the sheet of material comprising
resilient foam material sandwiched between inner and
outer layers, the material being embossed by melted,
depressed regions of the foam to help maintain the
shape of the shoe, the depressed regions including a
lasting margin and upper edges of the back sides and
sides.
23. A shoe as claimed in Claim 22 comprising a
depression curved about the toe area to separate
upper and side portions of the toe area.
24. A shoe comprising a plurality of heat-embossed,
multi-layered shoe portions fastened together with a
thermoplastic connector, the connector passing
through the material of the connected portions and
being such that once heated it restricts separation
of said materials.
25. A shoe as claimed in Claim 24 wherein the
thermoplastic connector comprises a first member
having pins which extend through the material being
fastened together, and a second member having holes
which engage the pins of the first member while they
are extended through said material.
26. The shoe of Claim 24 wherein the shoe portions
comprise the left and right heel portions of a
one-piece upper.

27. The shoe of Claim 24 wherein the multi-layer composition of said shoe portions includes a central layer of porous foam sandwiched between an inner layer and an outer layer.
- 5 28. A method of making a shoe component, comprising:
fabricating the shoe component in a desired
shape from a multi-layered material; and
embossing the shoe component in select regions,
the embossing sealing the layers of the material
10 together at the edge and reducing the thickness of
the material in the embossed regions.
29. The method of Claim 28 wherein said embossing of the shoe component comprises embossing with heat.
- 15 30. The method of Claim 28 wherein embossing said shoe component comprises embossing with high frequency energy.
31. The method of Claim 28 wherein said shoe component comprises a one-piece upper.
- 20 32. The method of Claim 28 wherein said shoe component comprises a multi-layered material having an outer layer, a resilient central layer, and an inner layer.
- 25 33. The method of Claim 32 wherein said resilient central layer is a porous foam which when heated, melts to a bonding adhesive.

34. The method of Claim 32 wherein said outer layer and said inner layer are tricot.
35. The method of Claim 32 wherein said outer layer and said inner layer are woven cotton.
- 5 36. The method of Claim 32 wherein the outer layer comprises leather.
37. The method of Claim 32 wherein said central resilient layer comprises polyurethane.
- 10 38. A method of fastening together portions of a shoe, the method comprising:
aligning the shoe portions with one another in a desired fashion;
inserting a thermoplastic connector through the shoe portions such that the shoe portions are
15 adjacent one another with the thermoplastic connector passing through each of them;
subjecting the thermoplastic connector to sufficient energy to melt the thermoplastic connector such that when rehardened, the connector
20 restricts the shoe portions from separating from one another.
- 25 39. The method of Claim 38 wherein the thermoplastic connector comprises a first member having pins which extend through the shoe portions, and a second member having holes which engage the pins of the first member while the connector is subjected to the melting energy.

40. The method of Claim 38 wherein the shoe portions comprise the left and right heel portions of a one-piece upper.
- 5 41. The method of Claim 38 wherein the shoe portions include a tongue.
42. The method of Claim 38 wherein the shoe portions include a portion formed of a multi-layer material, the material having a layer of porous foam, and heat-embossed depressed regions in the material.
- 10 43. The method of Claim 38 wherein the shoe portions include an overlay.

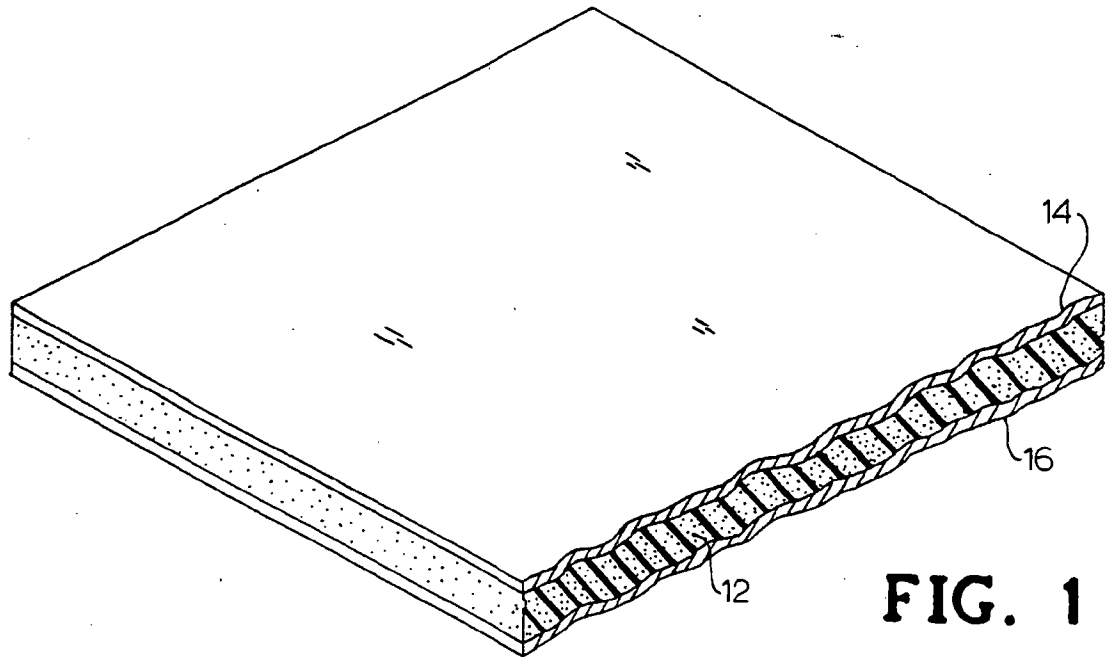


FIG. 1

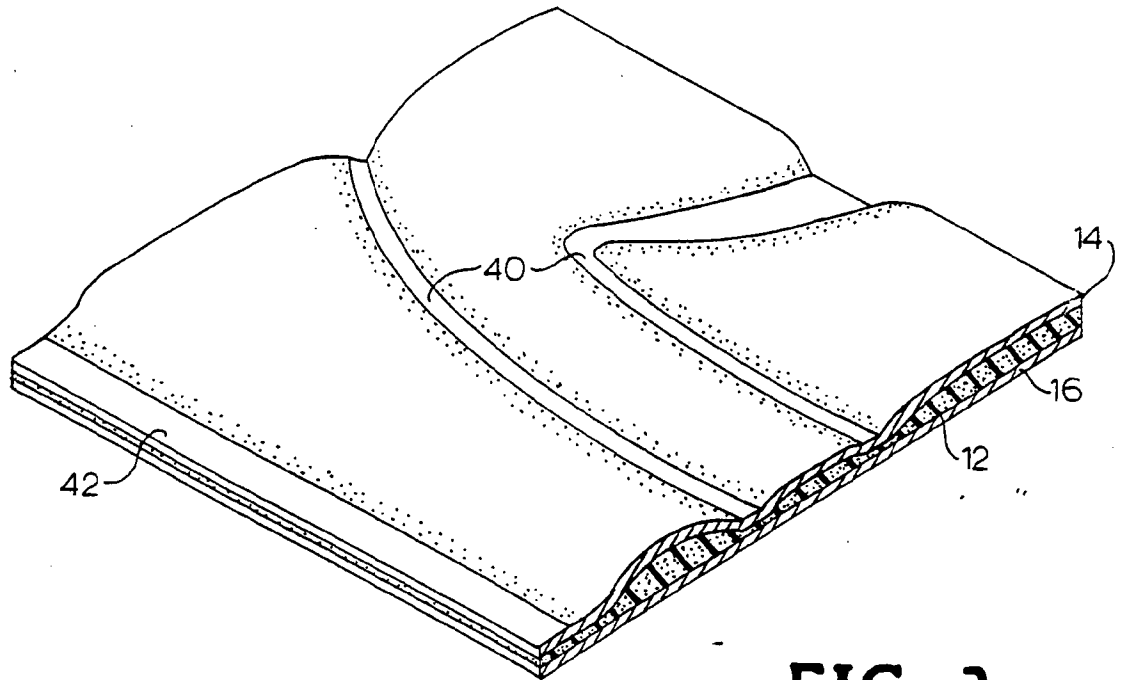


FIG. 2

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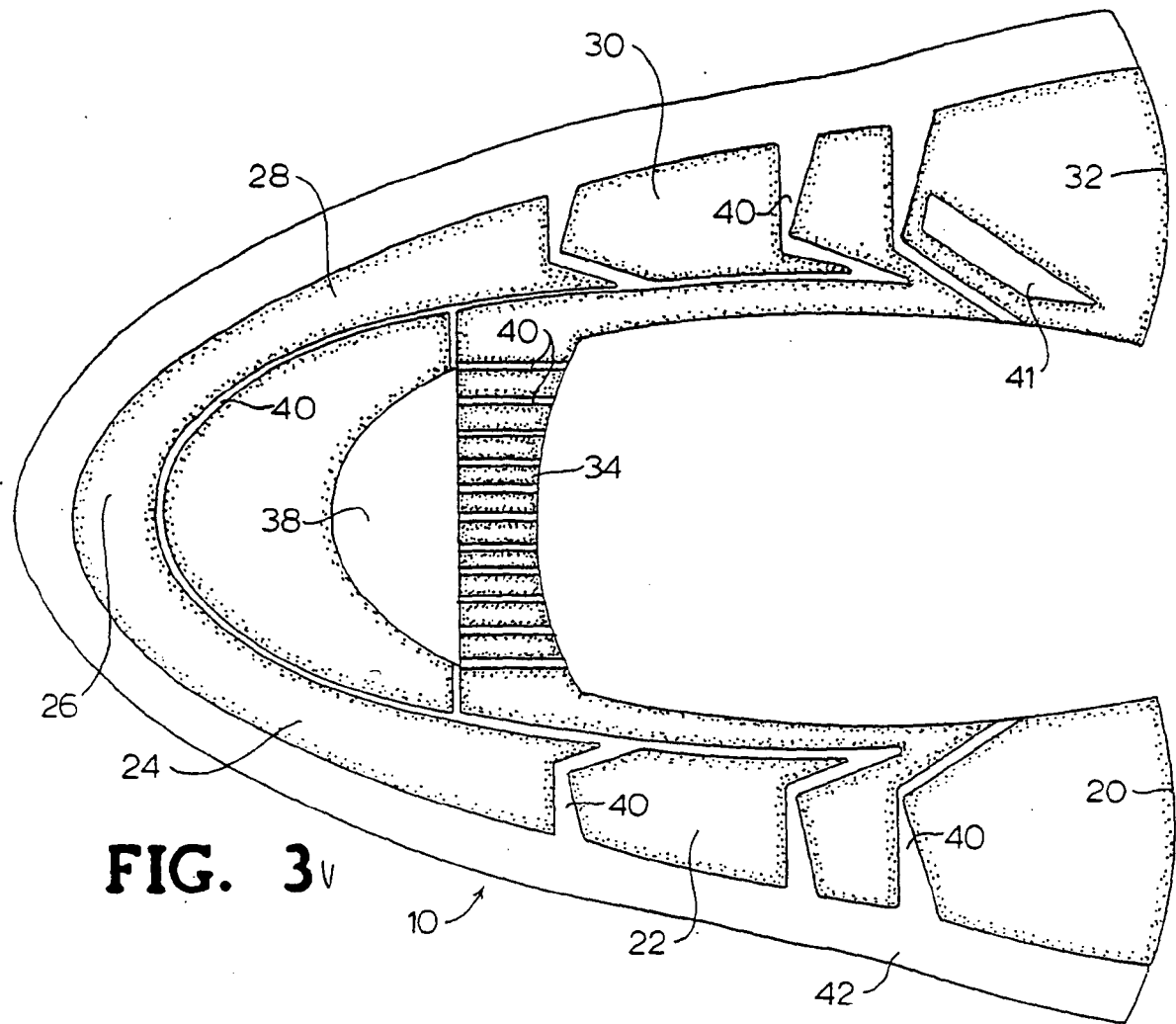


FIG. 3_V

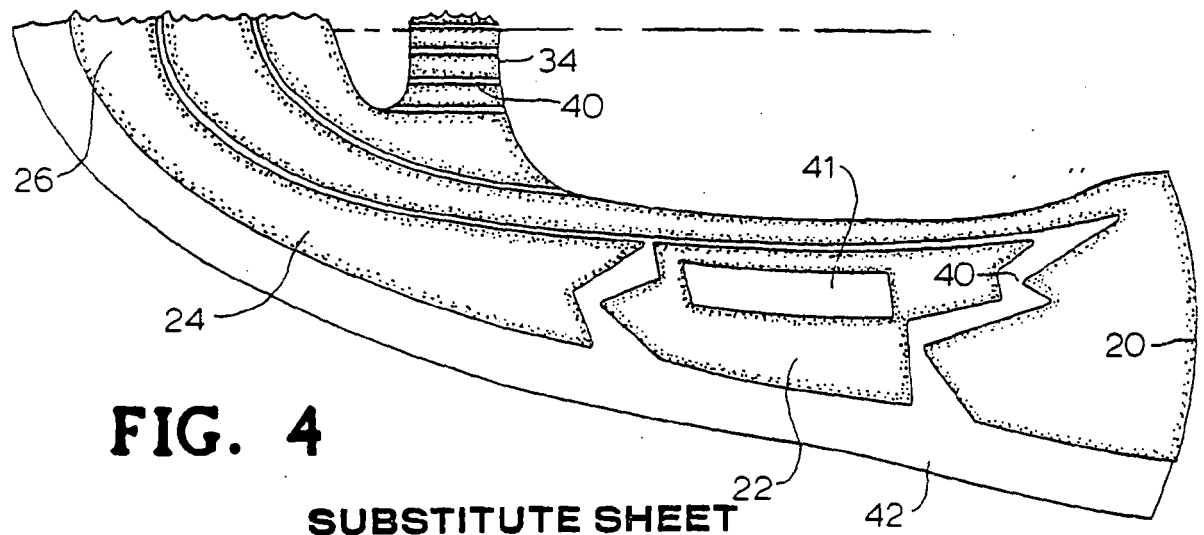


FIG. 4

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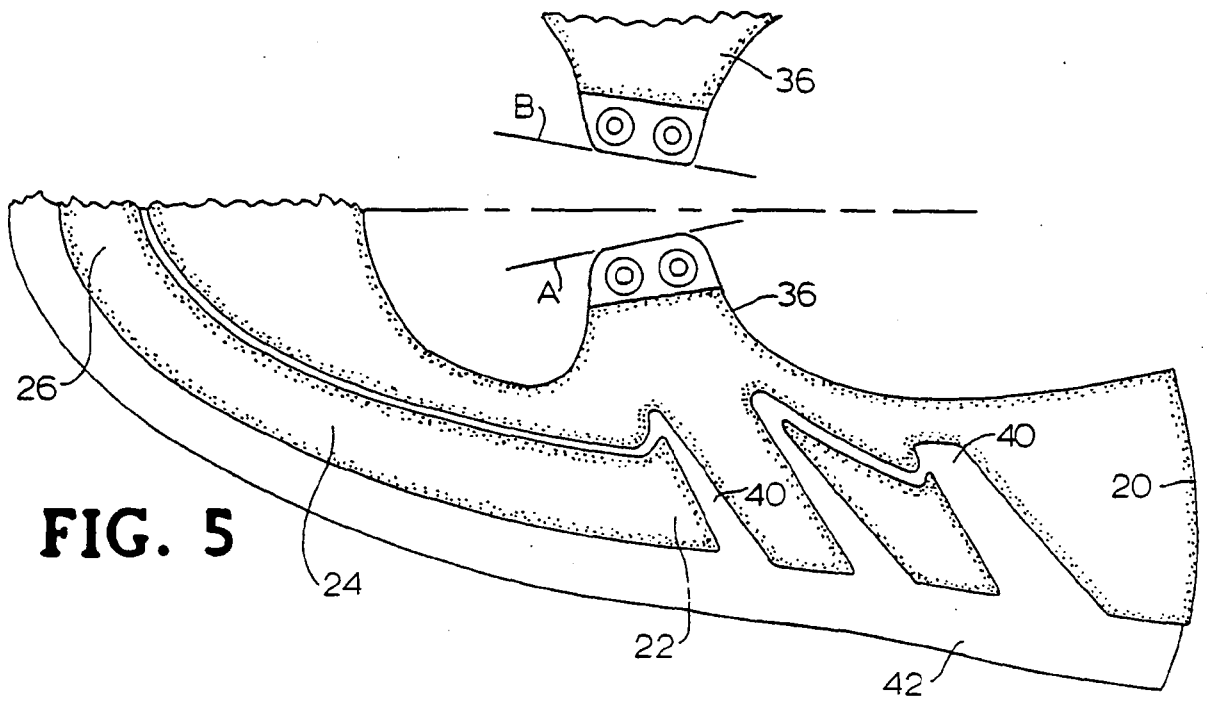


FIG. 5

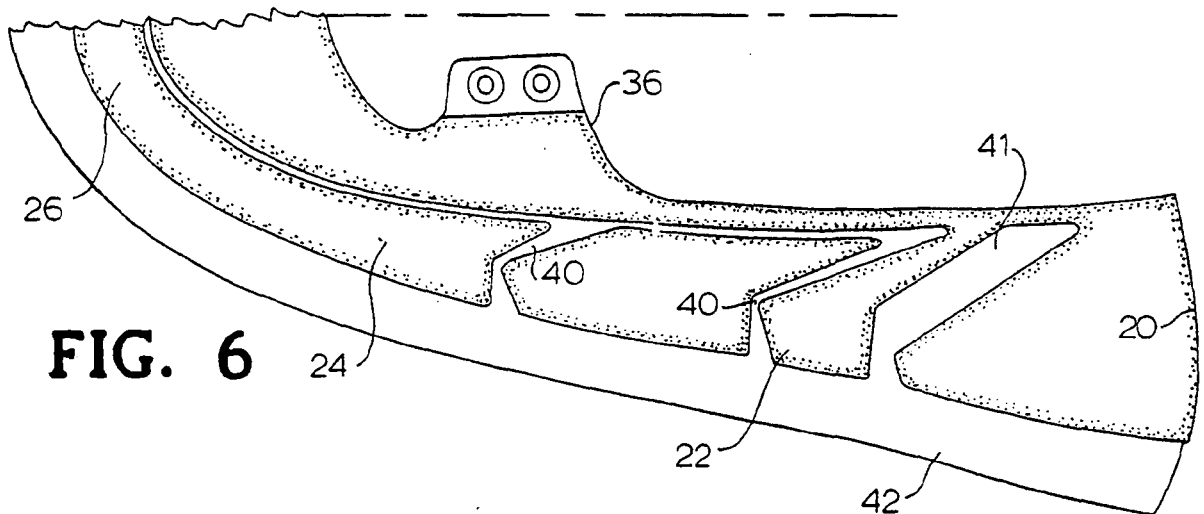


FIG. 6

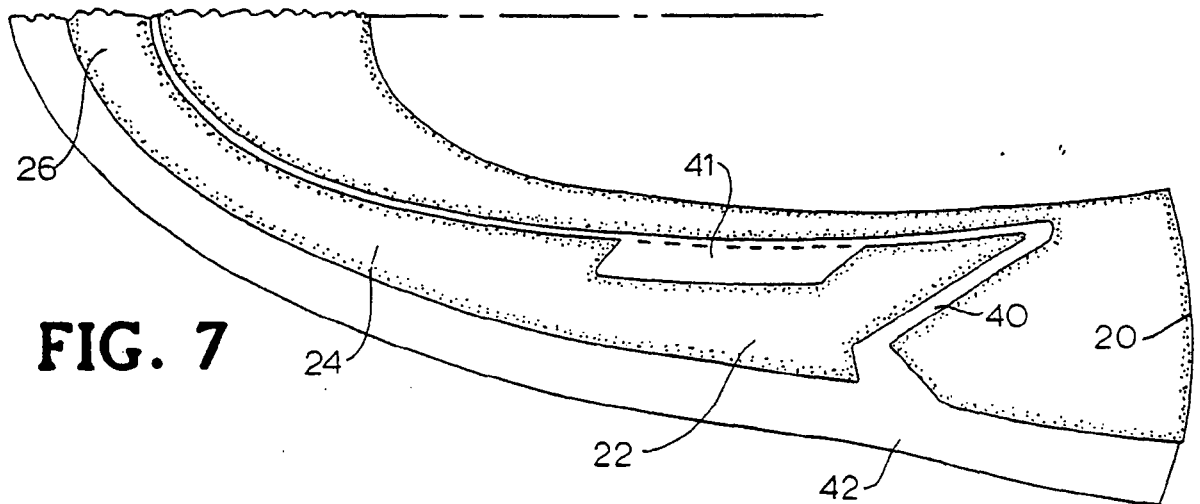


FIG. 7

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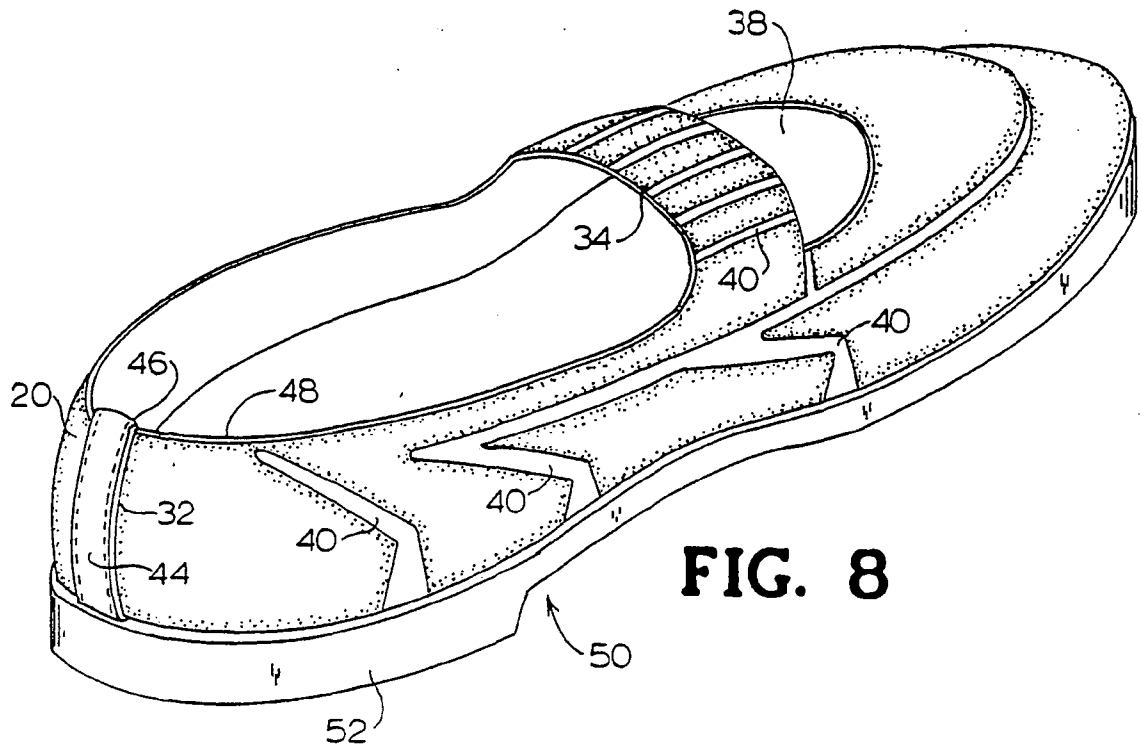


FIG. 8

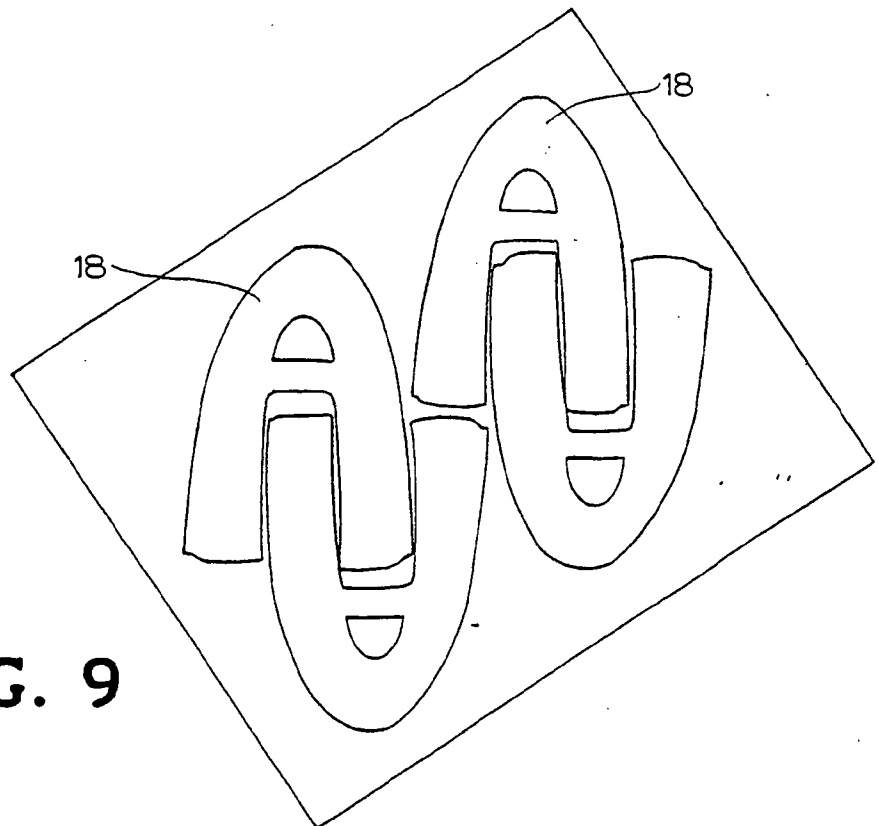


FIG. 9

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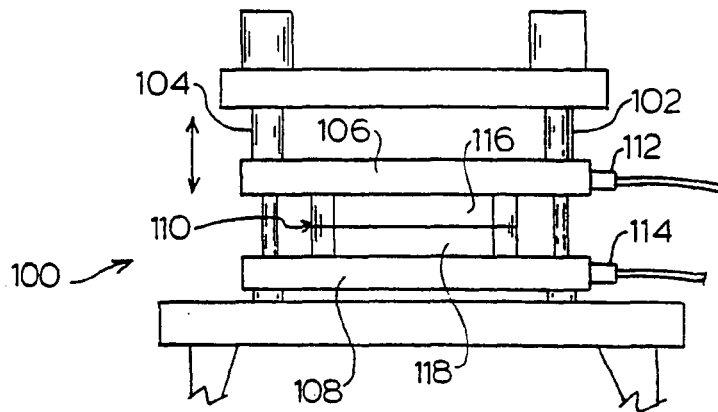


FIG. 10

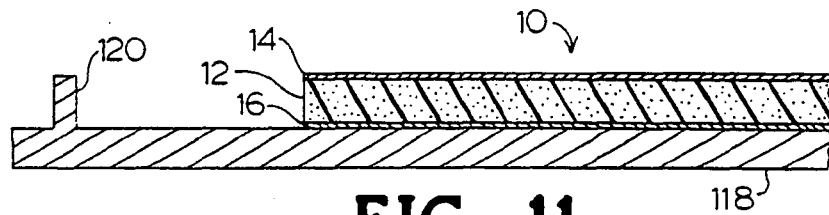


FIG. 11

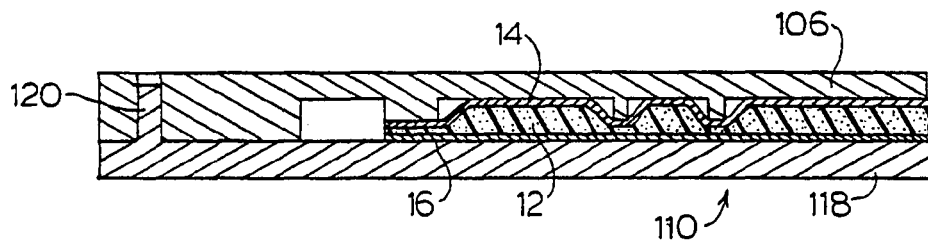


FIG. 12

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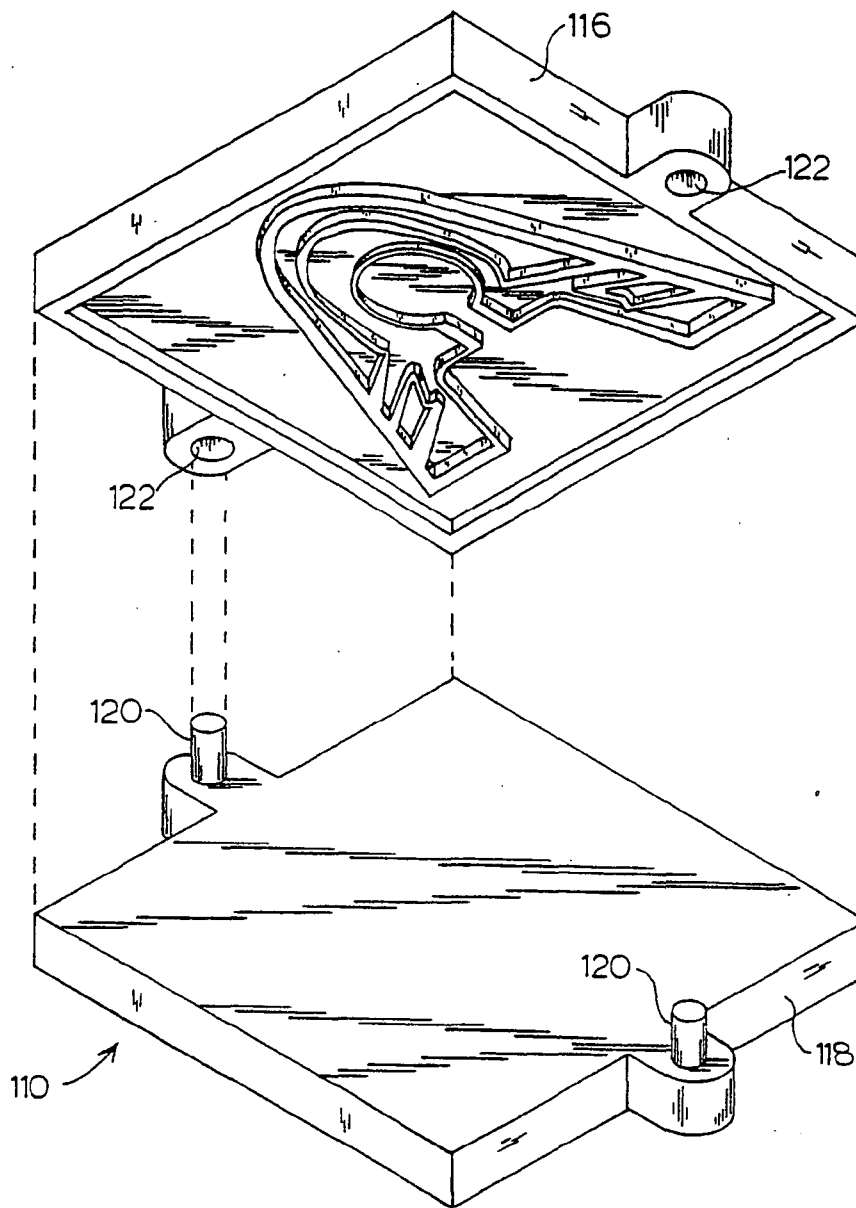


FIG. 13

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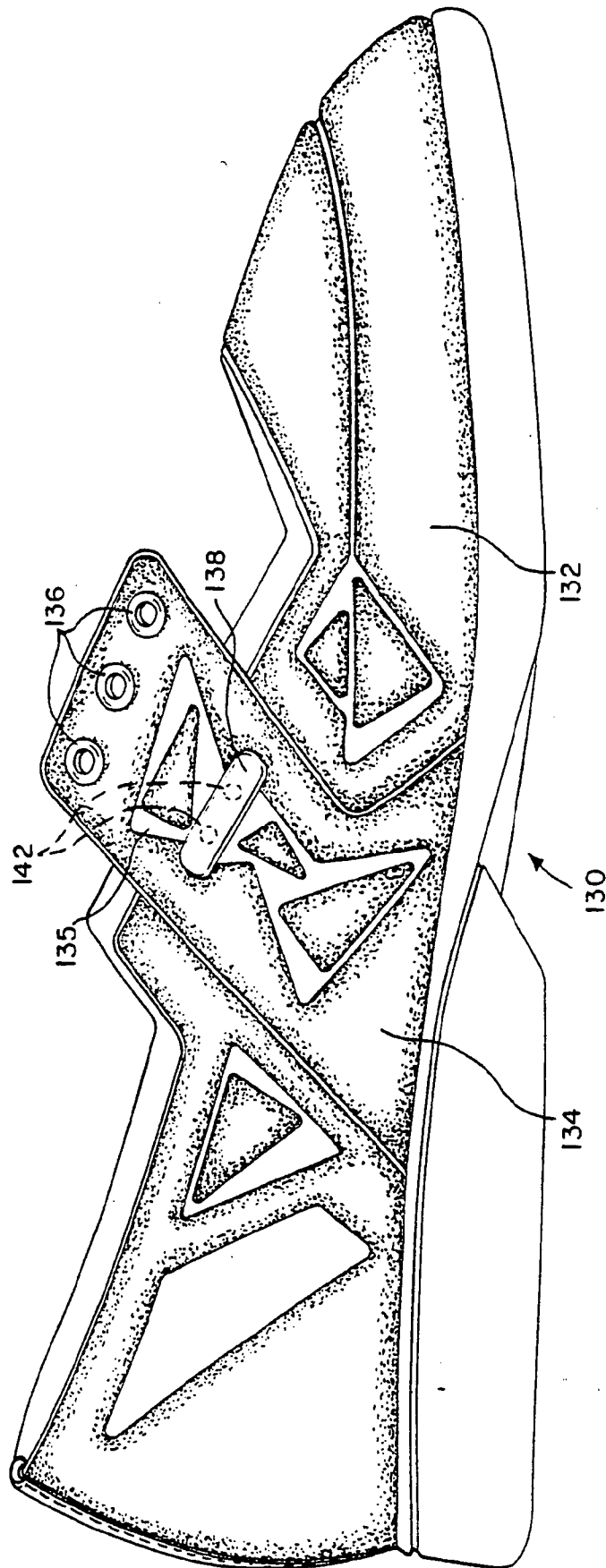


FIG. 14

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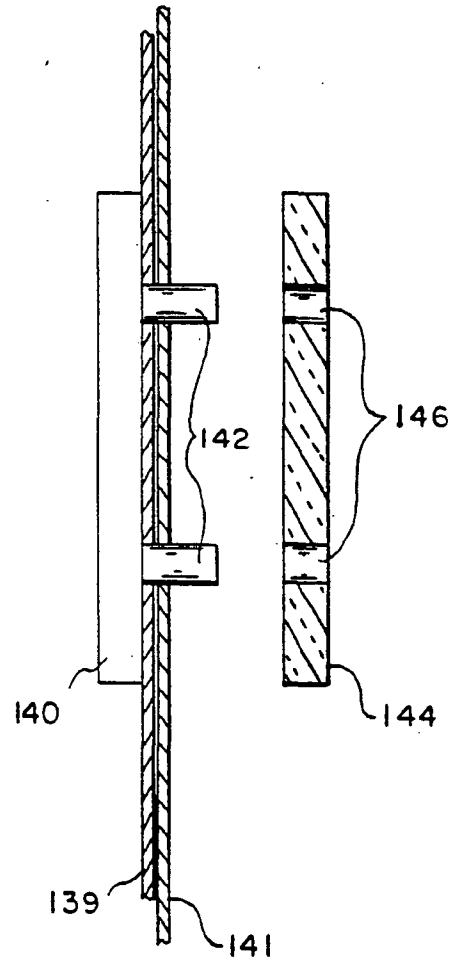


FIG. 15

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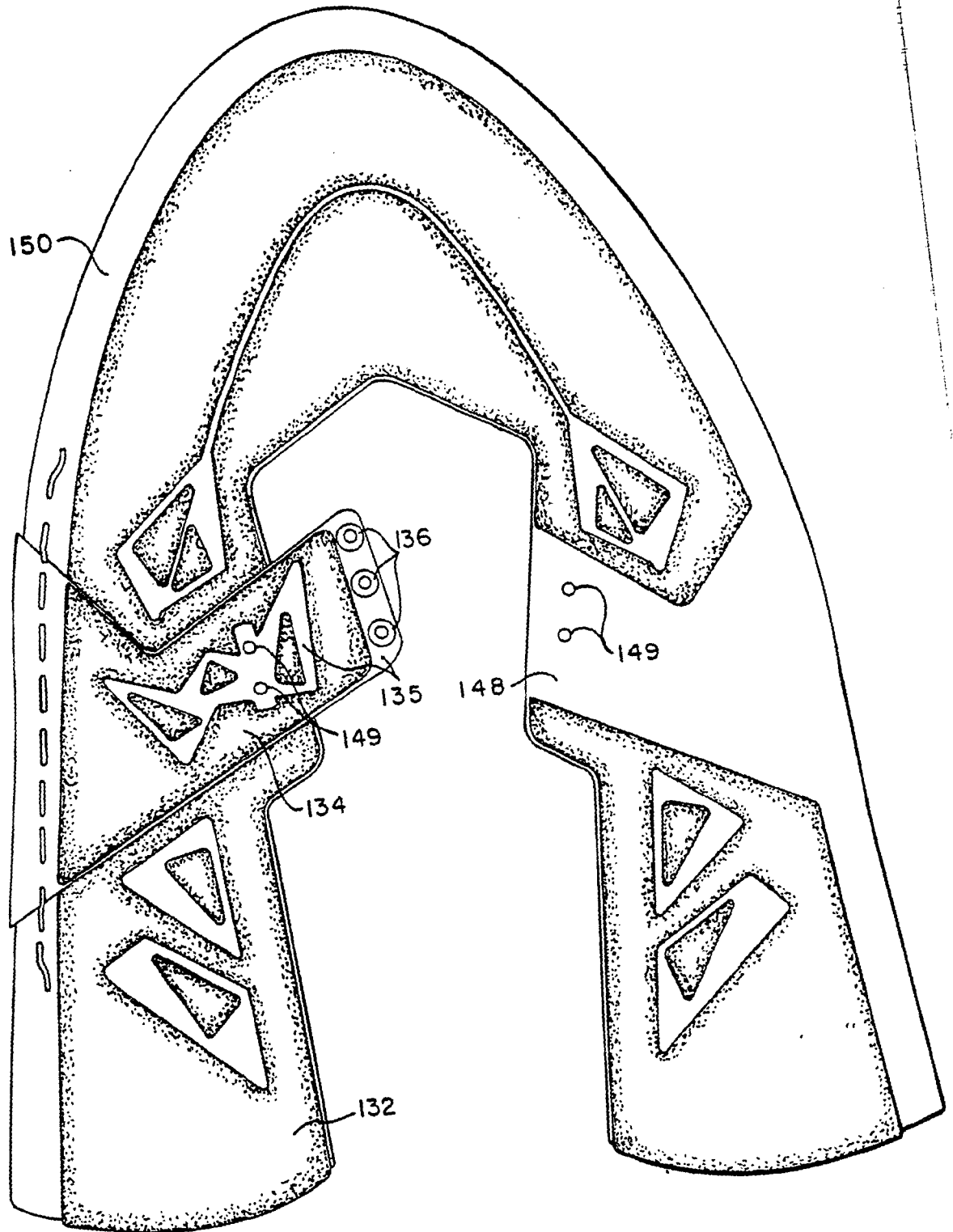


FIG. 16
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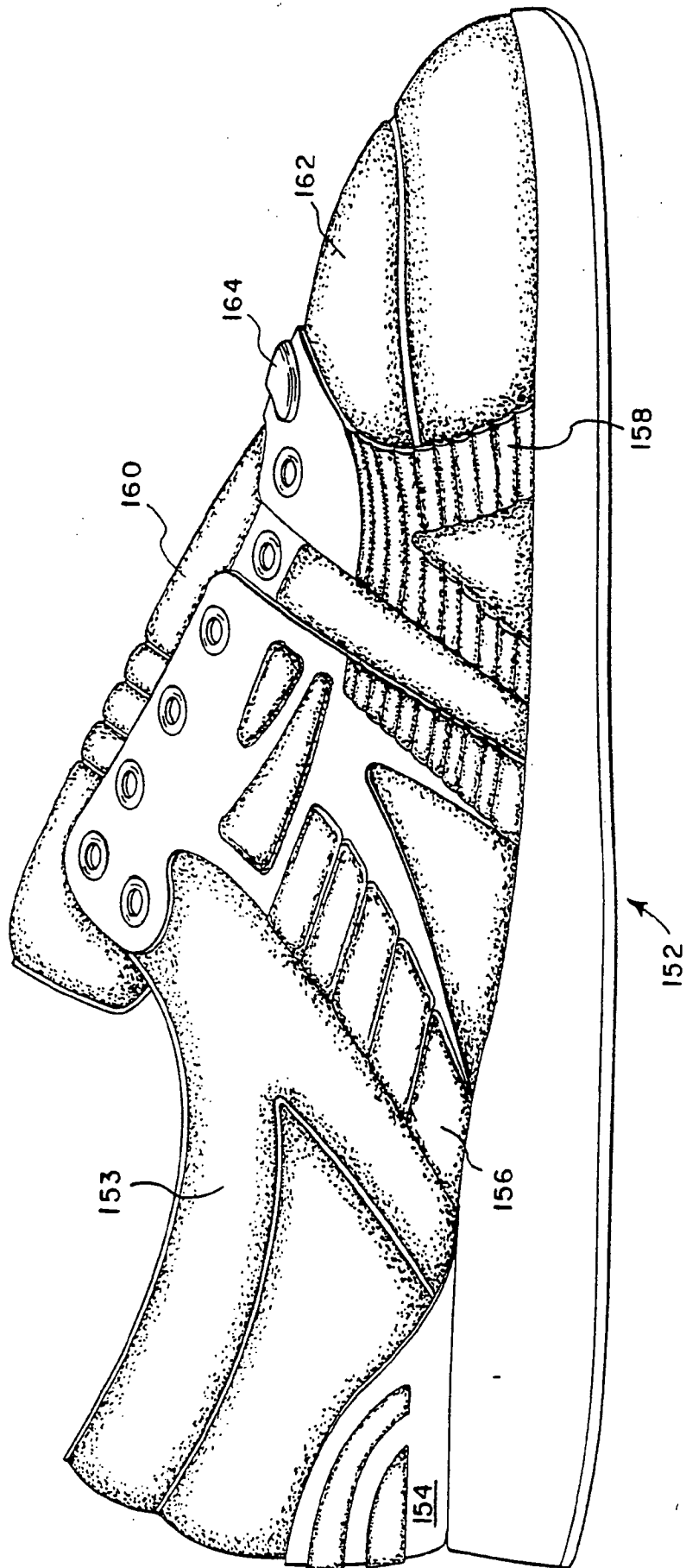


FIG. 17

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FIG. 18A

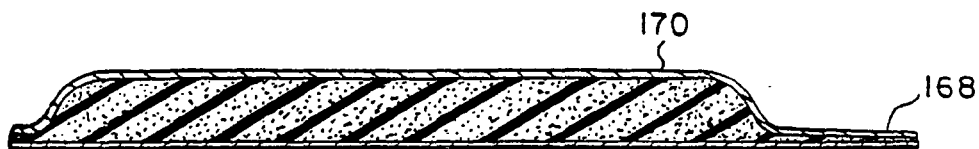
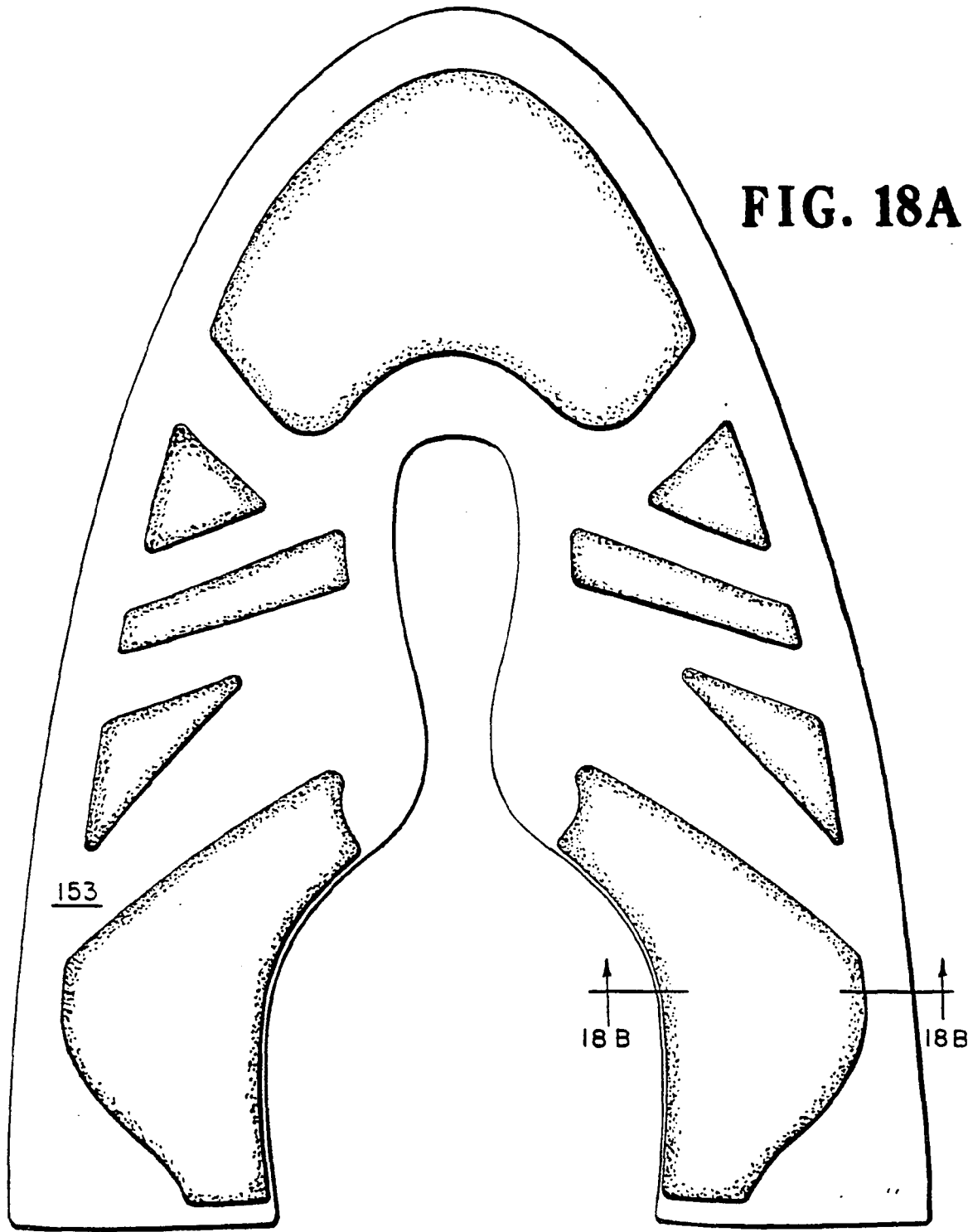


FIG. 18B

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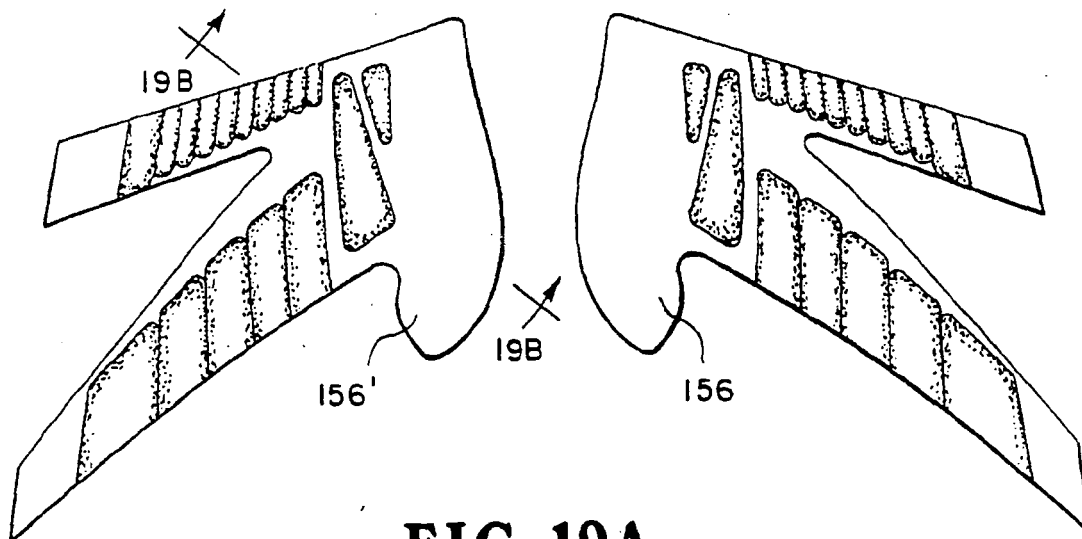


FIG. 19A

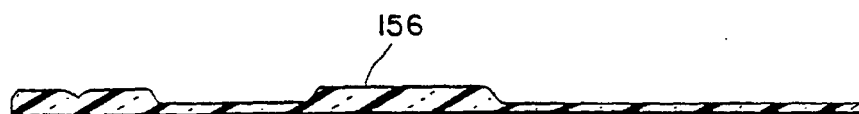


FIG. 19B

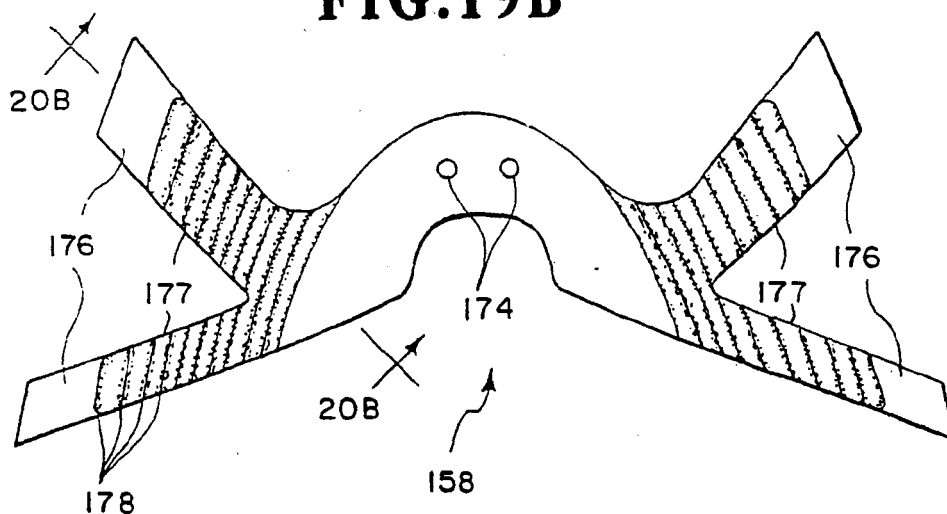


FIG. 20A



FIG. 20B

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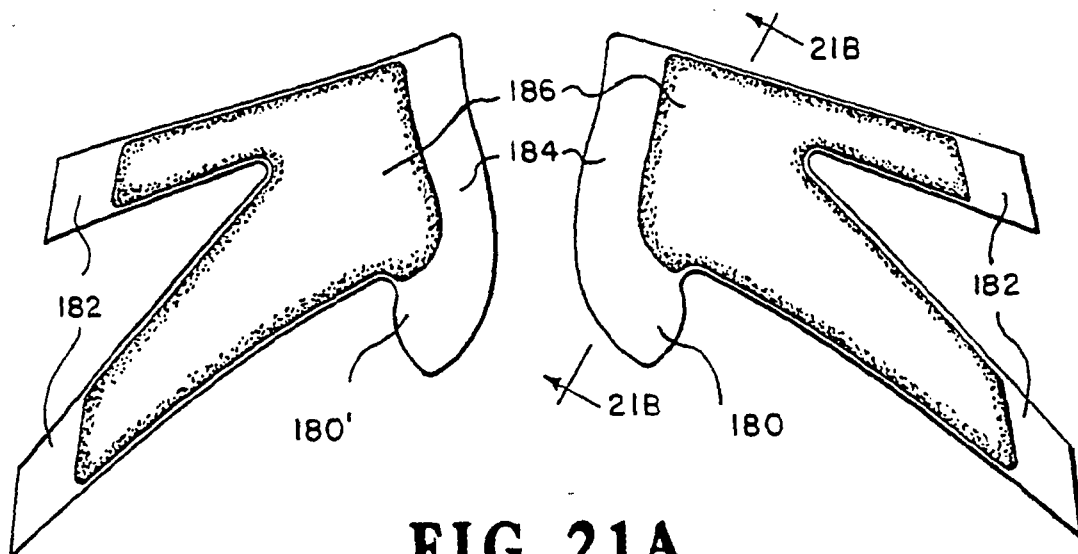


FIG. 21A



FIG. 21B

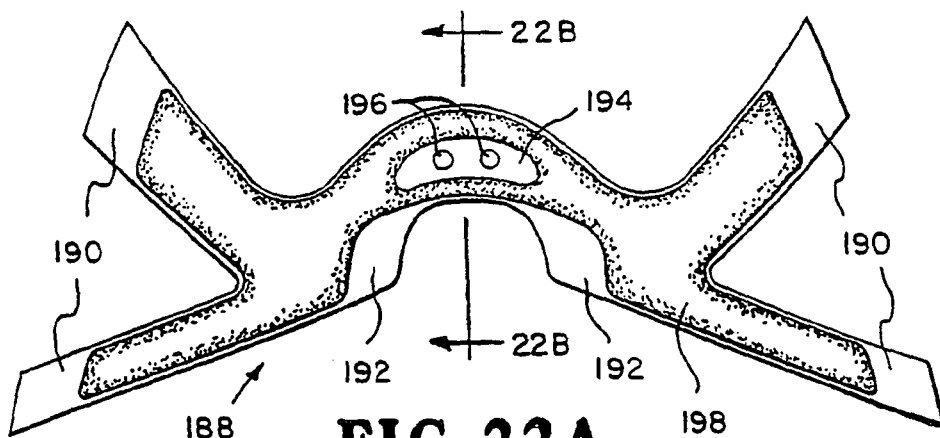


FIG. 22A



FIG. 22B

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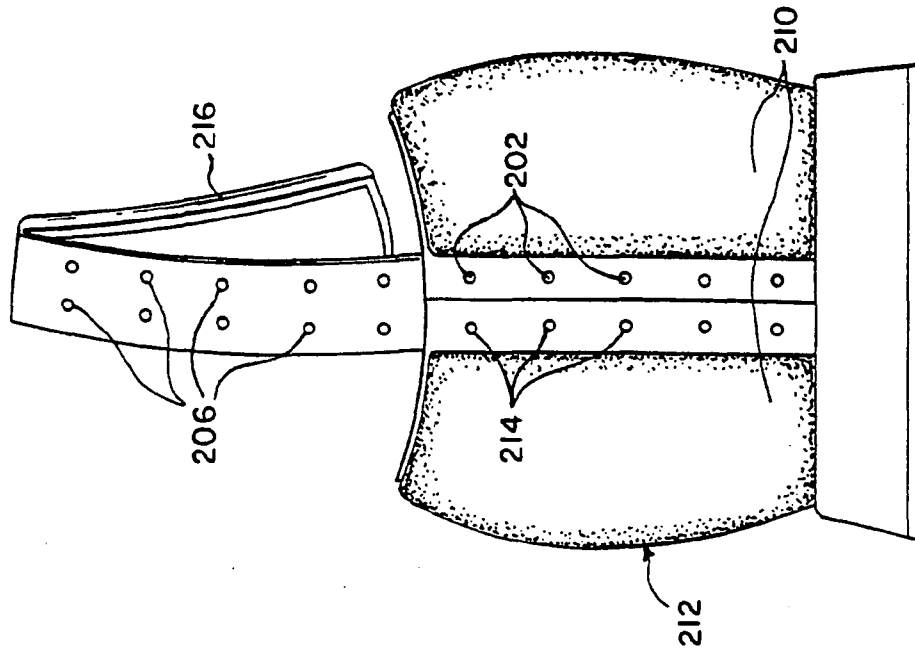


FIG. 23C

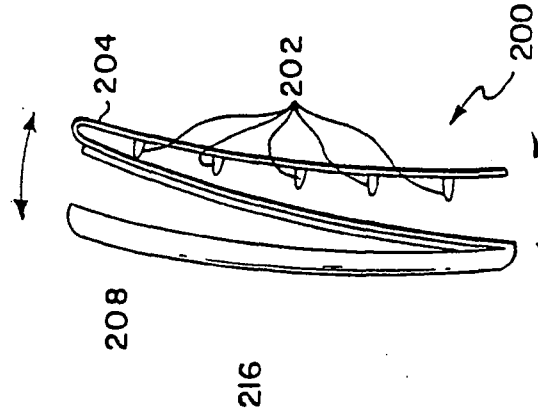


FIG. 23B

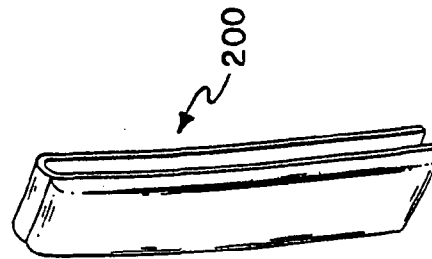


FIG. 23A

SUBSTITUTE SHEET

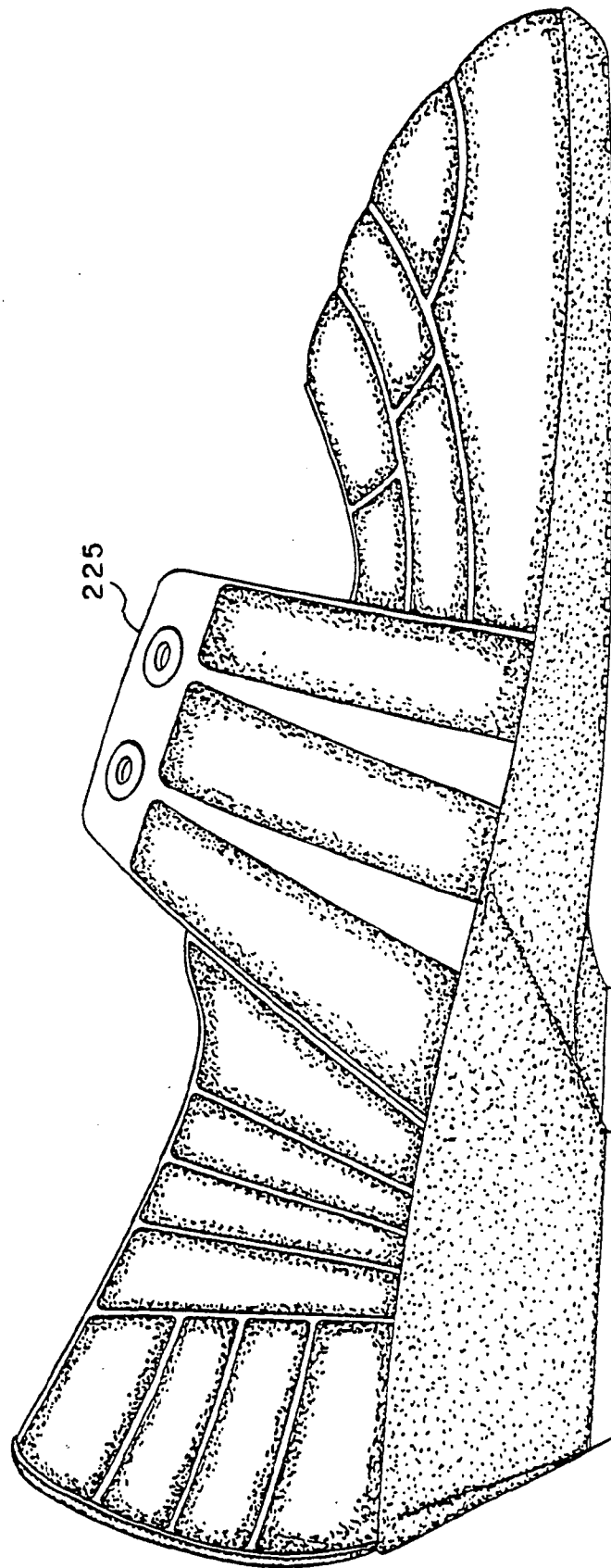


FIG. 24

SUBSTITUTE SHEET

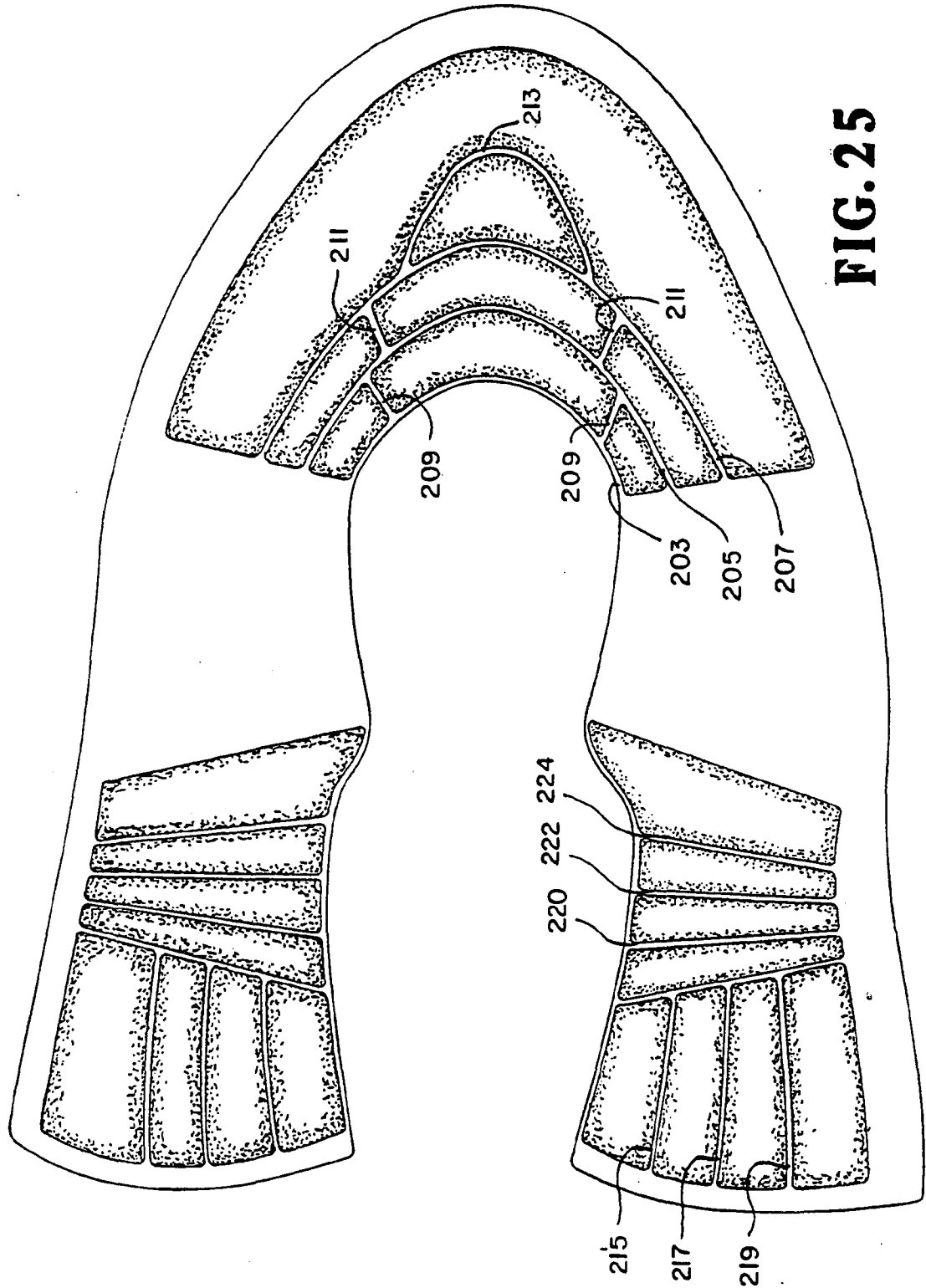


FIG. 25

SUBSTITUTE SHEET

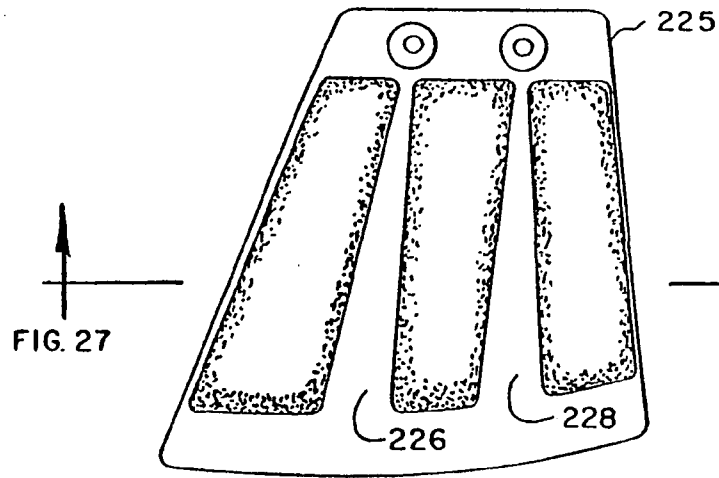


FIG. 26

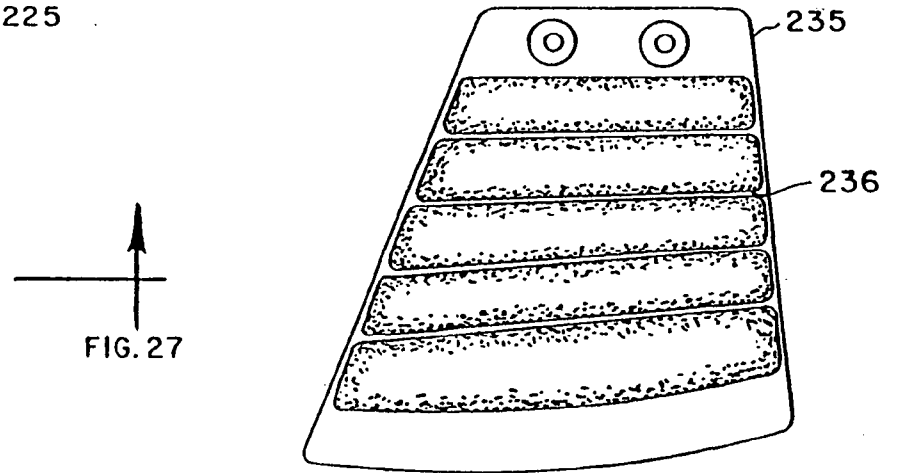


FIG. 28

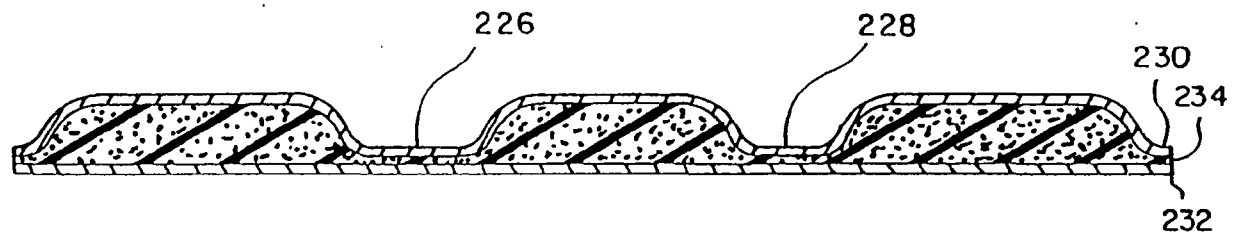


FIG. 27

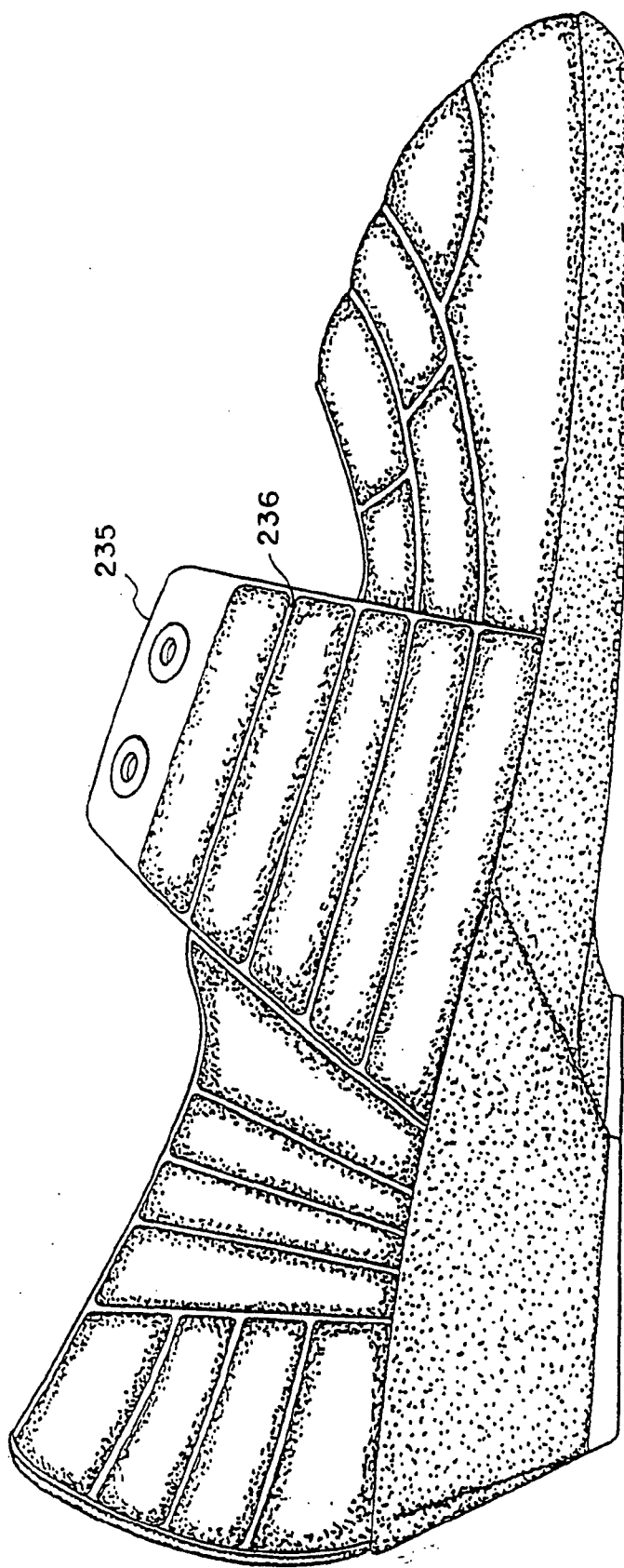


FIG. 29

SUBSTITUTE SHEET

INTERNATIONAL SEARCH REPORT

International Application No **PCT/US 89/04370**

I. CLASSIFICATION OF SUBJECT MATTER (If several classification symbols apply, indicate all) * According to International Patent Classification (IPC) or to both National Classification and IPC IPC5: A 43 D 8/24						
II. FIELDS SEARCHED Minimum Documentation Searched † <table style="width: 100%; border-collapse: collapse;"> <tr> <th style="width: 30%; border-bottom: 1px solid black;">Classification System</th> <th style="border-bottom: 1px solid black;">Classification Symbols</th> </tr> <tr> <td style="padding: 5px;">IPC5</td> <td style="padding: 5px;">A 43 D; A 43 B</td> </tr> </table> Documentation Searched other than Minimum Documentation to the Extent that such Documents are Included in the Fields Searched ‡			Classification System	Classification Symbols	IPC5	A 43 D; A 43 B
Classification System	Classification Symbols					
IPC5	A 43 D; A 43 B					
III. DOCUMENTS CONSIDERED TO BE RELEVANT*						
Category †	Citation of Document, †† with indication, where appropriate, of the relevant passages †‡	Relevant to Claim No. †‡				
A	US, A, 2622052 (J.D. CHANDLER) 16 December 1952, see the whole document --	1-43				
A	US, A, 3130505 (I.I. MARKEVITCH) 28 April 1964, see the whole document --	1-43				
A	US, A, 3583081 (HIDEO HAYASHI) 8 June 1971, see the whole document --	1-43				
A	DE, B2, 2235819 (FRITZ WAGNER, MASCHINENFABRIK GMBH & CO KG) 14 February 1974, see the whole document -----	1-43				
* 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 "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						
IV. CERTIFICATION						
Date of the Actual Completion of the International Search 17th January 1990		Date of Mailing of this International Search Report 12. 02. 90				
International Searching Authority EUROPEAN PATENT OFFICE		Signature of Authorized Officer C.D. v.d. Vliet				

Form PCT/ISA/210 (second sheet) (January 1985)

**ANNEX TO THE INTERNATIONAL SEARCH REPORT
ON INTERNATIONAL PATENT APPLICATION NO.**

PCT/US 89/04370

SA

31867

This annex lists the patent family members relating to the patent documents cited in the above-mentioned international search report. The members are as contained in the European Patent Office EDP file on 08/11/89. The European Patent Office is in no way liable for these particulars which are merely given for the purpose of information.

Patent document cited in search report	Publication date	Patent family member(s)	Publication date
US-A- 2622052	16/12/52	NONE	
US-A- 3130505	28/04/64	NONE	
US-A- 3583081	08/06/71	FR-A- 1578531	14/08/69
		GB-A- 1223285	24/02/71
		DE-A- 1785183	04/11/71
		DE-U- 6753371	24/04/69
		DE-U- 6753380	24/04/69
DE-B2- 2235819	14/02/74	DE-A- 2265494	02/12/82

EPO FORM PWT/9

For more details about this annex : see Official Journal of the European Patent Office, No. 12/82

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TO:
Office of Initial Patent Examination -
Supplemental Application Data Sheets

FROM:
Byron S. Kuzara

COMPANY:
USPTO

DATE:
December 30, 2004

FAX NUMBER:
703-746-4060

TOTAL NO. OF PAGES:
4

RE:
App. No. 10/791,289

OUR REFERENCE NO.:
005127.00240

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PHONE: 503-425-6800

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CHICAGO

WASHINGTON, D.C.

BOSTON

PORTLAND,
OR

**Supplemental Application Data Sheet****Application Information**

Application number:: 10/791,289
Filing Date:: 03/03/04
Application Type:: Regular
Subject Matter:: Utility
Suggested classification::
Suggested Group Art Unit::
CD-ROM or CD-R?:: None
Number of CD disks::
Number of copies of CDs::
Sequence submission?::
Computer Readable Form (CRF)?::
Number of copies of CRF::
Title:: An Article of Footwear Having a Textile Upper
Attorney Docket Number:: 005127.00260
Request for Early Publication?:: NO
Request for Non-Publication?:: NO
Suggested Drawing Figure::
Total Drawing Sheets:: 12
Small Entity?:: NO
Latin name::
Variety denomination name::
Petition included?:: NO
Petition Type::
Licensed US Govt. Agency::
Contract or Grant Numbers::
Secrecy Order in Parent Appl.?:: NO

1

Initial 12/30/04

Applicant Information

Applicant Authority Type:: Inventor
Primary Citizenship Country:: United States
Status:: Full Capacity
Given Name:: Bhupesh
Middle Name::
Family Name:: Dua
Name Suffix::
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State or Province of Residence:: Oregon
Country of Residence:: USA
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City of mailing address:: Portland
State or Province of mailing address:: Oregon
Country of mailing address:: USA
Postal or Zip Code of mailing address:: 97229

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Middle Name:: Nathaniel
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Country of Residence:: USA
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City of mailing address:: Portland

State or Province of mailing address:: Oregon
Country of mailing address:: USA
Postal or Zip Code of mailing address:: 97229

Correspondence Information

Correspondence Customer Number:: 22909

Representative Information

Representative Customer Number:: 22909

Domestic Priority Information

Application::	Continuity Type::	Parent Application::	Parent Filing Date::

Foreign Priority Information

Country::	Application number::	Filing Date::	Priority Claimed::

Assignee Information

Assignee name:: NIKE, Inc.
Street of mailing address:: One Bowerman Drive
City of mailing address:: Beaverton
State or Province of mailing address:: Oregon
Country of mailing address:: U.S.A.
Postal or Zip Code of mailing address:: 97005



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To: Office of Initial Patent Examination - Missing Parts	FROM: Byron S. Kuzara
COMPANY: USPTO	DATE: July 26, 2004
FAX NUMBER: 703-746-4060	TOTAL NO. OF PAGES: 9
RE: App. No. 10/791,289	OUR REFERENCE NO.: 005127.00260

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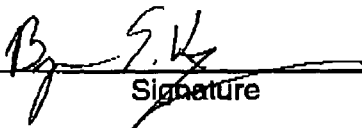
PTO/SB/97 (05-03)
Approved for use through 04/30/2003. OMB 0651-0031
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Fee Sheet (1 page)
Submission of Missing Parts of Nonprovisional Application (2 pages)
Declaration (2 pages)
Copy of Notice to File Missing Parts of Nonprovisional Application (2 pages)

Serial No. 10/791,289
Attorney Docket No. 005127.00260

This collection of information is required by 37 CFR 1.8. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.8 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

FEE TRANSMITTAL for FY 2004

Effective 10/01/2003. Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 2090

Complete If Known

Application Number 10/791,289
Filing Date 3/3/04
First Named Inventor Bhupesh Dua, et al.
Examiner Name TBD
Art Unit 3728
Attorney Docket No. 005127.00260

METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit card ☐ Money ☐ Other ☐ None
Order

☒ Deposit Account:

Deposit Account Number 19-0733

Deposit Account Name Banner & Witcoff, LTD.

The Director is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments
☒ Charge any additional fee(s) during the pendency of this application
☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1001	770	2001	385	Utility filing fee	770
1002	340	2002	170	Design filing fee	
1003	530	2003	265	Plant filing fee	
1004	770	2004	385	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1)

(\$ 770)

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	67	-20 **	=	47	X	18	=	846
Independent Claims	7	-3 **	=	4	X	88	=	344
Multiple Dependent	0				X	290	=	0

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1202	18	2202	9	Claims in excess of 20	
1201	85	2201	43	Independent claims in excess of 3	
1203	290	2203	145	Multiple dependent claim, if not paid	
1204	85	2204	43	** Reissue independent claims over original patent	
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent	

SUBTOTAL (2)

(\$ 1190)

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

3. ADDITIONAL FEES

Large Entity		Small Entity		Fee Description	Fee Paid
Fee Code	Fee (\$)	Fee Code	Fee (\$)		
1051	130	2051	65	Surcharge - late filing fee or oath	130
1052	50	2052	25	Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130	Non-English specification	
1812	2,520	1812	2,520	For filing a request for reexamination	
1804	920*	1804	920*	Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*	Requesting publication of SIR after Examiner action	
1251	110	2251	55	Extension for reply within first month	
1252	420	2252	210	Extension for reply within second month	
1253	850	2253	475	Extension for reply within third month	
1254	1,480	2254	740	Extension for reply within fourth month	
1255	2,010	2255	1,005	Extension for reply within fifth month	
1401	330	2401	165	Notice of Appeal	
1402	330	2402	165	Filing a brief in support of an appeal	
1403	280	2403	145	Request for oral hearing	
1451	1,510	1451	1,510	Petition to institute a public use proceeding	
1452	110	2452	55	Petition to revive - unavoidable	
1453	1,330	2453	665	Petition to revive - unintentional	
1501	1,330	2501	665	Utility issue fee (or reissue)	
1502	480	2502	240	Design issue fee	
1503	640	2503	320	Plant issue fee	
1480	130	1480	130	Petitions to the Commissioner	
1807	50	1807	50	Processing fee under 37 CFR 1.17 (g)	
1806	180	1806	180	Submission of Information Disclosure Stmt	
8021	40	8021	40	Recording each patent assignment per property (times number of properties)	
1809	770	2809	385	Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	770	2810	385	For each additional invention to be examined (37 CFR § 1.129(b))	
1801	770	2801	385	Request for Continued Examination (RCE)	
1802	900	1802	900	Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid

SUBTOTAL (3)

(\$ 130)

SUBMITTED BY

Name (Print/Type) Byron S. Kuzara

Registration No. (Attorney/Agent) 51,255

Telephone 503-425-6800

Signature

Byron S. Kuzara

Date 7/26/04

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Respectfully submitted,



By: Byron S. Kazara
 Byron S. Kazara
 Registration Number 51,255
 Banner & Witcoff, Ltd.

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re Application Of:	)	Att.: Box Missing Parts
	)	
Bhupesh DUA, et al.	)	Group Art Unit: 3728
	)	
Serial No. 10/791,289	)	Examiner: TBD
	)	
Filed: March 3, 2004	)	Docket No. 005127.00260
	)	
For: AN ARTICLE OF FOOTWEAR HAVING	)	
A TEXTILE UPPER	)	

SUBMISSION OF MISSING PARTS OF NONPROVISIONAL APPLICATION

Commissioner for Patents
 Alexandria, VA 22313

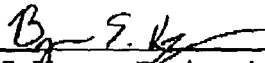
Sir:

Pursuant to the Notice to File Missing Parts of Application dated May 25, 2004, Applicants hereby submit their executed Declaration in the above Application. The Commissioner is hereby authorized to charge deposit account 19-0733 for a total of \$2,090.00, which includes the basic filing fee of \$770.00, \$846.00 for 47 claims over 20, \$344.00 for 4 independent claims over 3, and the \$130.00 surcharge as set forth in 37 C.F.R. §1.16(e). Should any additional fees be necessary, the Commissioner is authorized to charge the cost of the additional fees to deposit account 19-0733.

The submission of these missing parts is timely filed by virtue of their filing by facsimile on July 26, 2004. However, should any additional extension or fee be required for the filing of these papers, such extension is requested and the Commissioner is hereby authorized to charge said fee to our Deposit Account No. 19-0733.

Respectfully submitted,

By:


Byron S. Kuzara, Registration No. 51,255

Banner & Witcoff, Ltd.
1001 G Street, N.W.
Washington, D.C. 20001-4597
Telephone: 503-425-6800

Dated: July 26, 2004



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/791,289	03/03/2004	Bhupesh Dua	005127.00260

22909
BANNER & WITCOFF, LTD.
1001 G STREET, N.W.
WASHINGTON, DC 20001-4597

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MAY 27 2004

BANNER & WITCOFF

CONFIRMATION NO. 8919

FORMALITIES LETTER

OC000000012763724

Date Mailed: 05/25/2004

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

Filing Date Granted

Items Required To Avoid Abandonment:

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
Applicant must submit \$ 770 to complete the basic filing fee for a non-small entity. If appropriate, applicant may make a written assertion of entitlement to small entity status and pay the small entity filing fee (37 CFR 1.27).
- The oath or declaration is missing.
A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Additional claim fees of **\$1190** as a non-small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$2090** for a Large Entity

- **\$770** Statutory basic filing fee.
- **\$130** Late oath or declaration Surcharge.

10791289
JUL 27 2004 JBR/LINAM 00000093 190733

770.00 DA
344.00 DA
846.00 DA
130.00 DA

FC:1001
FC:1201
FC:1202

FC:1051

- Total additional claim fee(s) for this application is **\$1190**

- **\$344** for 4 independent claims over 3.
- **\$846** for 47 total claims over 20.

Replies should be mailed to: Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

*A copy of this notice **MUST** be returned with the reply.*



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PART 1 - ATTORNEY/APPLICANT COPY

Banner & Witcoff Ref. No. 005127.00260
 Client Ref. No.



JOINT DECLARATION FOR PATENT APPLICATION

As the below named inventors, we hereby declare that:

Our residence, post office address and citizenship are as stated below next to our names;

We believe we are the original, first and joint inventors of the subject matter which is claimed and for which a patent is sought on the invention entitled An Article of Footwear Having a Textile Upper, the specification of which

- ☐ is attached hereto.
☒ was filed on 3/3/04 as Application Serial Number 10/791,289 and was amended on _____ (if applicable).
☐ was filed under the Patent Cooperation Treaty (PCT) and accorded International Application No. _____, filed _____, and amended on _____ (if any).

We hereby state that we have reviewed and understand the contents of the above-identified specification, including the claims, as amended by any amendment referred to above.

We hereby acknowledge the duty to disclose information which is material to patentability in accordance with Title 37, Code of Federal Regulations, §1.56(a).

Prior Foreign Application(s)

We hereby claim foreign priority benefits under Title 35, United States Code, §119 of any foreign application(s) for patent or inventor's certificate listed below and have also identified below any foreign application(s) for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

Country	Application No.	Date of Filing (day month year)	Date of Issue (day month year)	Priority Claimed Under 35 U.S.C. §119

Prior United States Provisional Application(s)

We hereby claim priority benefits under Title 35, United States Code, §119(e)(1) of any U.S. provisional application listed below:

U.S. Provisional Application No.	Date of Filing (day month year)	Priority Claimed Under 35 U.S.C. §119(e)(1)

Prior United States Application(s)

We hereby claim the benefit under Title 35, United States Code, §120 of any United States application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States application in the manner provided by the first paragraph of Title 35, United States Code, §112, we acknowledge the duty to disclose material information as defined in Title 37, Code of Federal Regulations, §1.56(a) which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Application Serial No.	Date of Filing (Day, Month, Year)	Status — Patented, Pending, Abandoned



Banner & Witcoff Ref. No. 005127.00260
Client Ref. No.

Power of Attorney

And we hereby appoint, both jointly and severally, as our attorneys with full power of substitution and revocation, to prosecute this application and to transact all business in the Patent and Trademark Office connected herewith the practitioners at:

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We hereby declare that all statements made herein of our own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the application or any patent issuing thereon.

Signature Bhupesh Dye Date 07/21/04
Full Name of First Inventor Dye Bhupesh
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Full Name of Second Inventor Thomas Edward Nathaniel
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Post Office Address 10226 NW Wilshire Lane, Portland, Oregon 97229



IFW

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

<i>In re</i> Application of	)	
	)	Group Art Unit: 3728
Bhupesh DUA	)	
	)	Examiner: TBD
Serial No. 10/791,289	)	
	)	Docket No. 005127.00260
Filed: March 3, 2004	)	
	)	
For: ARTICLE OF FOOTWEAR HAVING	)	
A TEXTILE UPPER	)	

INFORMATION DISCLOSURE STATEMENT

Commissioner for Patents
Alexandria, VA 22313

Sir:

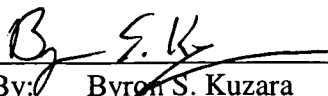
Pursuant to the duty of disclosure set forth in 37 C.F.R. §1.56(a), applicant submits the documents cited on the attached PTO-1449 form and respectfully requests that the Examiner consider these documents.

This Information Disclosure Statement is being filed prior to the mailing date of a first Office Action on the merits under 37 C.F.R. §1.97(b)(3) and, therefore, neither a certification under 37 C.F.R. §1.97(e) nor a fee under 37 C.F.R. §1.17(p) is required. Should a fee be deemed necessary for consideration of this Information Disclosure Statement, however, the Commissioner is authorized to debit deposit account number 19-0733.

Applicant respectfully requests that the documents cited on the attached PTO-1449 form be made officially of record, and that a listing of the documents appear on the face of any patent that may issue from this application.

Banner & Witcoff, Ltd.
1001 G Street, N.W.
Washington, D.C. 20001-4597
Telephone: (202) 824-3000
Dated: May 26, 2004

Respectfully submitted,


By: Byron S. Kuzara
Registration Number 51,255

MAY 27 2004

PTO/SB/08a (08-03)

Approved for use through 07/31/2006. OMB 0651-0031

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**INFORMATION DISCLOSURE
STATEMENT BY APPLICANT**

(Use as many sheets as necessary)

Sheet 1 of 1

Complete if Known

Application Number	10/791,289
Filing Date	3/3/04
First Named Inventor	Bhupesh Dua
Art Unit	3728
Examiner Name	TBD
Attorney Docket Number	005127.00260

U.S. PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Document Number	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Number - Kind Code ² (if known)			
		US-2,147,197	11/25/1936	Glidden	
		US- 4,211,806	07/08/1980	Civardi et al.	
		US- 4,255,949	03/17/1981	Thorneburg	
		US- 4,373,361	02/15/1983	Thorneburg	
		US- 4,447,967	05/15/1984	Zaino	
		US- 4,607,439	08/26/1986	Harada	
		US- 4,785,558	11/22/1988	Shiomura	
		US- 4,813,158	03/21/1989	Brown	

FOREIGN PATENT DOCUMENTS

Examiner Initials *	Cite No. ¹	Foreign Patent Document	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁶
		Country Code ³ - Number ⁴ - Kind Code ⁵ (if known)				

NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Santoni S.p.A. publication: Knitting Wear, SM8 Top 1 (2 pages)	

Examiner Signature		Date Considered	
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*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

¹ Applicant's unique citation designation number (optional). ² Applicant is to place a check mark here if English language Translation is attached. This collection of information is required by 37 CFR 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 120 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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APPLICATION NUMBER	FILING OR 371 (c) DATE	FIRST NAMED APPLICANT	ATTORNEY DOCKET NUMBER
10/791,289	03/03/2004	Bhupesh Dua	005127.00260

CONFIRMATION NO. 8919

22909
 BANNER & WITCOFF, LTD.
 1001 G STREET, N.W.
 WASHINGTON, DC 20001-4597

FORMALITIES LETTER



OC000000012763724

Date Mailed: 05/25/2004

NOTICE TO FILE MISSING PARTS OF NONPROVISIONAL APPLICATION

FILED UNDER 37 CFR 1.53(b)

*Filing Date Granted***Items Required To Avoid Abandonment:**

An application number and filing date have been accorded to this application. The item(s) indicated below, however, are missing. Applicant is given **TWO MONTHS** from the date of this Notice within which to file all required items and pay any fees required below to avoid abandonment. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

- The statutory basic filing fee is missing.
Applicant must submit \$ 770 to complete the basic filing fee for a non-small entity. If appropriate, applicant may make a written assertion of entitlement to small entity status and pay the small entity filing fee (37 CFR 1.27).
- The oath or declaration is missing.
A properly signed oath or declaration in compliance with 37 CFR 1.63, identifying the application by the above Application Number and Filing Date, is required.
- To avoid abandonment, a late filing fee or oath or declaration surcharge as set forth in 37 CFR 1.16(e) of \$130 for a non-small entity, must be submitted with the missing items identified in this letter.

The applicant needs to satisfy supplemental fees problems indicated below.

The required item(s) identified below must be timely submitted to avoid abandonment:

- Additional claim fees of **\$1190** as a non-small entity, including any required multiple dependent claim fee, are required. Applicant must submit the additional claim fees or cancel the additional claims for which fees are due.

SUMMARY OF FEES DUE:

Total additional fee(s) required for this application is **\$2090** for a Large Entity

- **\$770** Statutory basic filing fee.
- **\$130** Late oath or declaration Surcharge.

- Total additional claim fee(s) for this application is **\$1190**
 - **\$344** for **4** independent claims over 3.
 - **\$846** for **47** total claims over 20.

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*A copy of this notice **MUST** be returned with the reply.*


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PART 3 - OFFICE COPY

030304

13281 U.S. PTO

PTO/SB/05 (08-03)

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**UTILITY
PATENT APPLICATION
TRANSMITTAL**

(Only for new nonprovisional applications under 37 C.F.R. 1.53(b))

Attorney Docket No. 005127.00260

First Inventor Bhupesh Dua

Title An Article of Footwear Having a Textile Upper

Express Mail Label No.

2390 U.S. PTO
107791289

030304

APPLICATION ELEMENTS

See MPEP chapter 600 concerning utility patent application contents.

1. ☐ Fee Transmittal Form (e.g., PTO/SB/17)
(Submit an original and a duplicate for fee processing)
2. ☐ Applicant claims small entity status.
See 37 CFR 1.27.
3. ☒ Specification [Total Pages **28**]
(preferred arrangement set forth below)
- Descriptive title of the invention
 - Cross Reference to Related Applications
 - Statement Regarding Fed sponsored R & D
 - Reference to sequence listing, a table, or a computer program listing appendix
 - Background of the invention
 - Brief Summary of the invention
 - Brief Description of the Drawings (if filed)
 - Detailed Description
 - Claim(s)
 - Abstract of the Disclosure
4. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets **12**]
☒ Formal ☐ Informal
5. Oath or Declaration [Total Sheets **—**]
- a. ☐ Newly executed (original or copy)
- b. ☐ Copy from a prior application (37 CFR 1.63 (d))
(for a continuation/divisional with Box 18 completed)
- i. ☐ **DELETION OF INVENTOR(S)**
Signed statement attached deleting inventor(s) named in the prior application, see 37 CFR 1.63(d)(2) and 1.33(b).
6. ☒ Application Data Sheet. See 37 CFR 1.76

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7. ☐ CD-ROM or CD-R in duplicate, large table or Computer Program (Appendix)
8. Nucleotide and/or Amino Acid Sequence Submission (if applicable, all necessary)
- a. ☐ Computer Readable Form (CRF)
- b. Specification Sequence Listing on:
- i. ☐ CD-ROM or CD-R (2 copies); or
- ii. ☐ paper
- c. ☐ Statements verifying identity of above copies

ACCOMPANYING APPLICATIONS PARTS

9. ☐ Assignment Papers (cover sheet & document(s))
10. ☐ 37 C.F.R. 3.73(b) Statement ☐ Power of Attorney
(when there is an assignee)
11. ☐ English Translation Document (if applicable)
12. ☐ Information Disclosure Statement (IDS)/PTO-1449 ☐ Copies of IDS Citations
13. ☐ Preliminary Amendment
14. ☒ Return Receipt Postcard (MPEP 503)
(Should be specifically itemized)
15. ☐ Certified Copy of Priority Document(s)
(if foreign priority is claimed)
16. ☐ Nonpublication Request under 35 U.S.C. 122 (b)(2)(B)(i). Applicant must attach form PTO/SB/35 or its equivalent.
17. ☐ Other: _____

18. If a CONTINUING APPLICATION, check appropriate box, and supply the requisite information below and in a preliminary amendment, or in an Application Data Sheet under 37 CFR 1.76:

☐ Continuation ☐ Divisional ☐ Continuation-in-part (CIP) of prior application No: _____ / _____

Prior application information: Examiner _____ Art Unit: _____

For CONTINUATION or DIVISIONAL APPS only: The entire disclosure of the prior application, from which an oath or declaration is supplied under Box 5b, is considered a part of the disclosure of the accompanying or divisional application and is hereby incorporated by reference. The incorporation can only be relied upon when a portion has been inadvertently omitted from the submitted application parts.

19. CORRESPONDENCE ADDRESS

☒ Customer Number: **22909** or ☐ Correspondence address below

Name					
Address					
City	State	Zip Code			
Country	Telephone	Fax			

Name (Print/Type)	Byron S. Kuzara	Registration No. (Attorney/Agent)	51,255
Signature	<i>Byron S. Kuzara</i>	Date	3/2/04

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Mail Stop Patent Application, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

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AN ARTICLE OF FOOTWEAR HAVING A TEXTILE UPPER

BACKGROUND OF THE INVENTION

Field of the Invention

- [01] The present invention relates to footwear. The invention concerns, more particularly, an article of footwear incorporating an upper that is at least partially formed from a textile material.

Description of Background Art

- [02] Conventional articles of athletic footwear include two primary elements, an upper and a sole structure. The upper provides a covering for the foot that securely receives and positions the foot with respect to the sole structure. In addition, the upper may have a configuration that protects the foot and provides ventilation, thereby cooling the foot and removing perspiration. The sole structure is secured to a lower surface of the upper and is generally positioned between the foot and the ground. In addition to attenuating ground reaction forces and absorbing energy (i.e., imparting cushioning), the sole structure may provide traction and control potentially harmful foot motion, such as over pronation. Accordingly, the upper and the sole structure operate cooperatively to provide a comfortable structure that is suited for a wide variety of ambulatory activities, such as walking and running. The general features and configuration of the conventional upper are discussed in greater detail below.
- [03] The upper forms a void on the interior of the footwear for receiving the foot. The void has the general shape of the foot, and access to the void is provided by an ankle opening. Accordingly, the upper extends over the instep and toe areas of the foot, along the medial and lateral sides of the foot, and around the heel area of the foot. A lacing system is often incorporated into the upper to selectively increase the size of the ankle opening and permit the wearer to modify certain dimensions of the upper, particularly girth, to accommodate feet with varying proportions. In addition, the upper may include a tongue

that extends under the lacing system to enhance the comfort of the footwear, and the upper may include a heel counter to limit movement of the heel.

- [04] Various materials may be utilized in manufacturing the upper. The upper of an article of athletic footwear, for example, may be formed from multiple material layers that include an exterior layer, an intermediate layer, and an interior layer. The materials forming the exterior layer of the upper may be selected based upon the properties of wear-resistance, flexibility, and air-permeability, for example. With regard to the exterior layer, the toe area and the heel area may be formed of leather, synthetic leather, or a rubber material to impart a relatively high degree of wear-resistance. Leather, synthetic leather, and rubber materials may not exhibit the desired degree of flexibility and air-permeability. Accordingly, various other areas of the exterior layer of the upper may be formed from a synthetic or natural textile. The exterior layer of the upper may be formed, therefore, from numerous material elements that each impart different properties to specific portions of the upper.
- [05] An intermediate layer of the upper may be formed from a lightweight polymer foam material that provides cushioning and protects the foot from objects that may contact the upper. Similarly, an interior layer of the upper may be formed of a moisture-wicking textile that removes perspiration from the area immediately surrounding the foot. In some articles of athletic footwear, the various layers may be joined with an adhesive, and stitching may be utilized to join elements within a single layer or to reinforce specific areas of the upper.
- [06] Although the materials selected for the upper vary significantly, textile materials often form at least a portion of the exterior layer and interior layer. A textile may be defined as any manufacture from fibers, filaments, or yarns characterized by flexibility, fineness, and a high ratio of length to thickness. Textiles generally fall into two categories. The first category includes textiles produced directly from webs of filaments or fibers by randomly interlocking to construct non-woven fabrics and felts. The second category includes textiles formed through a mechanical manipulation of yarn, thereby producing a woven fabric, for example.

- [07] Yarn is the raw material utilized to form textiles in the second category. In general, yarn is defined as an assembly having a substantial length and relatively small cross-section that is formed of at least one filament or a plurality of fibers. Fibers have a relatively short length and require spinning or twisting processes to produce a yarn of suitable length for use in textiles. Common examples of fibers are cotton and wool. Filaments, however, have an indefinite length and may merely be combined with other filaments to produce a yarn suitable for use in textiles. Modern filaments include a plurality of synthetic materials such as rayon, nylon, polyester, and polyacrylic, with silk being the primary, naturally-occurring exception. Yarn may be formed of a single filament, which is conventionally referred to as a monofilament yarn, or a plurality of individual filaments grouped together. Yarn may also include separate filaments formed of different materials, or the yarn may include filaments that are each formed of two or more different materials. Similar concepts also apply to yarns formed from fibers. Accordingly, yarns may have a variety of configurations that generally conform to the definition provided above.
- [08] The various techniques for mechanically manipulating yarn into a textile include interweaving, intertwining and twisting, and interlooping. Interweaving is the intersection of two yarns that cross and interweave at right angles to each other. The yarns utilized in interweaving are conventionally referred to as warp and weft. Intertwining and twisting encompasses procedures such as braiding and knotting where yarns intertwine with each other to form a textile. Interlooping involves the formation of a plurality of columns of intermeshed loops, with knitting being the most common method of interlooping.
- [09] The textiles utilized in footwear uppers generally provide a lightweight, air-permeable structure that is flexible and comfortably receives the foot. In order to impart other properties to the footwear, including durability and stretch-resistance, additional materials are commonly combined with the textile, including leather, synthetic leather, or rubber, for example. With regard to durability, U.S. Patent Number 4,447,967 to Zaino discloses an upper formed of a textile material that has a polymer material injected into specific zones to reinforce the zones against abrasion or other forms of wear. Regarding

stretch resistance, U.S. Patent Numbers 4,813,158 to Brown and 4,756,098 to Boggia both disclose a substantially inextensible material that is secured to the upper, thereby limiting the degree of stretch in specific portions of the upper.

- [10] From the perspective of manufacturing, utilizing multiple materials to impart different properties to an article of footwear may be an inefficient practice. For example, the various materials utilized in a conventional upper are not generally obtained from a single supplier. Accordingly, a manufacturing facility must coordinate the receipt of specific quantities of materials with multiple suppliers that may have distinct business practices or may be located in different regions or countries. The various materials may also require additional machinery or different assembly line techniques to cut or otherwise prepare the material for incorporation into the footwear. In addition, incorporating separate materials into an upper may involve a plurality of distinct manufacturing steps requiring multiple individuals. Employing multiple materials, in addition to textiles, may also detract from the breathability of footwear. Leather, synthetic leather, or rubber, for example, are not generally permeable to air. Accordingly, positioning leather, synthetic leather, or rubber on the exterior of the upper may inhibit air flow through the upper, thereby increasing the amount of perspiration, water vapor, and heat trapped within the upper and around the foot.

SUMMARY OF THE INVENTION

- [11] The present invention is an upper for an article of footwear, the upper incorporating a textile element formed with a knitting machine, for example. In one aspect of the invention, the textile element has edges that are joined together to define at least a portion of a void for receiving a foot. In another aspect of the invention, the textile element has a first area and a second area of unitary construction. The first area is formed of a first stitch configuration, and the second area is formed of a second stitch configuration that is different from the first stitch configuration to impart varying textures to a surface of the textile element. The knitting machine may have a configuration that forms the textile element through either warp knitting or weft knitting.

- [12] Another aspect of the invention involves a method of manufacturing an article of footwear. The method includes a step of mechanically-manipulating a yarn with a circular knitting machine, for example, to form a cylindrical textile structure. In addition, the method involves removing at least one textile element from the textile structure, and incorporating the textile element into an upper of the article of footwear.
- [13] In another aspect of the invention, an article of footwear has an upper and a sole structure secured to the upper. The upper incorporates a textile element formed with a knitting machine. The textile element is removed from a textile structure that includes an outline of the textile element, and the textile element has edges that are joined together to define at least a portion of a void for receiving a foot.
- [14] The advantages and features of novelty characterizing the present invention are pointed out with particularity in the appended claims. To gain an improved understanding of the advantages and features of novelty, however, reference may be made to the following descriptive matter and accompanying drawings that describe and illustrate various embodiments and concepts related to the invention.

DESCRIPTION OF THE DRAWINGS

- [15] The foregoing Summary of the Invention, as well as the following Detailed Description of the Invention, will be better understood when read in conjunction with the accompanying drawings.
- [16] Figure 1 is a lateral elevational view of an article of footwear having an upper in accordance with the present invention.
- [17] Figure 2 is a lateral elevational view of the upper.
- [18] Figure 3 is a top plan view of the upper.
- [19] Figure 4 is a rear elevational view of the upper.
- [20] Figure 5 is a bottom plan view of the upper.

- [21] Figure 6 is a first cross-sectional view of the upper, as defined by section line 6-6 in Figure 2.
- [22] Figure 7 is a second cross-sectional view of the upper, as defined by section line 7-7 in Figure 2.
- [23] Figure 8 is a plan view of a textile element that forms at least a portion of the upper.
- [24] Figure 9 is a perspective view of a textile structure that incorporates two of the textile element.
- [25] Figure 10 is a plan view of another textile element.
- [26] Figure 11 is a plan view of yet another textile element.
- [27] Figure 12 is a lateral elevational view of another article of footwear having an upper in accordance with the present invention.
- [28] Figure 13 is a lateral elevational view of yet another article of footwear having an upper in accordance with the present invention.
- [29] Figure 14 is a cross-sectional view of the footwear depicted in Figure 13, as defined by section line 14-14.

DETAILED DESCRIPTION OF THE INVENTION

- [30] The following discussion and accompanying figures disclose an article of footwear 10 and a method of manufacturing footwear 10, or components thereof, in accordance with the present invention. Footwear 10 is depicted in the figures and discussed below as having a configuration that is suitable for athletic activities, particularly running. The concepts disclosed with respect to footwear 10 may, however, be applied to footwear styles that are specifically designed for a variety of other athletic activities, including basketball, baseball, football, soccer, walking, and hiking, for example, and may also be applied to various non-athletic footwear styles. Accordingly, one skilled in the relevant art will recognize that the concepts disclosed herein may be applied to a wide range of

footwear styles and are not limited to the specific embodiments discussed below and depicted in the figures.

- [31] The primary elements of footwear 10 are depicted in Figure 1 as being a sole structure 20 and an upper 30. Sole structure 20 is secured to a lower portion of upper 30 and provides a durable, wear-resistant component that imparts cushioning as footwear 10 impacts the ground. Upper 30 is at least partially formed from a textile element 40 that defines an interior void for comfortably receiving a foot and securing a position of the foot relative to sole structure 20. Various edges of textile element 40 are then secured together to form the shape of upper 30. In some embodiments, textile element 40 may form substantially all of upper 30, or textile element 40 may only be a portion of an upper.
- [32] Sole structure 20 has a generally conventional configuration that includes a midsole 21 and an outsole 22. Midsole 21 is secured to a lower portion of upper 30 and is formed of a polymer foam material, such as ethylvinylacetate or polyurethane. Accordingly, midsole 21 attenuates ground reaction forces and absorbs energy (i.e., provides cushioning) as sole structure 20 impacts the ground. To enhance the force attenuation and energy absorption characteristics of sole structure 20, midsole 21 may incorporate a fluid-filled bladder, as disclosed in U.S. Patent Numbers 4,183,156 and 4,219,945 to Rudy. Alternately or in combination, midsole 21 may incorporate a plurality of discrete, columnar support elements, as disclosed in U.S. Patent Numbers 5,343,639 and 5,353,523 to Kilgore et al. Outsole 22 is secured to a lower surface of midsole 21 and may be formed from carbon black rubber compound to provide a durable, wear-resistant surface for engaging the ground. Outsole 22 may also incorporate a textured lower surface to enhance the traction characteristics of footwear 10. In addition, footwear 10 may include an insole (not depicted), which is a relatively thin, cushioning member located within upper 30 and adjacent to a plantar surface of the foot for enhancing the comfort of footwear 10.
- [33] Sole structure 20 is described above as having the elements of a conventional sole structure for athletic footwear. Other footwear styles, including, dress shoes and boots, for example, may have other types of conventional sole structures specifically tailored for

use with the respective types of footwear. In addition to a conventional configuration, however, sole structure 20 may also exhibit a unique, non-conventional structure. Accordingly, the particular configuration of sole structure 20 may vary significantly within the scope of the present invention to include a wide range of configurations, whether conventional or non-conventional.

[34] Upper 30 is depicted in Figures 2-7 as having a lateral region 31, an opposite medial region 32, an instep region 33, a lower region 34, and a heel region 35. Lateral region 31 extends through a longitudinal length of footwear 10 and is generally configured to contact and cover a lateral side of the foot. Medial region 32 has a similar configuration that generally corresponds with a medial side of the foot. Instep region 33 is positioned between lateral region 31 and medial region 32, and instep region 33 extends over an instep area of the foot. Lower region 34 forms a bottom surface of upper 30 and also extends through the longitudinal length of footwear 10. Heel region 35 forms a rear portion of upper 30 and is generally configured to contact and cover a heel area of the foot. In addition, lateral region 31, medial region 32, instep region 33, and heel region 35 cooperatively define an ankle opening 36 for providing the foot with access to the void within upper 30.

[35] Upper 30 is at least partially formed from textile element 40, which forms regions 31-35, and may also include laces or other elements associated with a conventional upper for footwear. Textile element 40 is a single material element that is formed to exhibit a unitary (i.e., one-piece) construction, and textile element 40 is formed or otherwise shaped to extend around the foot. As depicted in Figures 2-7, textile element 40 forms both an exterior surface and an interior surface of upper 30. Textile element 40 may be formed as a part of a larger textile element. Textile element 40 is then removed from the larger textile element and various edges of textile element 40 are secured together to form the shape of upper 30. A plurality of seams 51-54 are formed, therefore, when joining the edges of the textile element. Seam 51 extends along the longitudinal length of lower region 34 and is centrally-located with respect to lateral region 31 and medial region 32. Seam 52 is also centrally-located and extends upward along heel region 35. A seam 53 is positioned in a forefoot area of upper 30 and joins a portion of lower region 34 with both

of lateral region 31 and medial region 32. In addition, a seam 54 is positioned in a rear area of upper 30 and joins a portion of lower region 34 with heel region 35.

- [36] Textile element 40 exhibits the general shape depicted in Figure 8 prior to the formation of seams 51-54. Following formation of seams 51-54, however, textile element 40 exhibits the shape of upper 30 depicted in Figures 2-7. Seams 51-54 are formed by securing various edges of textile element 40 together. More specifically, (1) seam 51 is formed by securing an edge 41a with an edge 41b; (2) seam 52 is formed by securing an edge 42a with an edge 42b; (3) a first portion of seam 53 is formed by securing an edge 43a with an edge 43b (4) a second portion of seam 53 is formed by securing an edge 43c with an edge 43d; (5) a first portion of seam 54 is formed by securing an edge 44a with an edge 44b; and (6) a second portion of seam 54 is formed by securing an edge 44c with an edge 44d. Referring to Figure 8, the positions of regions 31-35 and ankle opening 36 are identified to provide a frame of reference relating to the various portions of textile element 40.
- [37] In order to join edges 41a and 41b to form seam 51, textile element 40 is folded or otherwise overlapped such that edge 41a is placed adjacent to edge 41b. Stitching, an adhesive, or heat bonding, for example, is then utilized to secure edge 41a and edge 41b. Textile element 40, as depicted in Figure 8, has a generally planar configuration. Upon the formation of seam 51, however, one portion of textile element 40 overlaps the other portion of textile element 40. The volume between the overlapping portions effectively forms a portion of the void within upper 30 for receiving the foot.
- [38] The folding or overlapping of textile element 40 to form seam 51 places edge 42a adjacent to edge 42b, which facilitates the formation of seam 52. With reference to Figure 8, an edge 45 forms a generally u-shaped area in textile element 40. Upon the joining of edges 42a and 42b to form seam 52, the u-shaped area becomes an aperture in textile element 40 and effectively forms ankle opening 36. Each of edges 43a-43d and edges 44a-44d are formed from a generally v-shaped area of textile element 40. Accordingly, seams 53 and 54 may be formed by closing the v-shaped areas and securing the various edges together.

- [39] Following the formation of each of seams 51-54, the manufacturing of upper 30 is essentially complete. Various finishing steps may be performed, such as reinforcing ankle opening 36, for example. Upper 30 (i.e., textile element 40) is then secured to sole structure 20, with an adhesive, for example. The insole is then placed into the void within upper 30 and adjacent to lower region 34. In some embodiments, various reinforcing members may be added to the exterior or interior surface of upper 20 in order to limit the degree of stretch in upper 20 or provide enhanced wear-resistance. In addition, a lacing system may be added to provide adjustability.
- [40] Textile element 40 is a single material element with a unitary construction, as discussed above. As defined for purposes of the present invention, unitary construction is intended to express a configuration wherein portions of a textile element are not joined together by seams or other connections, as depicted with textile element 40 in Figure 8. Although the various edges 41a-44d are joined together to form seams 51-54, the various portions of textile element 40 are formed as an unitary element without seams, as discussed below.
- [41] Textile element 40 is primarily formed from one or more yarns that are mechanically-manipulated through either an interweaving, intertwining and twisting, or interlooping process, for example. As discussed in the Background of the Invention section above, interweaving is the intersection of two yarns that cross and interweave at right angles to each other. The yarns utilized in interweaving are conventionally referred to as warp and weft. Intertwining and twisting encompasses procedures such as braiding and knotting where yarns intertwine with each other to form a textile. Interlooping involves the formation of a plurality of columns of intermeshed loops, with knitting being the most common method of interlooping. Textile element 40 may, therefore, be formed from one of these processes for manufacturing a textile.
- [42] A variety of mechanical processes have been developed to manufacture a textile. In general, the mechanical processes may be classified as either warp knitting or weft knitting. With regard to warp knitting, various specific sub-types that may be utilized to manufacture a textile include tricot, raschel, and double needle-bar raschel (which further includes jacquard double needle-bar raschel). With regard to weft knitting, various

specific sub-types that may be utilized to manufacture a textile include circular knitting and flat knitting. Various types of circular knitting include sock knitting (narrow tube), body garment (seamless or wide tube), and jacquard.

- [43] Textile element 40 may be formed through any of the mechanical processes discussed above. Accordingly, textile element 40 may be formed on either a warp knitting machine or a weft knitting machine. One suitable knitting machine for forming textile element 40 is a wide-tube circular knit jacquard machine. Another suitable knitting machine for forming textile element 40 is a wide-tube circular knitting machine that is produced in the Lonati Group by Santoni S.p.A. of Italy under the SM8 TOP1 model number. This Santoni S.p.A. wide-tube circular knitting machine may form a textile structure having a diameter that ranges from 10 inches to 20 inches, with 8 feeds for each diameter. The machine exhibits a maximum 140 revolutions per minute for 10 inch diameters, and a maximum 120 revolutions per minute for 13 inch diameters. Furthermore, the machine gauge is variable between 16, 22, 24, 26, 28, and 32 needles per inch, and is suitable for various needle gauges ranging from 48 to 75.
- [44] A wide-tube circular knitting machine, as produced by Santoni S.p.A., forms a generally cylindrical textile structure and is capable of forming various types of stitches within a single textile structure. In general, the wide-tube circular knitting machine may be programmed to alter the design on the textile structure through needle selection. That is, the type of stitch that is formed at each location on the textile structure may be selected by programming the wide-tube circular knitting machine such that specific needles either accept or do not accept yarn at each stitch location. In this manner, various patterns, textures, or designs may be selectively and purposefully imparted to the textile structure.
- [45] An example of a textile structure 60 that may be formed with a wide-tube circular knitting machine is depicted in Figure 9. Textile structure 60 has a generally cylindrical configuration, and the types of stitches vary throughout textile structure 60 so that a pattern is formed with the outline of textile element 40. That is, differences in the stitches within textile structure 60 form an outline with the shape and proportions of textile element 40.

- [46] The Santoni S.p.A. wide-tube circular knitting machine may form a textile structure having a diameter that ranges from 10 inches to 16 inches, as discussed above. Assuming that textile structure 60 exhibits a diameter of 10 inches, then the circumference of textile structure 60 is approximately 31 inches. In many circumstances, the total width of textile element 40 will be approximately 12 inches, depending upon the size of footwear 10. The outlines for at least two textile elements 40 may, therefore, be formed on textile structure 60. Referring to Figure 9, the outline of textile element 40 is depicted on a front portion of textile structure 60, and the outline of another textile element 40 is depicted on a rear portion of textile structure 60. Accordingly, a first textile element 40 and a second textile element 40 may be simultaneously formed in a single textile structure 60. As the diameter of textile element 60 is increased or the width of textile element 40 decreases, however, an even greater number of textile elements 40 may be outlined on textile structure 60.
- [47] Textile structure 60 may be formed with a wide-tube circular knitting machine, as discussed above. The types of stitches that form textile structure 60 may be varied to form an outline of one or more textile elements 40 on textile structure 60. That is, the wide-tube circular knitting machine may be programmed to form different types of stitches in textile structure 60 so as to outline one or more textile elements 40. Each textile element 40 is then removed from textile structure 60 with a die-cutting, laser-cutting, or other conventional cutting operation. Once textile element 40 is removed from textile structure 60, seams 51-54 may be formed and textile element 40 may be incorporated into footwear 10.
- [48] The yarn forming textile element 40 may be generally defined as an assembly having a substantial length and relatively small cross-section that is formed of at least one filament or a plurality of fibers. Fibers have a relatively short length and require spinning or twisting processes to produce a yarn of suitable length for use in an interlooping process. Common examples of fibers are cotton and wool. Filaments, however, have an indefinite length and may merely be combined with other filaments to produce a yarn suitable for use in an interlooping process. Modern filaments include a plurality of synthetic materials such as rayon, nylon, polyester, and acrylic, with silk being the primary,

naturally-occurring exception. Yarn may be formed of a single filament (conventionally referred to as a monofilament yarn) or a plurality of individual filaments. Yarn may also be formed of separate filaments formed of different materials, or the yarn may be formed of filaments that are each formed of two or more different materials. Similar concepts also apply to yarns formed from fibers. Accordingly, yarns may have a variety of configurations within the scope of the present invention that generally conform to the definition provided above.

- [49] In order to provide the stretch and recovery properties to upper 30, and particularly textile element 40, a yarn that incorporates an elastane fiber may be utilized. Elastane fibers are available from E.I. duPont de Nemours Company under the LYCRA trademark. Such fibers may have the configuration of covered LYCRA, wherein the fiber includes a LYCRA core that is surrounded by a nylon sheath. One suitable yarn, for example, includes a 70 denier elastane core that is covered with nylon having a 2 ply, 80 denier, 92 filament structure. Other fibers or filaments exhibiting elastic properties may also be utilized.
- [50] As discussed above, a yarn that incorporates elastane fibers is suitable for textile element 40. A plurality of other yarns, whether elastic or inelastic, are also suitable for textile element 40. The characteristics of the yarn selected for textile element 40 depend primarily upon the materials that form the various filaments and fibers. Cotton, for example, provides a soft hand, natural aesthetics, and biodegradability. Elastane fibers, as discussed above, provide substantial stretch and recoverability. Rayon provides high luster and moisture absorption. Wool also provides high moisture absorption, in addition to insulating properties. Polytetrafluoroethylene coatings may provide a low friction contact between the textile and the skin. Nylon is a durable and abrasion-resistant material with high strength. Finally, polyester is a hydrophobic material that also provides relatively high durability. Accordingly, the materials comprising the yarn may be selected to impart a variety of physical properties to textile element 40, and the physical properties may include, for example, strength, stretch, support, stiffness, recovery, fit, and form.

- [51] Textile element 40 is depicted as having a generally smooth, non-varied stitch configuration. That is, similar stitches are utilized throughout textile element 40 to impart a common texture to the various portions of textile element 40. As discussed above, however, a wide-tube circular knitting machine is generally capable of forming various types of stitches within a single textile structure. The wide-tube circular knitting machine may, therefore, vary the stitches within textile element 40 to produce various patterns, designs, or textures, for example. Various types of stitches may also be formed with other types of knitting machines. With reference to Figure 10, a textile element 40' with the general shape of textile element 40 is depicted as having various areas with different textures. For example, a central area that corresponds with instep region 33 has a first texture 46' that is generally smooth. In addition, textile element 40' includes a second texture 47' that is a plurality of longitudinal ribs. When incorporated into footwear 10, the ribs will extend longitudinally along lateral region 31 and medial region 32, and the ribs may extend into heel region 35. The ribs may be present for aesthetic purposes, or may affect the stretch properties of upper 20, for example. Accordingly, textile element 40' exhibits areas with different textures in a single element of textile material.
- [52] Many conventional articles of footwear incorporate uppers with various material elements that each exhibit different properties. For example, a first material element may be smooth, and a second material element may be textured. The first and second material elements are then stitched together to form a portion of the conventional upper. Textile element 40' also exhibits smooth and textured areas. In contrast with the conventional upper, however, first texture 46' and second texture 47' are incorporated into a single, unitary element of textile, rather than two separate elements that are stitched or otherwise joined together.
- [53] A textile structure 40'' is depicted in Figure 11 and has the general shape of both textile element 40 and textile element 40'. Textile element 40'' includes areas with three different textures. A first texture 46'' is generally smooth and has the configuration of various strips that extends laterally across areas corresponding with lateral region 31, medial region 32, and instep region 33. Various portions of textile element 40'' also

include a second texture 47", which is generally rough in comparison with first texture 46". In addition, the area of textile element 40" corresponding with instep region 33 includes a third texture 48". The different textures 46"-48" are formed by merely varying the type of stitch formed by the wide-tube circular knitting machine at each location of textile element 40". Textures 46"-48" may exhibit aesthetic differences, or the differences may be structural. For example, the degree of stretch in areas with textures 46"-48" may be different, or the wear resistance of the areas may vary depending upon the stitch utilized. The air-permeability of textile element 40" may also vary in the different areas. Third texture 48" is formed to include a plurality of apertures that extend through textile element 40". The apertures may be formed by omitting stitches at specific locations during the wide-tube circular knitting process, and the apertures facilitate the transfer of air between the void within upper 20 and the area outside of upper 20. Accordingly, the various stitches formed in textile element 40", or one of textile elements 40 or 40', may be utilized to vary the texture, physical properties, or aesthetics of footwear 10 within a single, unitary element of material.

- [54] In addition to varying the stitch types to form textures 46'-47' and 46"-48", the type of yarn utilized in various areas of textile elements 40' and 40" may be changed to impart different properties. As discussed above, yarn may be formed from cotton, wool, elastane, rayon, nylon, and polyester, for example. Each of these yarn types may impart differing properties to the areas corresponding with textures 46'-47' and 46"-48". For example, elastane may be utilized to impart stretch, wool may be utilized for insulation, and nylon may be utilized for durability. Accordingly, different yarn types may be utilized to impart different properties. The types of knitting that may be utilized to form different zones with different properties (e.g., yarn characteristics, textures, etc.) may vary significantly to include the various warp knitting and weft knitting processes discussed earlier, such as tricot, raschel, double needle-bar raschel, circular knitting, and flat knitting, for example.
- [55] An article of footwear 110 is depicted in Figure 12 and includes a sole structure 120 and an upper 130. Upper 130 includes a textile element 140 having the general configuration of textile element 40. As with textile element 40, textile element 140 forms both an

exterior surface and an interior surface of upper 130. In addition, upper 130 includes a lace 131 and a plurality of elements 132-135 that also form a portion of the exterior surface. Lace 131 extends through a plurality of apertures formed in textile element 140. The apertures may be formed by omitting stitches at specific locations. Element 132 is positioned in a forefoot area of footwear 110 and may be formed of leather or rubber, for example, to provide additional wear-resistance. Element 133 extends around the ankle opening to reinforce and limit stretch in the area of the ankle opening. Element 134 extends around the heel region to counter movement of the heel and seat the heel above sole structure 120. Furthermore, elements 135 are substantially inextensible strips of material, such as leather or synthetic leather, that limit stretch on the lateral side of footwear 110. Whereas upper 30 was almost exclusively formed by textile element 40, upper 130 also includes lace 131 and elements 132-135. Accordingly, an upper in accordance with the present invention may incorporate a plurality of additional components.

[56] Another article of footwear 210 is depicted in Figures 13-14 and includes a sole structure 220 and an upper 230. Upper 230 includes a textile element 240 that forms an interior layer. In addition, upper 230 includes an intermediate layer 250 and an exterior layer 260. As discussed in the Background of the Invention section above, the upper of a conventional article of footwear may be formed from multiple material layers that include an exterior layer, an intermediate layer, and an interior layer. The materials forming the exterior layer of the upper may be selected based upon the properties of wear-resistance, flexibility, and air-permeability, for example. The intermediate layer of the upper may be formed from a lightweight polymer foam material that provides cushioning and protects the foot from objects that may contact the upper. Similarly, an interior layer of the upper may be formed of a moisture-wicking textile that removes perspiration from the area immediately surrounding the foot.

[57] Upper 230 has a configuration that is similar to the configuration of the conventional upper in that various material layers are utilized. In contrast with the conventional upper, however, the interior layer is formed of textile element 240, which is manufactured through the process discussed above. That is, textile element 240 is a single element of

textile that forms the interior layer of upper 230. A benefit to utilizing textile element 240 for the interior layer is that textile element 240 includes few seams that may contact the foot. In addition, the stitches utilized at various locations of textile element 240 may modify the texture of the interior surface of upper 230, thereby limiting the degree of slip that occurs between the foot and upper 230 or enhancing the air-permeability of upper 230 in specific locations.

[58] Various warp knitting or weft knitting processes may be utilized to form textile element 40, or the various other textile elements discussed above. An advantage of this process is that various stitches may be incorporated into specific locations of textile element 40 to modify the physical properties or aesthetics of textile element 40. Whereas a conventional upper includes various elements that stitched or adhesively joined, textile element 40 is a single, unitary element of material. From the perspective of manufacturing, utilizing multiple materials to impart different properties to an article of footwear may be an inefficient practice. By forming textile element 40 to be a single, unitary element of material, however, efficiency is increased in that upper 20 may include a single textile element, rather than numerous joined elements.

[59] A variety of knitting processes may be utilized to form textile element 40, as discussed above. As a specific example, a jacquard double needle-bar raschel knitting machine may be utilized to form a flat textile structure, and may also be utilized to form the textile structure to have the configuration of a spacer mesh textile. Unlike textile structure 60, which exhibits a generally cylindrical configuration, the textile structure formed with the jacquard double needle-bar raschel knitting machine will have a flat configuration. Like textile structure 60, however, an outline of a textile element may be imparted to the textile structure formed with the jacquard double needle-bar raschel knitting machine. That is, differences in the stitches within the textile structure may form an outline with the shape and proportions of the intended textile element. Accordingly, the textile element may be removed from the textile structure and incorporated into footwear 10. In addition, the jacquard double needle-bar raschel knitting machine may be utilized to impart various textures, different properties, or different yarn types to the textile element. Similarly, other types of knitting, such as a flat knitting, may be utilized within the scope

of the present invention to impart various textures, different properties, or different yarn types to the textile element.

- [60] The present invention is disclosed above and in the accompanying drawings with reference to a variety of embodiments. The purpose served by the disclosure, however, is to provide an example of the various features and concepts related to the invention, not to limit the scope of the invention. One skilled in the relevant art will recognize that numerous variations and modifications may be made to the embodiments described above without departing from the scope of the present invention, as defined by the appended claims.

CLAIMS

That which is claimed is:

1. An article of footwear comprising:
an upper incorporating a textile element formed through a weft knitting process, the textile element having edges that are joined together to define at least a portion of a void for receiving a foot; and
a sole structure secured to the upper.
2. The article of footwear recited in claim 1, wherein the textile element forms at least a portion of a lateral side, a medial side, and an instep region of the upper.
3. The article of footwear recited in claim 1, wherein the edges include a pair of first edges that are joined to form a first seam extending longitudinally along a lower region of the upper.
4. The article of footwear recited in claim 3, wherein the edges include a pair of second edges that are joined to form a second seam extending along a heel region of the upper.
5. The article of footwear recited in claim 4, wherein the second seam extends vertically.
6. The article of footwear recited in claim 4, wherein the edges include at least a pair of third edges that are joined to form a third seam extending through a forefoot area of the upper.
7. The article of footwear recited in claim 1, wherein the textile element has a first area and a second area with a unitary construction, the first area being formed of a first stitch type, and the second area being formed of a second stitch type that is different from the first stitch type to impart varying textures to a surface of the textile element.
8. The article of footwear recited in claim 7, wherein the first stitch type provides a substantially smooth texture to the first area.

9. The article of footwear recited in claim 8, wherein the second stitch type provides a generally rough texture to the second area.
10. The article of footwear recited in claim 7, wherein at least one of the first stitch type and the second stitch type form an aperture in the textile element.
11. The article of footwear recited in claim 1, wherein the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper.
12. The article of footwear recited in claim 1, wherein the upper includes an exterior layer, an intermediate layer, and an interior layer, and the textile element forms at least a portion of the interior layer.
13. The article of footwear recited in claim 1, wherein the textile layer forms at least a portion of both an interior surface and an exterior surface of the upper.
14. The article of footwear recited in claim 13, wherein at least one additional element is secured to the exterior surface and forms a portion of the exterior surface.
15. The article of footwear recited in claim 14, wherein the additional element is secured to a forefoot area of the upper.
16. The article of footwear recited in claim 14, wherein the additional element is secured to a heel area of the upper.
17. The article of footwear recited in claim 1, wherein the textile element forms an interior surface of the upper.
18. The article of footwear recited in claim 1, wherein the weft knitting process is circular knitting.

19. The article of footwear recited in claim 1, wherein the weft knitting process is flat knitting.
20. An article of footwear comprising:
an upper incorporating a textile element formed through a weft knitting process, the textile element having a first area and a second area with a unitary construction, the first area being formed of a first stitch configuration, and the second area being formed of a second stitch configuration that is different from the first stitch configuration to impart varying properties to the textile element; and
a sole structure secured to the upper.
21. The article of footwear recited in claim 20, wherein the first stitch configuration provides a substantially smooth texture to the first area, and the second stitch configuration provides a texture to the second area that is rougher than the smooth texture.
22. The article of footwear recited in claim 21, wherein the second stitch configuration forms a rib structure in the second area.
23. The article of footwear recited in claim 20, wherein at least one of the first stitch configuration and the second stitch configuration forms an aperture in the textile element.
24. The article of footwear recited in claim 20, wherein the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper.
25. The article of footwear recited in claim 20, wherein the upper includes an exterior layer, an intermediate layer, and an interior layer, and the textile element forms at least a portion of the interior layer.
26. The article of footwear recited in claim 20, wherein the textile layer forms at least a portion of both an interior surface and an exterior surface of the upper.

27. The article of footwear recited in claim 20, wherein the textile element forms an interior surface of the upper.
28. An article of footwear comprising:
an upper incorporating a textile element having edges that are joined together to form seams and define at least a portion of a void for receiving a foot, the seams including a first seam and a second seam, the first seam extending from a heel area to a forefoot area of the footwear along a lower surface of the upper, and the second seam extending vertically in the heel area; and
a sole structure secured to the upper.
29. The article of footwear recited in claim 28, wherein the footwear includes a third seam extending through the forefoot area of the upper.
30. The article of footwear recited in claim 28, wherein the textile element has a first area and a second area with a unitary construction, the first area being formed of a first stitch type, and the second area being formed of a second stitch type that is different from the first stitch type to impart varying properties to the textile element.
31. The article of footwear recited in claim 30, wherein at least one of the first stitch type and the second stitch type form an aperture in the textile element.
32. The article of footwear recited in claim 30, wherein the varying properties include varying elasticity of the textile element.
33. The article of footwear recited in claim 30, wherein the varying properties include varying air permeability of the textile element.
34. The article of footwear recited in claim 28, wherein the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper.

35. The article of footwear recited in claim 28, wherein the textile layer forms at least a portion of both an interior surface and an exterior surface of the upper.

36. The article of footwear recited in claim 28, wherein the textile layer forms an interior surface of the footwear, and at least one additional layer forms an exterior surface of the footwear.

37. The article of footwear recited in claim 28, wherein the textile element is formed through a weft knitting process.

38. The article of footwear recited in claim 37, wherein the weft knitting process is one of circular knitting and flat knitting.

39. The article of footwear recited in claim 28, wherein the textile element is formed through a warp knitting process.

40. The article of footwear recited in claim 39, wherein the warp knitting process is jacquard double needle-bar raschel.

41. An article of footwear comprising:
an upper incorporating a textile element formed with a knitting machine, the textile element being removed from a textile structure that includes an outline of the textile element, and the textile element having edges that are joined together to define at least a portion of a void for receiving a foot; and
a sole structure secured to the upper.

42. The article of footwear recited in claim 41, wherein the knitting machine is a wide-tube circular knitting machine.

43. The article of footwear recited in claim 41, wherein the knitting machine is a jacquard double needle-bar raschel knitting machine.

44. The article of footwear recited in claim 41, wherein the edges include a pair of first edges that are joined to form a first seam extending longitudinally along a lower region of the upper.

45. The article of footwear recited in claim 44, wherein the edges include a pair of second edges that are joined to form a second seam extending along a heel region of the upper.

46. The article of footwear recited in claim 45, wherein the edges include at least a pair of third edges that are joined to form a second seam extending through a forefoot area of the upper.

47. The article of footwear recited in claim 41, wherein the textile element has a first area and a second area with a unitary construction, the first area being formed of a first stitch type, and the second area being formed of a second stitch type that is different from the first stitch type to impart varying textures to a surface of the textile element.

48. The article of footwear recited in claim 41, wherein the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper.

49. The article of footwear recited in claim 41, wherein the textile element forms an interior surface of the upper.

50. A method of manufacturing an article of footwear, the method comprising steps of:
mechanically-manipulating a yarn with a circular knitting machine to form a cylindrical textile structure;
removing at least one textile element from the textile structure;
incorporating the textile element into an upper of the article of footwear.

51. The method recited in claim 50, wherein the step of mechanically-manipulating includes utilizing a wide-tube circular knitting machine.

52. The method recited in claim 50, wherein the step of mechanically-manipulating includes forming a texture in the cylindrical textile structure with a shape of the textile element.

53. The method recited in claim 50, wherein the step of mechanically manipulating includes forming the textile element to include a first area and a second area with a unitary construction, the first area being formed of a first stitch configuration, and the second area being formed of a second stitch configuration that is different from the first stitch configuration to impart varying textures to a surface of the textile element.

54. The method recited in claim 50, wherein the step of mechanically manipulating includes forming at least two textile elements in the cylindrical textile structure.

55. The method recited in claim 50, wherein the step of mechanically manipulating includes forming apertures in the textile element.

56. The method recited in claim 50, wherein the step of incorporating includes securing a first pair of edges of the textile element to each other to form a first seam that extends along a lower region of the upper.

57. The method recited in claim 56, wherein the step of incorporating further includes securing a second pair of edges of the textile element to each other to form a second seam that extends along a heel region of the upper.

58. A method of manufacturing an article of footwear, the method comprising steps of:
mechanically-manipulating a yarn with a knitting machine to form a textile structure
having an outline of at least one textile element;
removing the textile element from the textile structure;
incorporating the textile element into an upper of the article of footwear.

59. The method recited in claim 58, wherein the step of mechanically-manipulating includes utilizing a wide-tube circular knitting machine.

60. The method recited in claim 59, wherein the step of mechanically-manipulating includes forming a texture in the cylindrical textile structure with a shape of the textile element.

61. The method recited in claim 58, wherein the step of mechanically-manipulating includes utilizing a jacquard double needle-bar raschel knitting machine.

62. The method recited in claim 58, wherein the step of mechanically manipulating includes forming the textile element to include a first area and a second area with a unitary construction, the first area being formed of a first stitch configuration, and the second area being formed of a second stitch configuration that is different from the first stitch configuration to impart varying textures to a surface of the textile element.

63. The method recited in claim 58, wherein the step of incorporating includes securing a first pair of edges of the textile element to each other to form a first seam that extends along a lower region of the upper.

64. The method recited in claim 58, wherein the step of incorporating further includes securing a second pair of edges of the textile element to each other to form a second seam that extends along a heel region of the upper.

65. An article of footwear comprising:
an upper incorporating a textile element formed through a flat knitting process, the textile element having a first area and a second area with a unitary construction, the first area having a first set of properties, and the second area having a second set of properties that are different from the first set of properties to impart varying characteristics to the textile element; and
a sole structure secured to the upper.

66. The article of footwear recited in claim 65, wherein the first set of properties and the second set of properties are at least one of a stitch configuration and a yarn type.

67. The article of footwear recited in claim 65, wherein the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper.

AN ARTICLE OF FOOTWEAR HAVING A TEXTILE UPPER**ABSTRACT OF THE DISCLOSURE**

An article of footwear and a method of manufacturing the article of footwear are disclosed. The footwear may include an upper and a sole structure. The upper incorporates a textile element with edges that are joined together to define at least a portion of a void for receiving a foot. The textile element may also have a first area and a second area with a unitary construction. The first area is formed of a first stitch configuration, and the second area is formed of a second stitch configuration that is different from the first stitch configuration to impart varying textures to a surface of the textile element. Various warp knitting or weft knitting processes may be utilized to form the textile element.

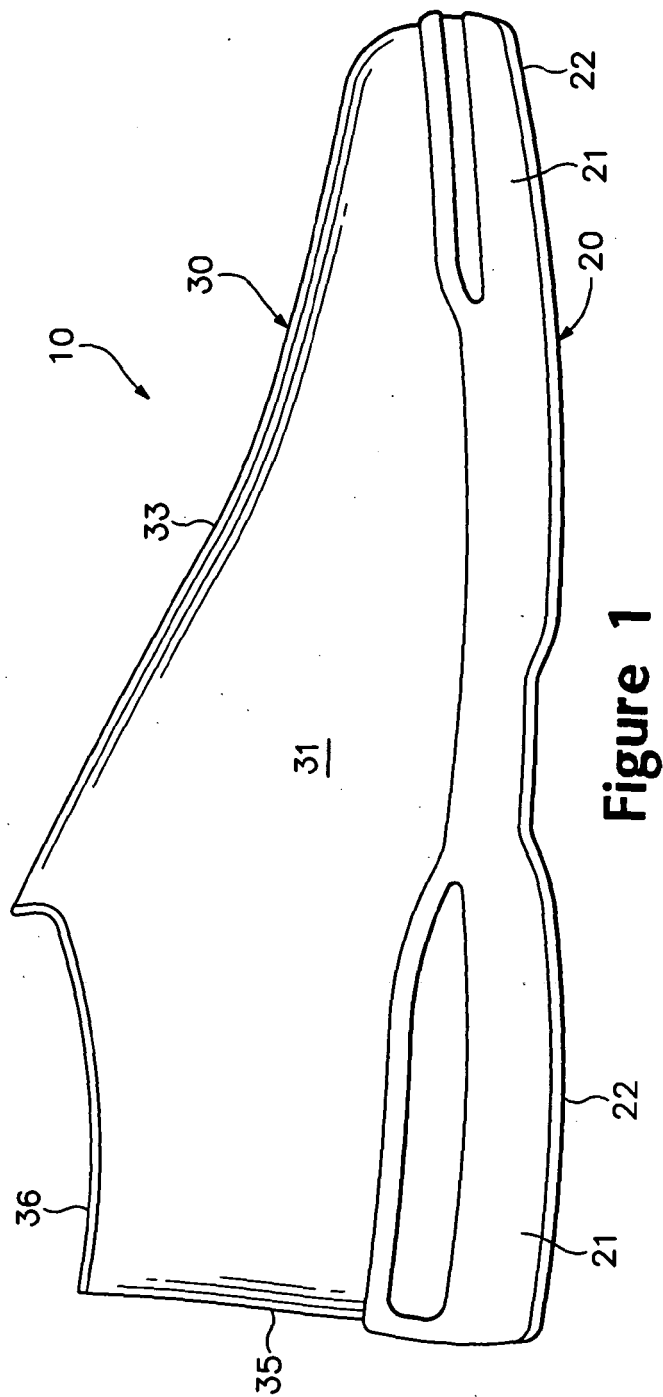


Figure 1

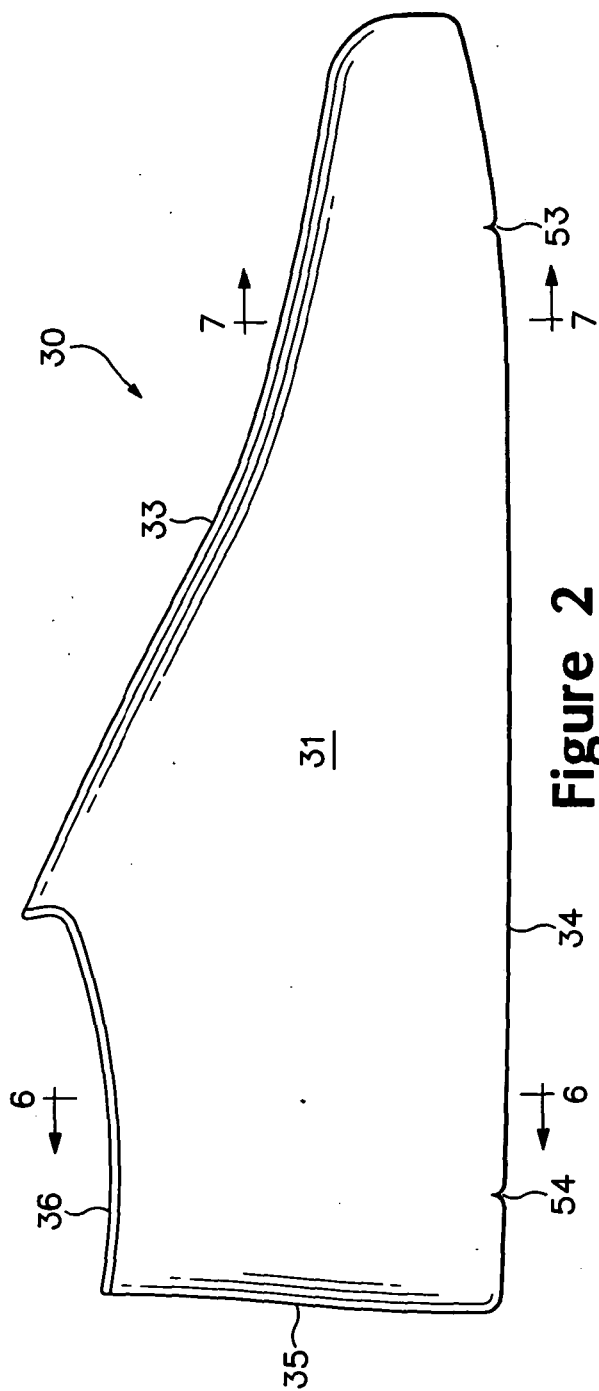


Figure 2

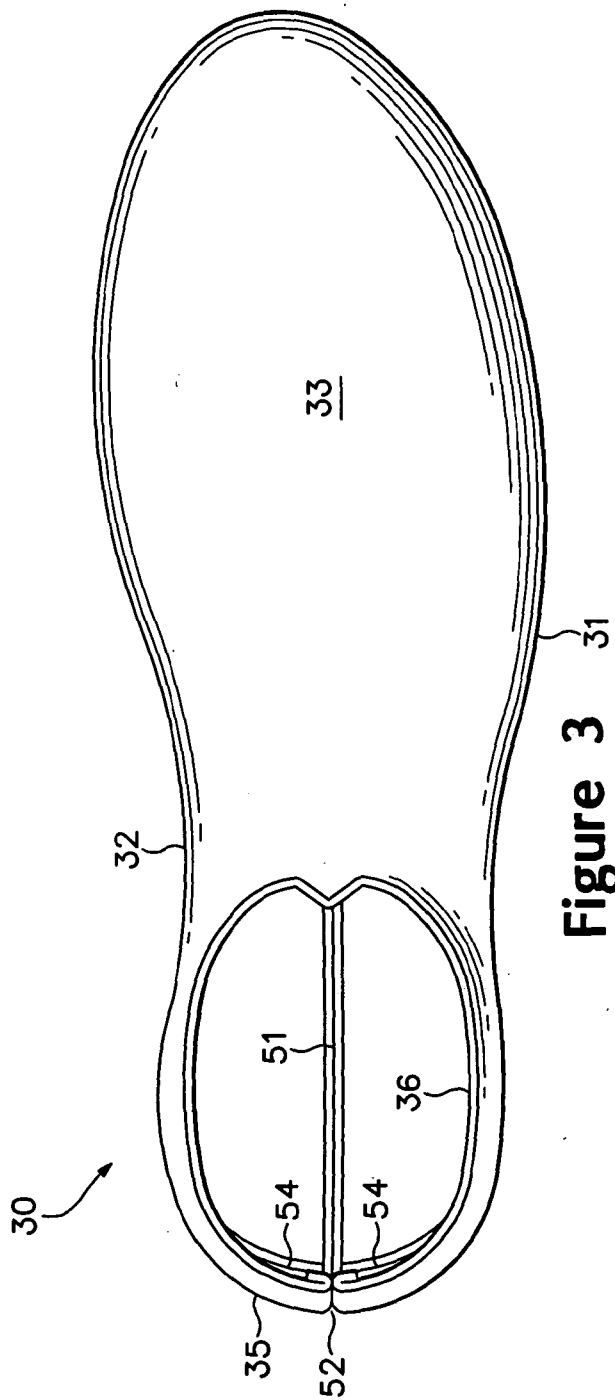
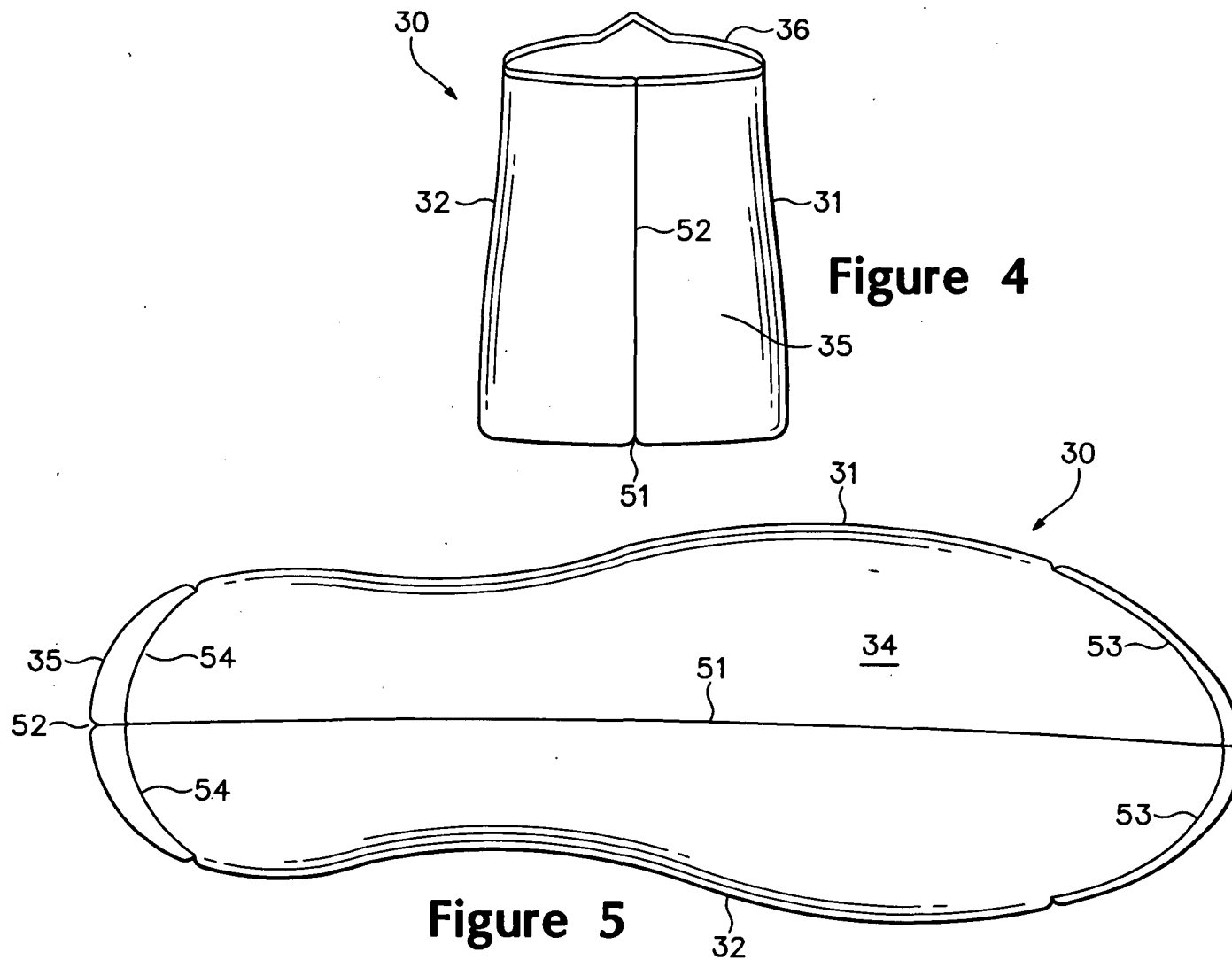


Figure 3



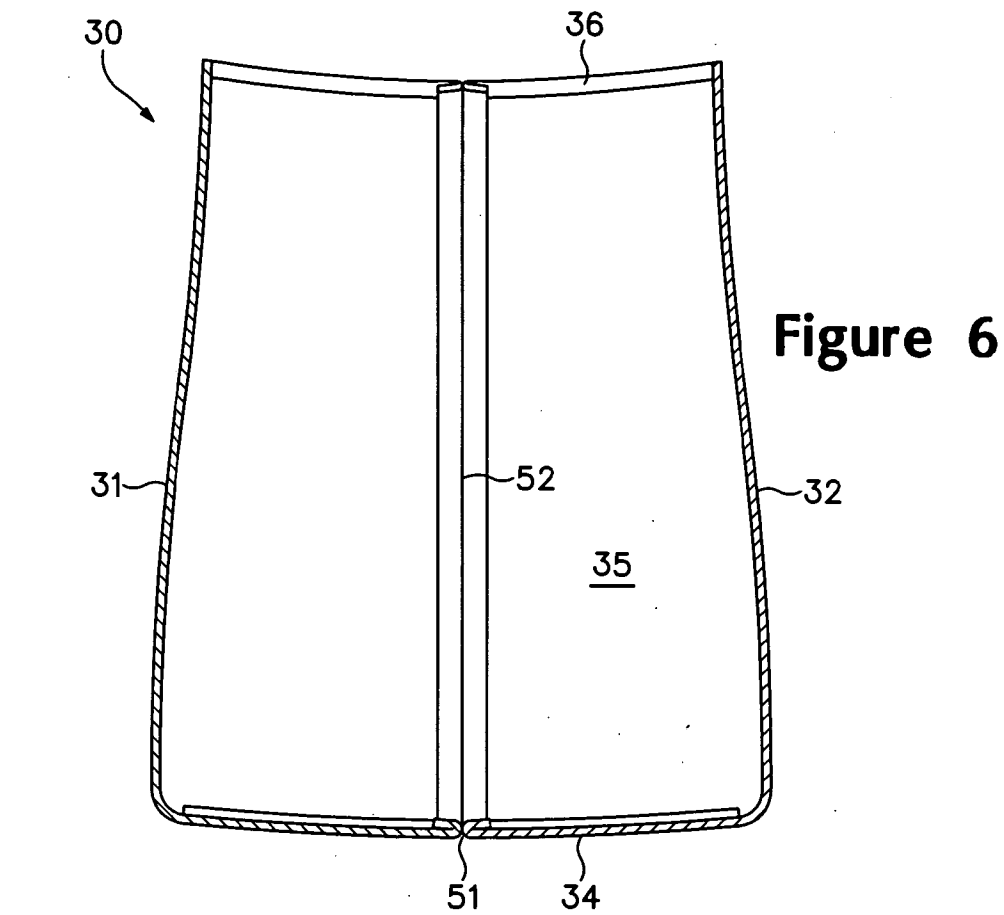


Figure 6

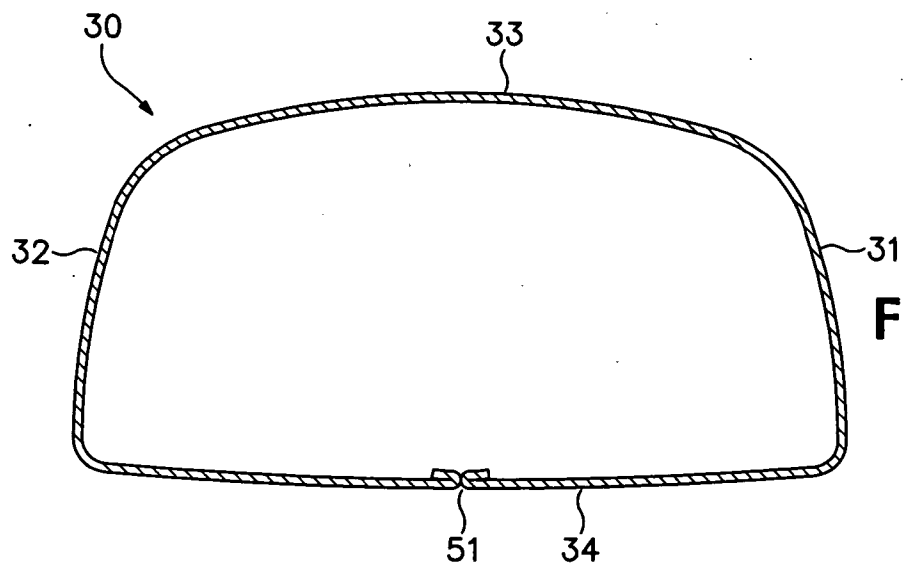


Figure 7

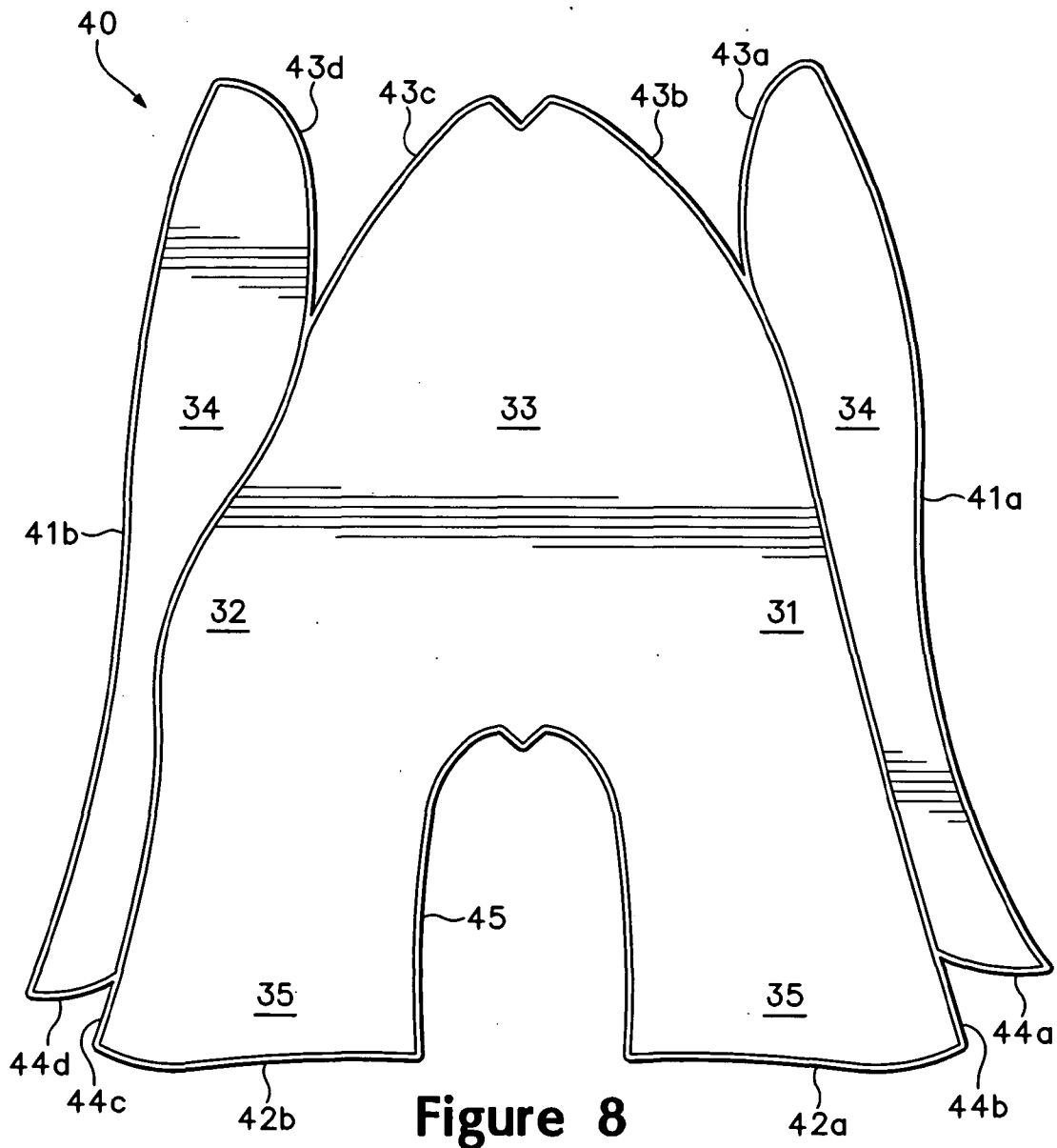


Figure 8

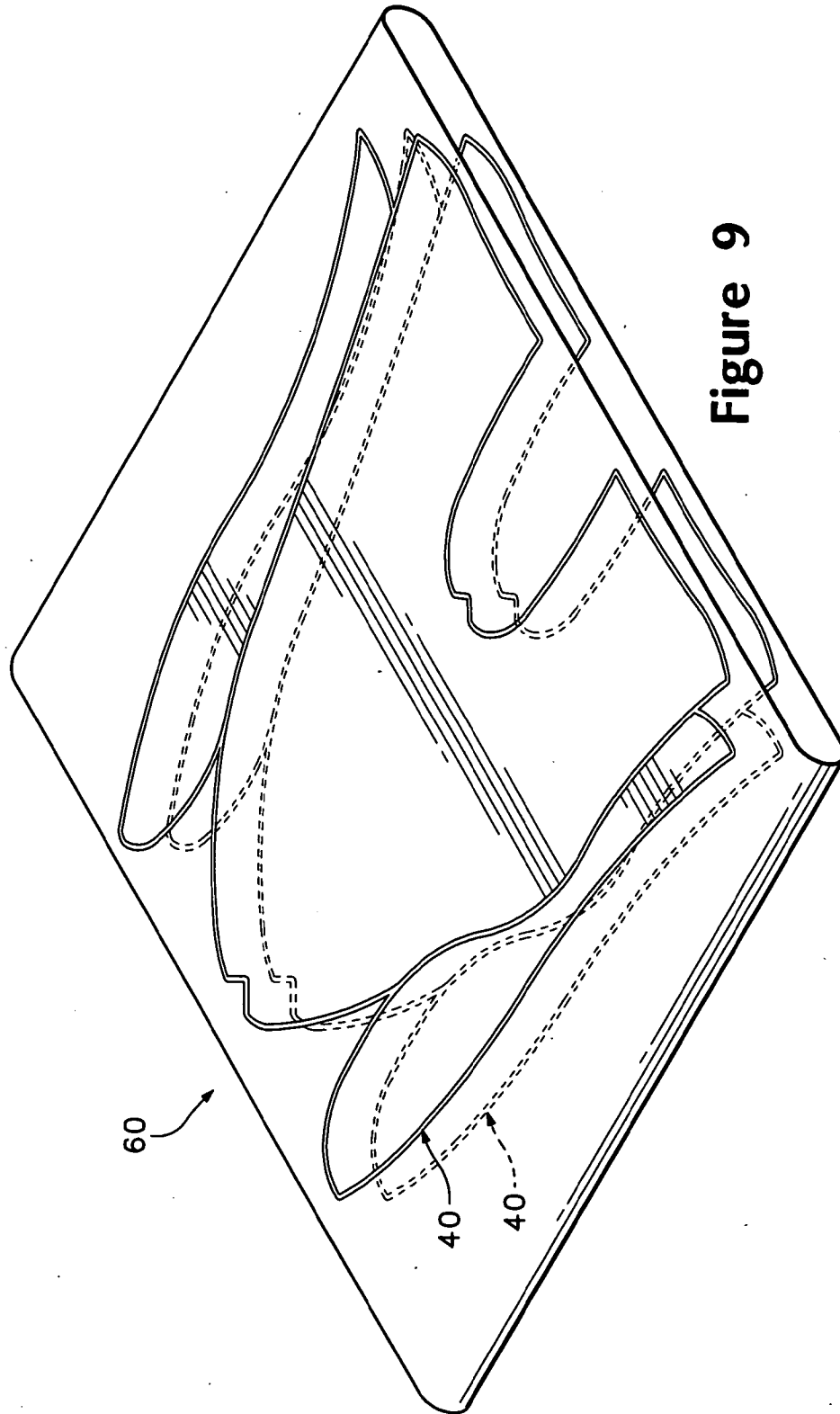


Figure 9

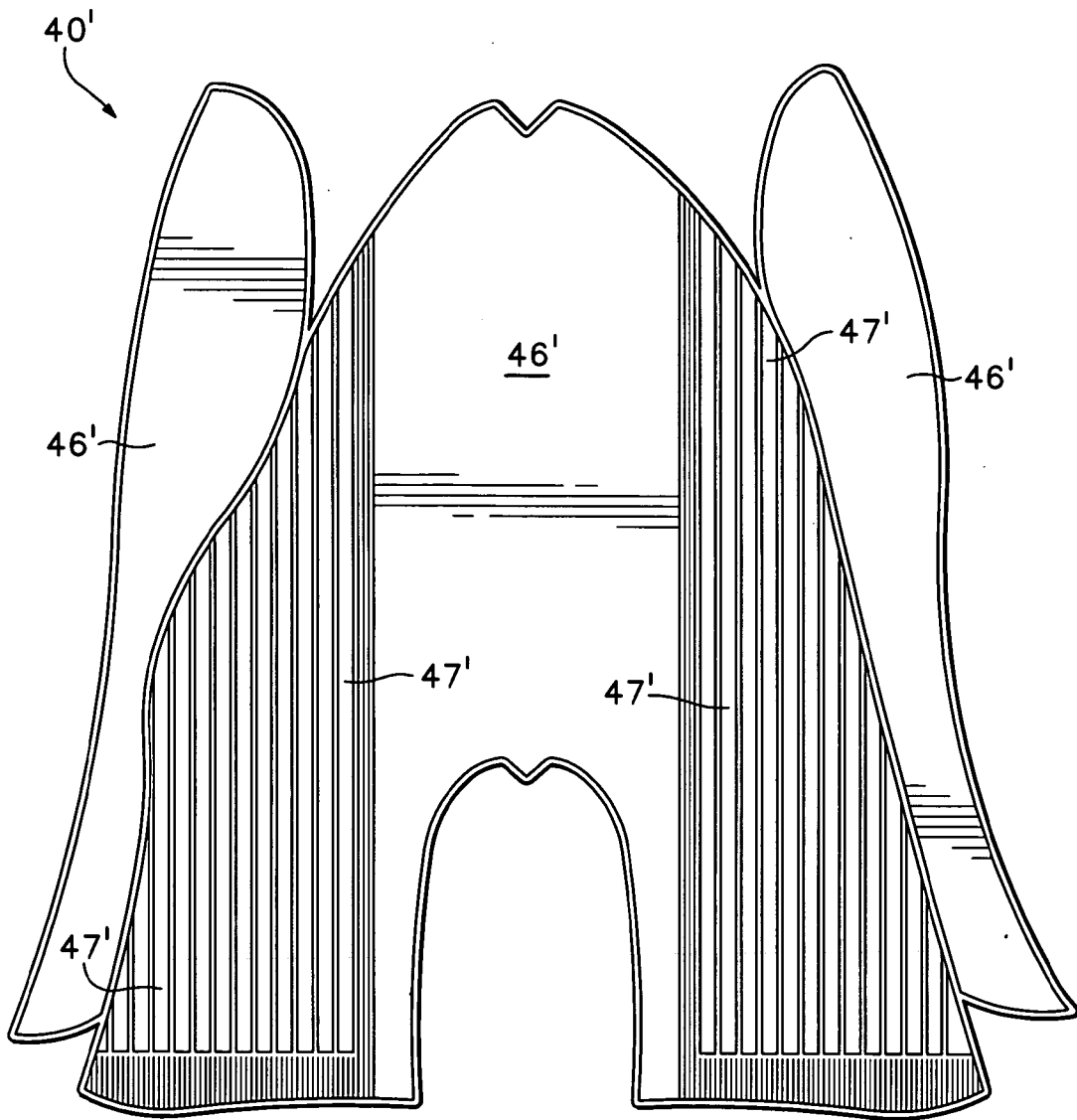


Figure 10

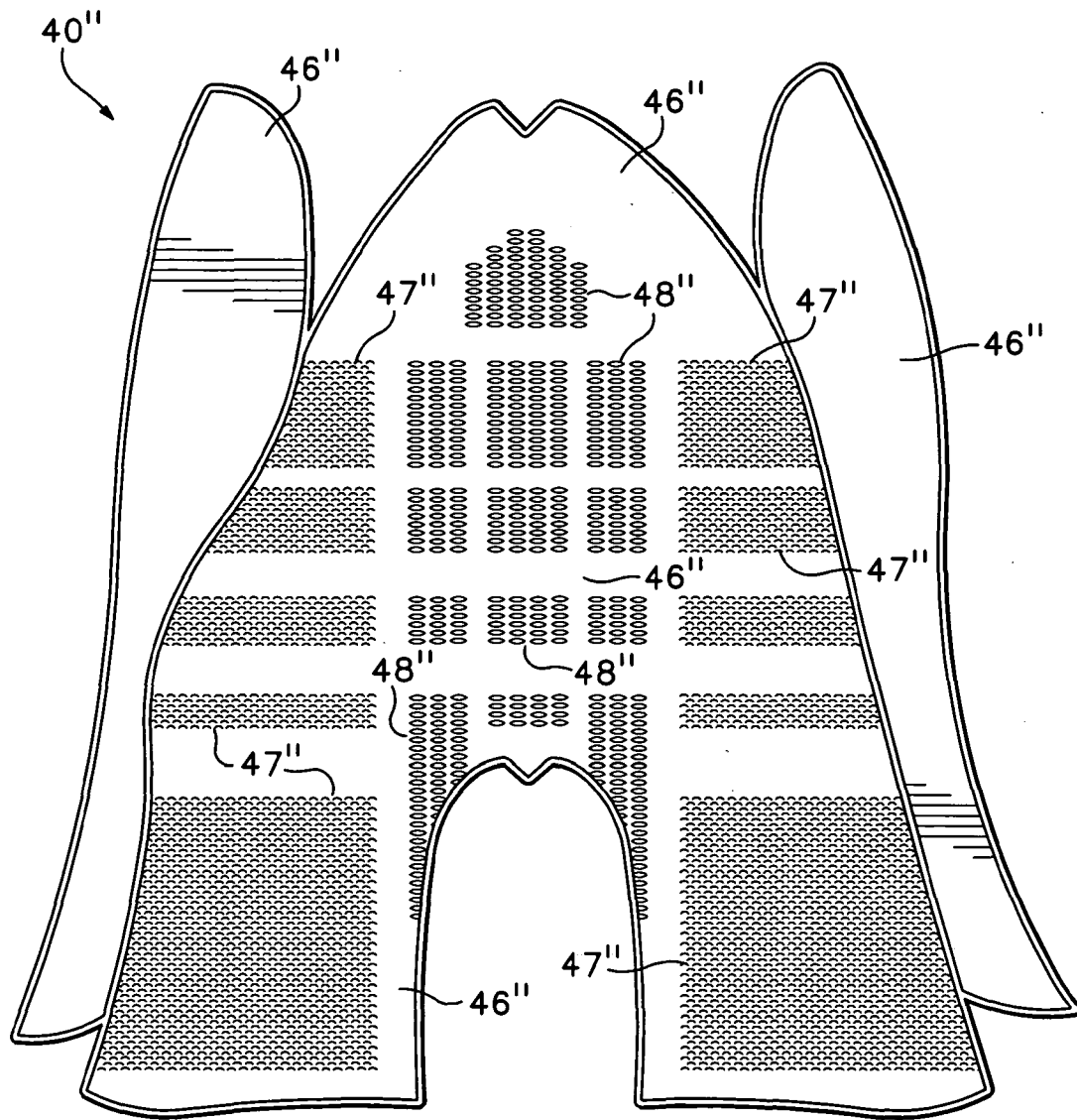


Figure 11

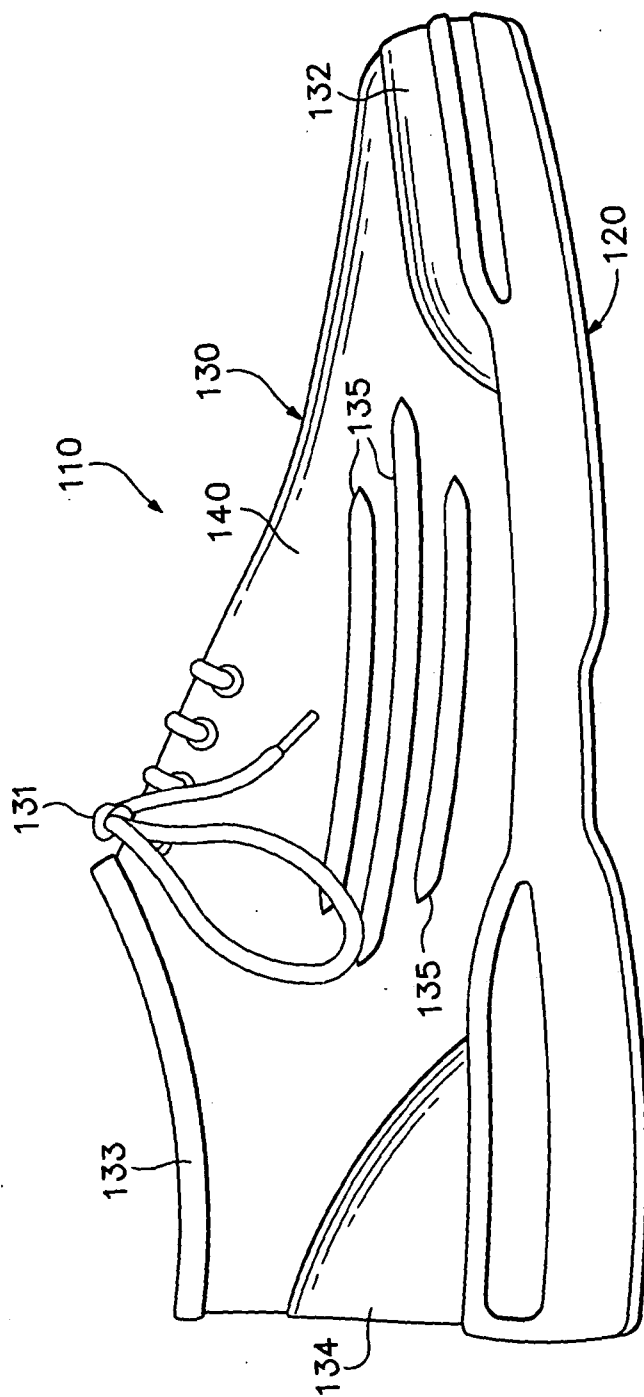


Figure 12

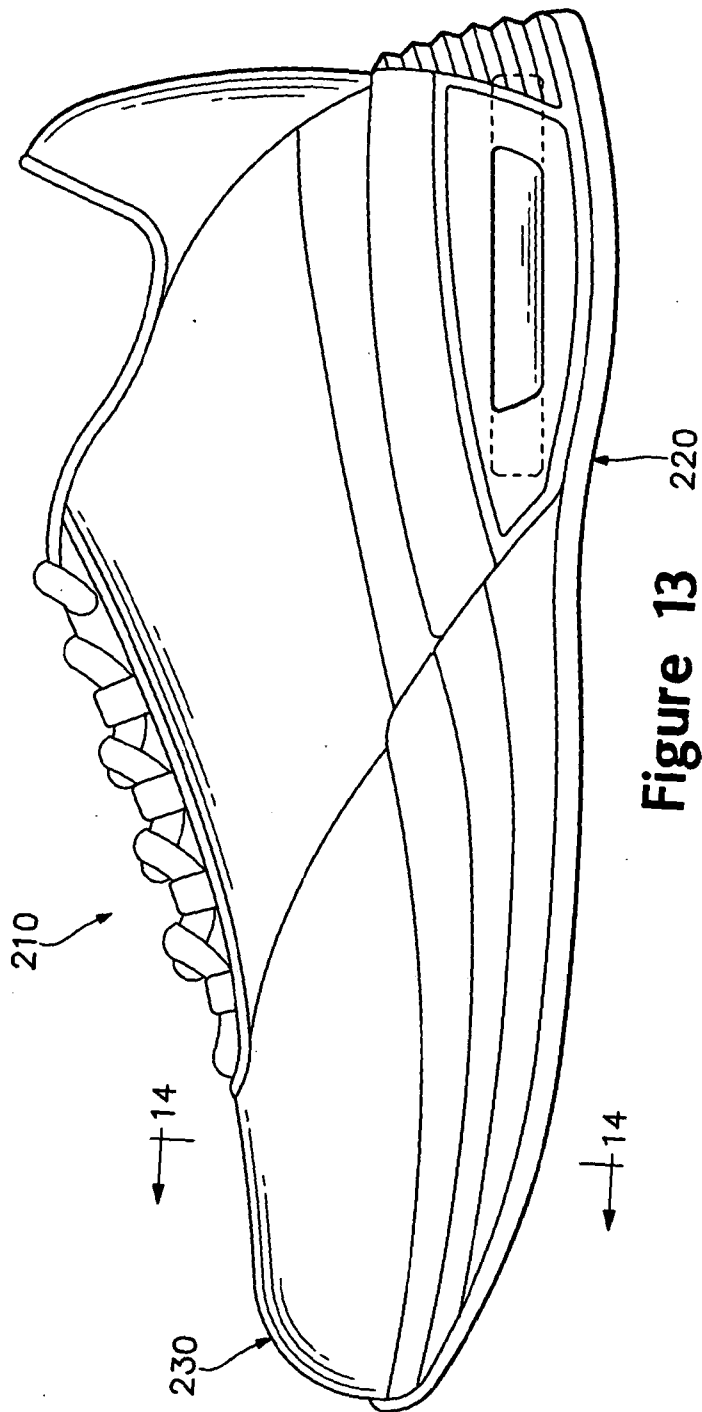


Figure 13

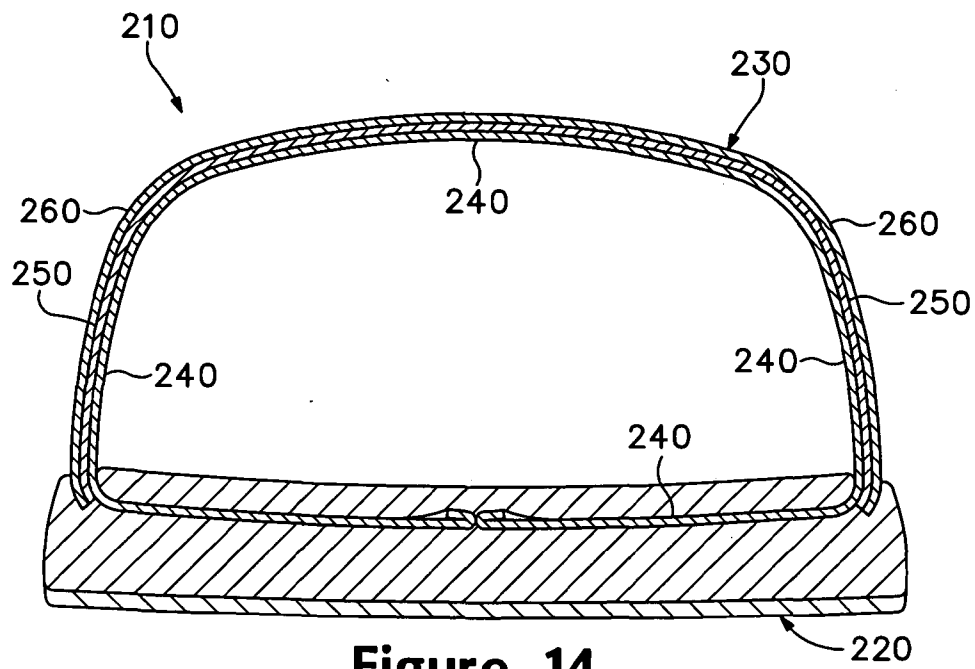


Figure 14

Application Data Sheet

Application Information

Application number::	
Filing Date::	03/03/04
Application Type::	Regular
Subject Matter::	Utility
Suggested classification::	
Suggested Group Art Unit::	
CD-ROM or CD-R?::	None
Number of CD disks::	
Number of copies of CDs::	
Sequence submission?::	
Computer Readable Form (CRF)?::	
Number of copies of CRF::	
Title::	An Article of Footwear Having a Textile Upper
Attorney Docket Number::	005127.00260
Request for Early Publication?::	NO
Request for Non-Publication?::	NO
Suggested Drawing Figure::	
Total Drawing Sheets::	12
Small Entity?::	NO
Latin name::	
Variety denomination name::	
Petition included?::	NO
Petition Type::	
Licensed US Govt. Agency::	
Contract or Grant Numbers::	
Secrecy Order in Parent Appl.?::	NO

Applicant Information

Applicant Authority Type:: Inventor
Primary Citizenship Country:: United States
Status:: Full Capacity
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Middle Name::
Family Name:: Dua
Name Suffix::
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State or Province of Residence::
Country of Residence::
Street of mailing address::
City of mailing address::
State or Province of mailing address::
Country of mailing address::
Postal or Zip Code of mailing address::

Applicant Authority Type:: Inventor
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Family Name::
Name Suffix::
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State or Province of Residence::
Country of Residence::
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City of mailing address::

State or Province of mailing address::
Country of mailing address::
Postal or Zip Code of mailing address::

Applicant Authority Type:: Inventor
Primary Citizenship Country::
Status:: Full Capacity
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State or Province of Residence::
Country of Residence::
Street of mailing address::
City of mailing address::
State or Province of mailing address::
Country of mailing address::
Postal or Zip Code of mailing address::

Correspondence Information

Correspondence Customer Number:: 22909

Representative Information

Representative Customer Number:: 22909

Domestic Priority Information

Application::	Continuity Type::	Parent Application::	Parent Filing Date::

Foreign Priority Information

Country::	Application number::	Filing Date::	Priority Claimed::

Assignee Information

Assignee name:: NIKE, Inc.
 Street of mailing address:: One Bowerman Drive
 City of mailing address:: Beaverton
 State or Province of mailing address:: Oregon
 Country of mailing address:: U.S.A.
 Postal or Zip Code of mailing address:: 97005

This collection of information is required by 37 CFR 1.501. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

adidas AG
Petitioner

v.

Patent of NIKE INC.
Patent Owner

Case IPR 2013-00067
Patent 7,347,011

Before AMY KATTULA, *Trial Paralegal*

NOTICE OF FILING DATE ACCORDED TO PETITION
AND
TIME FOR FILING PATENT OWNER PRELIMINARY RESPONSE

The petition for *inter partes* review in the above proceeding has been accorded the filing date of November 28, 2012.

A review of the petition identified the following defect(s):

Improper usages of claim charts: The rules require that a petition identify how the challenged claims are to be construed

and how the claims are unpatentable under the statutory grounds raised. This information is to be provided pursuant to the page limit requirements, which require double spacing. Additionally, the rules require that the petition specify where each element of a challenged claim is to be found in the prior art. The element by element showing may be provided in a claim chart, which is permitted to be written with single spacing. See 37 C.F.R. 42.6(a)(2)(iii). Placing one's argument and claim construction in a claim chart to circumvent the double spacing requirement is not permitted.

Petitioner must correct the defect(s) within **FIVE BUSINESS DAYS** from this notice. Failure to correct the defect(s) may result in an order to show cause as to why the Board should institute the trial. No substantive changes (e.g., new grounds) may be made to the petition.

Patent Owner may file a preliminary response to the petition no later than three months from the date of this notice. The preliminary response is limited to setting forth the reasons why the requested review should not be instituted. Patent Owner may also file an election to waive the preliminary response to expedite the proceeding. For more information, please consult the Office Patent Trial Practice Guide, 77 Fed. Reg. 48756 (Aug. 14, 2012), which is available on the Board Web site at <http://www.uspto.gov/PTAB>.

Patent Owner is advised of the requirement to submit mandatory notice information under 37 C.F.R. § 42.8(a)(2) within 21 days of service of the petition.

Case IPR 2013-00067
Patent 7,347,011

The parties are advised that under 37 C.F.R. § 42.10(c), recognition of counsel *pro hac vice* requires a showing of good cause. The parties are authorized to file motions for *pro hac vice* admission under 37 C.F.R. § 42.10(c). Such motions shall be filed in accordance with the “Order -- Authorizing Motion *for Pro Hac Vice* Admission” in Case IPR2013-00010 (MPT), a copy of which is attached to this Notice.

The parties are reminded that unless otherwise permitted by 37 C.F.R. § 42.6(b)(2), all filings in this proceeding must be made electronically in the Patent Review Processing System (PRPS), accessible from the Board Web site at <http://www.uspto.gov/PTAB>.

If there are any questions pertaining to this notice, please contact Amy Kattula at 571-272-5826 or the Patent Trial and Appeal Board at 571-272-7822.

PETITIONER:

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PATENT OWNER:

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1100 13th Street, NW
Suite 1200
Washington, DC 20005-4051

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

adidas AG
Petitioner

v.

Nike, Inc.
Patent Owner

Patent No. 7,347,011

Filing Date: March 3, 2004

Issue Date: March 25, 2008

Title: ARTICLE OF FOOTWEAR HAVING A TEXTILE UPPER

Inter Partes Review No. Unassigned

**PETITION FOR *INTER PARTES* REVIEW
UNDER 35 U.S.C. §§ 311-319 AND 37 C.F.R. § 42.100 *ET SEQ.***

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EXHIBITS

Exhibit 1001: Declaration of Edward C. (Ned) Frederick, Ph.D. ("Frederick Dec.")

Exhibit 1002: U.S. Patent No. 7,347,011 to Dua et al. ("011 patent")

Exhibit 1003: The '011 patent file history

Exhibit 1004: Form PTO-SB/42

Exhibit 1005: U.S. Patent No. 5,345,638 to Nishida ("Nishida")

Exhibit 1006: JP Pub. No. H6-113905 to Osamu ("Osamu"), including a certified English translation thereof

Exhibit 1007: U.S. Patent No. 2,147,197 to Glidden ("Glidden")

Exhibit 1008: U.S. Patent No. 2,314,098 to McDonald ("McDonald")

Exhibit 1009: U.S. Patent No. 2,641,004 to Whiting et al. ("Whiting")

Exhibit 1010: International App. Pub. No. WO 90/03744 to Curley ("Curley")

Exhibit 1011: U.S. Patent No. 4,785,558 to Shiomura ("Shiomura")

Exhibit 1012: David J. Spencer, Knitting Technology: A Comprehensive Handbook
and Practical Guide (Third ed., Woodhead Publishing Ltd. 2001)

Exhibit 1013: Excerpt of Hannelore Eberle et al., Clothing Technology (Third English
ed., Beuth-Verlag GmbH 2002)

Through counsel, real party in interest adidas AG ("Petitioner") hereby petitions for *inter partes* review under 35 U.S.C. §§ 311-319 and 37 C.F.R. § 42 of claims 1-46 of U.S. Patent No. 7,347,011 ("the '011 patent"), and asserts there is a reasonable likelihood that it will prevail with respect to at least one of the claims challenged in this petition.

I. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8(a)(1)

A. Real Party-In-Interest under 37 C.F.R. § 42.8(b)(1)

Petitioner, adidas AG, is the real party-in-interest for the instant petition.

B. Related Matters under 37 C.F.R. § 42.8(b)(2)

No related matters are currently known to Petitioner.

C. Lead and Back-Up Counsel under 37 C.F.R. § 42.8(b)(3)

Petitioner provides the following designation of counsel.

LEAD COUNSEL	BACK-UP COUNSEL
Geoffrey K. Gavin (Reg. No. 47,591) (ggavin@kilpatricktownsend.com) Kilpatrick Townsend & Stockton LLP 1100 Peachtree Street, Suite 2800 Atlanta, GA 30309-4528 T: 404 815 6046; F: 404 541 3213	Vaibhav P. Kadaba (Reg. No. 45,865) (wkadaba@kilpatricktownsend.com) Kilpatrick Townsend & Stockton LLP 1100 Peachtree Street, Suite 2800 Atlanta, GA 30309-4528 T: 404 532 6959; F: 404 541 3258

D. Service Information

As identified in the attached Certificate of Service, a copy of the present petition, in its entirety, is being served to the address of the attorney or agent of record. adidas AG may be served at the lead counsel address provided in Section I(C) of this Petition.

E. Power of Attorney

A power of attorney is being filed with the designation of counsel in accordance with

37 C.F.R. § 42.10(b).

II. PAYMENT OF FEES – 37 C.F.R. § 42.103

This petition for *inter partes* review requests review of 46 claims of the '011 patent and is accompanied by a payment of \$42,800, which includes \$27,200 for 20 claims and an additional \$15,600 for 26 claims in excess of 20 claims. See 37 C.F.R. § 42.15. Thus, this petition meets the fee requirements under 35 U.S.C. § 312(a)(1).

III. REQUIREMENTS FOR INTER PARTES REVIEW UNDER 37 C.F.R. § 42.104

A. Grounds For Standing under 37 C.F.R. § 42.104(a)

Petitioner certifies that the '011 patent is eligible for *inter partes* review and further certifies that Petitioner is not barred or otherwise estopped from requesting *inter partes* review challenging the identified claims on the grounds identified within the present petition.

B. Identification of Challenge under 37 C.F.R. § 42.104(b) and Relief Requested

Petitioner requests *inter partes* review of claims 1-46 of the '011 patent on the grounds set forth in the table below and requests that each of the claims be found unpatentable. An explanation of how claims 1-46 are unpatentable under the statutory grounds identified below, including the identification of where each element is found in the prior art patents or publications and the relevance of the prior art reference, is provided in the form of detailed claim charts. Additional explanation and support for each ground of rejection is set forth in the Declaration of Edward C. (Ned) Frederick, Ph.D. (Ex. 1001).

Ground	'011 Patent Claims	Basis for Rejection
Ground 1	1-16; 19-34; 36; 39-46	Anticipated under § 102(b) by Nishida
Ground 2	1-16; 19-46	Obvious under § 103(a) in view of Nishida
Ground 3	1-7; 10-12; 14; 16-20; 32-33; 37	Obvious under § 103(a) by Nishida in view of McDonald
Ground 4	8-9; 13; 21-23	Obvious under § 103(a) by Nishida in view of McDonald and Curley
Ground 5	8-9; 13; 21-23	Obvious under § 103(a) by Nishida in view of McDonald and Shiomura
Ground 6	9; 13; 22-23	Obvious under § 103(a) by Nishida in view of McDonald and Glidden
Ground 7	1-7; 10-12; 14-16; 19-20; 32-33; 44-46	Obvious under § 103(a) by Nishida in view of Whiting
Ground 8	8-9; 13; 21-23	Obvious under § 103(a) by Nishida in view of Whiting and Curley
Ground 9	8-9; 13; 21-23	Obvious under § 103(a) by Nishida in view of Whiting and Shiomura
Ground 10	9; 13; 17-18; 22-23	Obvious under § 103(a) by Nishida in view of Whiting and Glidden
Ground 11	17-18	Obvious under § 103(a) by Nishida in view of Whiting and McDonald
Ground 12	1-13; 16; 19-23; 30-32; 34; 43-46	Obvious under § 103(a) by Nishida in view of Curley
Ground 13	8-9; 13; 21-23; 30-31; 34-35; 38; 43	Obvious under § 103(a) by Nishida in view of Shiomura
Ground 14	9; 13; 22-23; 30-31; 43	Obvious under § 103(a) by Nishida in view of Glidden
Ground 15	1-2; 7-14; 16-23	Anticipated under § 102(b) by Glidden
Ground 16	1-2; 7-14; 16-23	Obvious under § 103(a) by Glidden in view of McDonald
Ground 17	1-2; 7-14; 16-23	Obvious under § 103(a) by Glidden in view of Whiting
Ground 18	1-16; 19-46	Obvious under § 103(a) in view of Osamu
Ground 19	1-7; 9-10; 13-14; 16-20; 22-33; 36-37; 39-43	Obvious under § 103(a) by Osamu in view of McDonald
Ground 20	8; 21; 34	Obvious under § 103(a) by Osamu in view of McDonald and Curley
Ground 21	8; 21; 34-35; 38	Obvious under § 103(a) by Osamu in view of McDonald and Shiomura

Ground 22	11-12	Obvious under § 103(a) by Osamu in view of McDonald and Glidden
Ground 23	11-12; 34	Obvious under § 103(a) by Osamu in view of McDonald and Nishida
Ground 24	1-7; 9-10; 13-16; 19-20; 22-33; 36; 39-44; 46	Obvious under § 103(a) by Osamu in view of Whiting
Ground 25	8; 21; 34	Obvious under § 103(a) by Osamu in view of Whiting and Curley
Ground 26	8; 21; 34-35; 38	Obvious under § 103(a) by Osamu in view of Whiting and Shiomura
Ground 27	11-12; 17-18; 45	Obvious under § 103(a) by Osamu in view of Whiting and Glidden
Ground 28	11-12; 34; 45	Obvious under § 103(a) by Osamu in view of Whiting and Nishida
Ground 29	1-7; 9-13; 16; 19-20; 22-32; 34; 36; 39-46	Obvious under § 103(a) by Osamu in view of Nishida
Ground 30	8; 21	Obvious under § 103(a) by Osamu in view of Nishida and Curley
Ground 31	8; 21; 35; 38	Obvious under § 103(a) by Osamu in view of Nishida and Shiomura
Ground 32	17-18	Obvious under § 103(a) by Osamu in view of Nishida and Glidden
Ground 33	14; 17-18; 33; 37	Obvious under § 103(a) by Osamu in view of Nishida and McDonald
Ground 34	14; 15; 33	Obvious under § 103(a) by Osamu in view of Nishida and Whiting
Ground 35	1-7; 9-13; 16-20; 22-32; 36; 39-43	Obvious under § 103(a) by Osamu in view of Glidden
Ground 36	8; 21; 34	Obvious under § 103(a) by Osamu in view of Glidden and Curley
Ground 37	8; 21; 34-35; 38	Obvious under § 103(a) by Osamu in view of Glidden and Shiomura
Ground 38	1-10; 13; 16; 19-32; 34; 36; 39-44; 46	Obvious under § 103(a) by Osamu in view of Curley
Ground 39	35; 38	Obvious under § 103(a) by Osamu in view of Curley and Shiomura

Each of the references relied upon in the grounds set forth above qualify as prior art under 35 U.S.C. § 102(b). Specifically, Nishida issued on September 13, 1994, and therefore qualifies as prior art under 35 U.S.C. § 102(b). Osamu published on April 26, 1994, and therefore qualifies as prior art under 35 U.S.C. § 102(b). Glidden issued on February 14, 1939, and therefore qualifies as prior art under 35 U.S.C. § 102(b). McDonald issued on March 16, 1943, and therefore qualifies as prior art under 35 U.S.C. § 102(b). Whiting issued on June 9, 1953, and therefore qualifies as prior art under 35 U.S.C. § 102(b). Curley published on April 19, 1990, and therefore qualifies as prior art under 35 U.S.C. § 102(b). Shiomura issued on November 22, 1988, and therefore qualifies as prior art under 35 U.S.C. § 102(b).

IV. SUMMARY OF THE '011 PATENT

A. Brief Description

The '011 patent relates to an article of footwear having a textile upper. ('011 patent (Ex. 1002), 1:5-10). The '011 patent specifically teaches that the upper incorporates a textile element, which may be formed with a knitting machine. (*Id.*, 3:20-22).

B. Summary of the Prosecution History of the '011 Patent

The original patent application, No. 10/791,289 ("the '289 application"), attached hereto as a part of Exhibit 1003, was filed on March 3, 2004, with claims 1-67. Original independent claims 1, 20, 28, 41, and 65 were directed to articles of footwear having an upper incorporating a textile element, and original independent claims 50 and 58 were directed to methods of manufacturing a footwear element. The PTO issued a restriction

requirement requiring election of either the claims drawn to an article of footwear or the claims drawn to a method of knitting a footwear element. ('011 file history (Ex. 1003), 01/05/2006 Office Action, p. 2).

In response, applicants filed a reply to the restriction requirement, electing to prosecute claims directed to an article of footwear, claims 1-49 and 65-67. ('011 file history (Ex. 1003), 01/19/2006 Response, p. 1). The PTO then issued a first Office Action on the merits, rejecting all pending claims. ('011 file history (Ex. 1003), 09/12/2006 Office Action, pp. 2-4). Specifically, the Examiner rejected claims 1-11, 13, 14, 16-24, 26-35, 37-49, 65, and 67 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 1,888,172 to Joha ("Joha"). (*Id.*, pp. 2-3.) Several of the independent claims, in addition to claiming structural elements of the footwear article, claimed the knitting method by which it was formed (e.g., "formed by weft knitting"). The Examiner noted that in reference to the specific method by which the upper is knitted, "such phrases have been treated as product by process limitations...[and] does NOT serve to resolve the issue concerning patentability of the product." (*Id.*, p. 2). The Examiner further noted "that the numerous types of knitting are well-known in the art and are noted in some of the cited references." (*Id.*, pp. 2-3).

The Examiner also rejected claims 1, 2, 7-11, 13-24, 26, 27, 41-43, 47-49, and 65-67 under 35 U.S.C. § 102(b) as being clearly anticipated by U.S. Patent No. 6,308,438 to Throneburg ("Throneburg"). (*Id.*, p. 3). The Examiner reiterated the statements regarding product by process limitations and the known types of knitting. (*Id.*).

The Examiner further rejected claims 12, 25, and 36 under 35 U.S.C. § 103 as being unpatentable over Joha in view of U.S. Patent No. 5,746,013 to Fay, Sr. ("Fay"). (*Id.*, p. 4). The Examiner rejected claims 12 and 25 under 35 U.S.C. § 103 as being unpatentable over Throneburg in view of Fay. (*Id.*).

In response to the Office Action, the Applicants submitted an amendment and response, along with a petition for a one month extension of time. ('011 file history (Ex. 1003), 01/12/2007 Response). In the response, Applicants cancelled original claims 7-10, 30, 47, and 50-64, and amended original claims 1, 2, 11-13, 18-20, 23-25, 27, 28, 31-33, 35, 43, 48, 49, and 65 to distinguish over the prior art of record. (*Id.*, pp. 3-8).

In particular, with respect to the rejections of claims 1, 28, and 41, Applicants amended the claims limiting the claimed footwear article to a single type of textile having a plurality of knit constructions, and further argued that neither Joha nor Throneburg disclose an upper incorporating a single type of textile having a plurality of constructions. (*Id.*, pp. 9-10). With respect to amended claim 20, Applicants argued that neither Joha nor Throneburg teaches a weft-knitted textile element having first and second areas each having a different stitch configuration to impart varying properties to each area of the textile element. (*Id.*, p. 10). Applicants made similar arguments with respect to the claim rejections under 35 U.S.C. § 103. (*Id.*, p. 11-12). Applicants, however, did not challenge or otherwise address the Examiner's comments regarding the unpatentability of claiming a specific method by which an upper is knitted, particularly since numerous types of knitting

were well-known in the art.

With respect to the rejection of amended claim 65 based on Joha, Applicants argued that Joha did not disclose a first area having a first set of properties and a second area having a second set of properties different from the first set. (*Id.*, p. 10). With respect to the rejection of amended claim 65 based on Throneburg, Applicants argued that Throneburg did not disclose an upper having two different areas with each area having a different construction. (*Id.*).

The Examiner then allowed claims 1-6, 11-29, 31-46, 48, 49, and 65-67 (renumbered as claims 1-46). ('011 file history (Ex. 1003), 11/02/2007 Notice of Allowance). The Examiner responded to the Applicants' amendment and response by moving directly from a rejection of the pending claims under 35 U.S.C. § 102 to allowance.¹ Because the missing elements addressed in the Applicants' response are taught by several of the references of record (see Nishida (Ex. 1005), Glidden (Ex. 1007)), it appears that the Examiner may not have reconsidered the question of anticipation by other references of record or obviousness under 35 U.S.C. § 103 before deciding to allow the claims.

Applicants transmitted the issue fee payment on February 1, 2008, and the '011 patent issued on March 25, 2008. ('011 file history (Ex. 1003), 02/01/2008 Issue Fee

¹The Examiner had rejected dependent claims 12, 25, and 36 under 35 U.S.C. § 103, but Applicants reiterated the arguments made with respect to the independent claims as amended to overcome this rejection.

Payment).

Applicants later filed a request for a Certificate of Correction, alleging a PTO mistake in the printing of claims 2, 8, and 23. ('011 file history (Ex. 1003), 01/13/2009 Request for Certificate of Correction). A Certificate of Correction issued February 17, 2009. ('011 file history (Ex. 1003), 02/17/2009 Certificate of Correction).

V. CLAIM CONSTRUCTIONS UNDER 37 C.F.R. § 42.104(b)(3)

A. Legal Overview

A claim subject to *inter partes* review ("IPR") is given its "broadest reasonable construction in light of the specification of the patent in which it appears." 37 C.F.R. § 42.100(b). This means that the words of the claim are given their plain meaning unless that meaning is inconsistent with the specification. *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989). This Petition shows that the claims of the '011 patent are anticipated or rendered obvious by the prior art identified herein when the challenged claims are given their broadest reasonable interpretation in light of the specification. Petitioner submits, for the purposes of the IPR only, that the claim terms are presumed to take on their broadest reasonable interpretation in view of the specification of the '011 patent.²

²Other forums, such as U.S. district courts, require different standards of proof and claim interpretation that are not applied by the PTO for *inter partes* review. Accordingly, any interpretation or construction of the challenged claims in this IPR, either implicitly or

B. Clarification of “A Single Type of Textile”

Claims 1, 24, and 36 recite that the textile element incorporates “a single type of textile.” The '011 patent specification states that “textile element 40 is primarily formed from one or more yarns that are mechanically-manipulated through either an interweaving, intertwining and twisting, or interlooping process.” ('011 patent (Ex. 1002), 6:51-54). The '011 patent specification further states: “Textile element 40 is a single material element that is formed to exhibit a unitary (i.e., one-piece) construction.” (*Id.*, 5:38-39; see also 11:10-12). As such, a broadest reasonable interpretation of “a single type of textile” is a single material element that may include one or more yarns.

C. Clarification of “Weft-Knitted Textile Element” and “Flat-Knitted Textile Element”

Claims 1, 7-9, 14-16, 19-21, 23, 32, and 33 recite that the textile element is “weft-knitted” or has a “weft knitted” construction. Claim 44 states that the textile element is “flat-knitted.” In the Office Action dated September 12, 2006, during prosecution of the application that led to the '011 patent, the Examiner noted that numerous types of knitting recited in the claims (e.g., weft-knitted and flat-knitted) were well-known in the art. Thus, the Examiner did not deem particular claimed knitting techniques to distinguish the claimed invention from the prior art. The specification also explains that various knitting processes

explicitly, is not binding on Petitioner in any future litigation related to the '011 patent. See *In re Zletz*, 893 F.2d 319, 321 (Fed. Cir. 1989).

may be used to manufacture the textile element, including without limitation weft-knitting, warp-knitting, circular knitting, and flat knitting. (See '011 patent (Ex. 1002), 6:66-7:10; 11:4-7; 11:19-41). The specification describes tricot, raschel, and double needle-bar raschel as specific sub-types of warp knitting. (*Id.*, 7:2-5). Similarly, circular knitting and flat knitting are described as sub-types of weft knitting. (*Id.*, 7:-10). The specification states that the textile element that forms the shoe upper may be formed through any of these knitting processes and does not express a preference or advantage for any one process over the others. (*Id.*, 7:11-14). Thus, it is reasonable to interpret these claim limitations as consistent with their ordinary meaning and as conventional, known knitting techniques.

D. Clarification of “Unitary Construction”

Claim 16 recites that the textile element has a first area and a second area with a “unitary construction.” Claim 44 originally recited the same language. The specification states: “As defined for purposes of the present invention, unitary construction is intended to express a configuration wherein portions of a textile element are not joined together by seams or other connections, as depicted with textile element 40 in FIG. 8.” ('011 patent (Ex. 1002), 6:41-46).

The Applicants later amended claim 44 to recite that the textile element has a first area with a first “unitary construction” and a second area with a second “unitary construction” different from the first “unitary construction.” ('011 file history (Ex. 1003), 01/12/2007 Response, p. 8). In making this amendment, Applicants attempted to overcome

a prior art rejection based on Throneburg and stated in the remarks that “[a]lthough Throneburg teaches that the ball portion and heel portion of the footbed are ‘thickened,’ **the construction of that knitting is not of a different construction than other areas of the upper.**” (*Id.*, p. 10, emphasis added).

Thus, according to the specification and claim 16, a broadest reasonable interpretation of “unitary construction” is a one-piece construction. The amendments to claim 44 and related arguments focused on the differences between the two different constructions, rather than the existence of two different **unitary** constructions, as different **unitary** constructions is inconsistent with the invention as described in the specification and claim 16. Based on the intrinsic evidence, a broadest reasonable interpretation of a “first area with a first unitary construction and a second area with a second unitary construction different from the first unitary construction,” consistent with the teachings of the specification and arguments made during prosecution, is a unitary construction with two areas, each area having a different construction and set of properties in accordance with the additional language of claim 44.

VI. THERE IS A REASONABLE LIKELIHOOD THAT AT LEAST ONE CLAIM OF THE ‘011 PATENT IS UNPATENTABLE

As detailed in the claim charts below, through the various identified prior art references or arguments some of which were not before the Examiner during prosecution of the ‘011 patent and none of which were expressly considered by the Examiner, all limitations of claims 1-46 of the ‘011 patent were well-known in the prior art. Regarding

various combinations of prior art, the '011 patent claims merely recite the combination of "prior art elements according to known methods to yield predictable results" and/or the "[u]se of known technique[s] to improve similar devices (methods, or products) in the same way." MPEP § 2143 (A, C).

As a preliminary matter, during the prosecution of the '011 patent, the Examiner pointed out – and the Applicant failed to argue otherwise – that certain recited features common to all of the claims were well-known. For example, the prior art establishes that an upper incorporating a textile element, as well as knitted uppers generally, were well-known. The prior art also teaches that securing a sole structure to the upper was well-known. Likewise, as stated by the Examiner, numerous types of knitting (e.g., weft-knitted, flat-knitted, warp-knitted, or formed with a knitting machine) were well-known in the art. ('011 file history (Ex. 1003), at 09/12/2006 Office Action, pp. 2-3). Applicants did not challenge this assertion.

In addition, during the prosecution of the '011 patent, the Examiner pointed out – and the Applicant failed to argue otherwise – that other recited features of independent claims 1, 24, and 36 were well-known. For example, it was well-known that textile elements have edges joined together to define at least a portion of a void for receiving a foot (claims 1, 24), as was the idea of joining the edges together to form seams, the seams including a first seam and a second seam, the first seam extending from a heel area to a forefoot area of the footwear along a lower surface of the upper, and the second seam extending vertically

in the heel area (claim 24). Removing the textile element from a textile structure that includes an outline of the textile element was also a well-known technique. (claim 36).

A. “A Single Type of Textile Having a Plurality of Knit Constructions” in Claims 1-15 and 24-43

As discussed above, the Applicants amended independent claims 1, 24, and 36 to require that the textile element incorporate “a single type of textile having a plurality of knit constructions.” (‘011 file history (Ex. 1003), at 01/12/2007 Response, pp. 2, 5, and 7). The Applicants further relied on this element as the sole basis for distinguishing claims 1, 24, and 36 over the prior art of record. (‘011 file history (Ex. 1003), at 01/12/2007 Response, pp. 9-12). Because the next action from the PTO was a Notice of Allowance, it appears that the Examiner relied on this ground as the reason for allowance of claims 1, 24, and 36.

Yet, several prior art references, which either were not before the Examiner or were not applied by the Examiner for this feature during prosecution, teach textile elements incorporating a single type of textile having a plurality of knit constructions as required by claims 1, 24, and 36. For example, Nishida (Ex. 1005) and Glidden (Ex. 1007) each disclose textile elements incorporating a single type of textile having a plurality of knit constructions. (Frederick Dec. (Ex. 1001), ¶¶ 67-72, 79-84). Specifically, Nishida states:

In FIGS. 1 and 2, a web of material is identified by 1, and is produced by a conventional textile process, [for] example, by weaving and/or knitting and/or embroidering. The web of material 1 can be provided with a single or with a plurality of layouts 2 of the shape of a shoe upper 3, as it is represented from the side, for example, in FIG. 3. The web of material has a backing 4 that can

be a conventionally used material formed, for example, of a warp and filling or a knitted fabric. ***Layout 2 is divided into different individual parts or areas, which differ from one another, such as by being of another material style and/or by being of different fibers or yarns,*** for example, from wool, wool with metal yarns, silk, silk with metal yarns, wool with plastic fibers or the like and/or by being formed of different colors, such as from fibers or yarns of different colors, including those of metals, or by different color prints, ***and/or by being differently designed fiber extrudates or fiber extrudate compositions, such as twisted, processed parallel or the like.***

(Nishida (Ex. 1005), 3:6-26 (emphasis added)).

Glidden, which dates to 1939, describes:

In fabricating the unitary upper, as by knitting, areas thereof which are normally subjected to greater wear and ***in which a lower degree of elasticity is desired, such as the toe 11 and the heel portion 12, may be more densely fabricated to provide therein heavier weight and less extensibility than in the other parts of the upper, as by changing the type of stitch or amount [of] thickness of the yarn in the knitting.*** Other areas, such as the ankle portion 13, are preferably made so as to provide softness and elasticity, as by making them of ribbed construction, as shown.

(Glidden (Ex. 1007), p. 1, 2:33-44 (emphasis added)).

At least a third prior art reference, Osamu (Ex. 1006), teaches this same concept for a woven textile element: "For each shoe location, the appropriate weave structure is used. For example, ***toe cap 10 is formed of a weave structure of high yarn count and density, and upper surface 11 is formed of a weave structure with high breathability.***"

(Osamu (Ex. 1006), [0009] (emphasis added)).

As demonstrated by the foregoing exemplary excerpts from selected references, the use of textile elements incorporating a single type of textile having a plurality of knit constructions was well-known in the art at the time of the priority date of the '011 patent. These references also show that the use of a single type of textile having a plurality of knit constructions was well-known as a way to provide different properties to a knitted textile for decades. (Frederick Dec. (Ex. 1001), ¶¶ 72, 84).

As set forth in the claim charts below, Nishida, Glidden, and Osamu anticipate or, at the very least, render obvious claims 1-15 and 24-43 of the '011 patent, alone or in combination with other prior art. The '011 patent claims merely recite the combination of “prior art elements according to known methods to yield predictable results” and/or the “[u]se of known technique[s] to improve similar devices (methods, or products) in the same way.” See MPEP § 2143 (A, C). For example, a person of ordinary skill in the art would have understood that using a single type of textile having a plurality of knit constructions was well-known in the textile industry. (Frederick Dec. (Ex. 1001), ¶¶ 37-65, 67-72, 79-84). This concept is clearly shown in the prior art. With regard to the other recited elements in claims 1, 24, and 36, it is undisputed the prior art discloses the combination of these features in uppers for an article of footwear.

Moreover, one of ordinary skill in the art would have understood and expected the benefits of using a single type of textile having a plurality of knit constructions for an upper –

that is, that a single type of textile having a plurality of knit constructions would provide the advantages of different properties in the shoe upper, such as breathability and elasticity, while increasing the efficiency of the manufacturing process. ('011 patent (Ex. 1002), 2:62-3:16; 11:12-18). Specifically, each of Nishida, Glidden, McDonald, Whiting, and Shiomura teach the construction of and/or process for constructing a knitted shoe upper. These references explicitly show that since at least the late 1930's it was desirable and known to "provide comfort, stretchability, light weight, breathability and absorption properties in an article of footwear and to provide for economy of materials and convenience of procedure in the manufacture of the same." (Glidden (Ex. 1007), p. 1, 1:25-30). *See also*:

- "My invention is a shoe comprising a circular-knit fabric sock having a stretchable elastic welt..." (McDonald (Ex. 1008), p. 1, 1:1-2);
- "the production of such a shoe upper is nevertheless possible in an efficient and economical way" (Nishida (Ex. 1005), 1:45-47); "designed to be relatively deformably soft or elastic....has a good air exchange capability" (*Id.*, 3:43-51);
- "[Objective] To develop uppers material for shoes indispensable to manufacturing methods that increase the economic efficiency of production by reducing the quantity of uppers materials for shoes as much as possible thus simplifying the stitching process" (Osamu (Ex. 1006), p. 1); "[f]or each shoe location, the appropriate weave structure is used... and upper structure

11 is formed of a weave structure with high breathability" (*Id.*, p. 4);

- "...the resultant uppers are form-retaining and yet are elastic..." (Whiting (Ex. 1009), 1:40-41).
- "An object of the present invention is to provide a shoe... of which the shoe upper has a combination of suitable elasticity with high air permeability."
(Shiomura (Ex. 1011), 1:38-41).

The common teachings of these prior art references show that it would have been obvious for a person of ordinary skill in the art to combine their teachings in designing a knitted shoe upper to achieve the claimed features of the '011 patent. Thus, claims 1-15 and 24-43 of the '011 patent are not patentable in view of the above-noted references considered individually or in combination.

'011 Patent Claims	Description of Prior Art
1. An article of footwear comprising:	<u>Grounds 1-3; 7; 12:</u> Nishida discloses an article of footwear. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at Abstract; FIG. 3. <u>Grounds 15-17:</u> Glidden discloses an article of footwear. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at Title; p. 1, 1:1-4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses an article of footwear. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at Title; [0001]; [0007].
an upper incorporating a weft-knitted textile element having edges that are joined together to define at least a portion of a void for receiving a foot,	<u>Grounds 1-2:</u> Nishida discloses an upper incorporating a knit textile element having edges that are joined together to define at least a portion of a void for receiving a foot. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-12; 3:31-42; FIGS. 2-3. A person of ordinary skill in the art ("POSITA") at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include weft knitting. Frederick Dec. at ¶ 72.

Grounds 3; 7; 12:

Nishida discloses an upper incorporating a knit textile element having edges that are joined together to define at least a portion of a void for receiving a foot. Frederick Dec. at ¶ 72; *see also* Nishida at 3:6-12; 3:31-42; FIGS. 2-3. Uppers incorporating weft-knitted textile elements were well-known in the art at the time of the priority date of the '011 patent. *See* McDonald at p. 1, 2:26-39; Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate weft-knitted textile elements as disclosed by McDonald, Whiting, or Curley into Nishida's upper. Frederick Dec. at ¶ 72. *See* MPEP § 2143(A), (C).

Ground 15:

Glidden discloses an upper incorporating a knit textile element that defines at least a portion of a void for receiving a foot. Frederick Dec. at ¶ 84; *see also* Glidden at p. 1, 2:3-10, 2:45-48; FIGS. 1, 6, 8. A POSITA at the time of the priority date of the '011 patent would have understood from Glidden describes circular knitting, which has been used for making socks for many decades. Frederick Dec. at ¶ 84.

Grounds 16-17:

Glidden discloses an upper incorporating a knit textile element that defines at least a portion of a void for receiving a foot. Frederick Dec. at ¶ 84; *see also* Glidden at p. 1, 2:3-10; p. 1, 2:45-48; FIGS. 1, 6, 8. Uppers incorporating weft-knitted textile elements were well-known in the art at the time of the priority date of the '011 patent. *See* McDonald at p. 1, 2:26-39; Whiting at 2:39-56. It would have been obvious at the time of the priority date of the '011 patent to incorporate weft-knitted textile elements as disclosed by McDonald or Whiting into Glidden's upper. Frederick Dec. at ¶ 84. *See* MPEP § 2143(A), (C).

Ground 18:

Osamu discloses an upper incorporating a textile element having edges that are joined together to define at least a portion of a void for receiving a foot. Frederick Dec. at ¶ 91; *see also* Osamu at [0007]; [0009]; [0010]; [0011]; FIGS. 1, 3. Osamu describes a woven textile element, rather than a weft-knitted textile element. A POSITA at the time of the priority date of the '011 patent would have understood that woven and knitted textiles are both suitable for use in uppers and the selection of

	one versus the other is an obvious design choice. Frederick Dec. at ¶ 91. <u>Grounds 19; 24; 29; 35; 38:</u> Osamu discloses an upper incorporating a textile element having edges that are joined together to define at least a portion of a void for receiving a foot. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0007]; [0009]; [0010]; [0011]; FIGS. 1, 3. Woven and knitted textiles are both suitable for use in uppers and were well-known in the art at the time of the priority date of the '011 patent. See Nishida at 1:61-62; 1:67-68; 2:42-45; 3:6-10; 3:45-52; 3:66-68; 5:63-6:2; 6:23-25; Curley at p. 7, lines 32-33; p. 8, lines 7-9; p. 16, lines 5-8. Additionally, Glidden, McDonald, Whiting, and Curley each disclose an upper incorporating a weft-knitted textile element. See Glidden at p. 1, 2:45-48; FIGS. 1, 6, 8; McDonald at p. 1, 2:26-39; Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate a weft-knitted textile as disclosed by Nishida, Curley, Glidden, McDonald, or Whiting into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
wherein the weft-knitted textile element incorporates a single type of textile having a plurality of knit constructions; and	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that the knit textile element may be a single textile element having a plurality of knit constructions. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:15-4:18; 4:47-60; 5:41-45; 5:63-6:2; 6:4-41. <u>Grounds 15-17:</u> Glidden discloses that the knit textile element may be a single textile element having a plurality of knit constructions. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 2:33-44; FIG. 1. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element may be a single textile element having a plurality of constructions. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0005]; [0007]; [0009]; [0012]; claim 1.
a sole structure secured to the upper.	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at Abstract; FIG. 3. <u>Grounds 15-17:</u> Glidden discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 2, 1:9-19,

	2:8-15, 2:23-30; FIGS. 1, 6. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 91; see also Osamu at [0001], [0007], [0013], [0015].
2. The article of footwear recited in claim 1, wherein the weft-knitted textile element forms at least a portion of a lateral side, a medial side, and an instep region of the upper.	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that the knit textile element may form at least a portion of a lateral side, a medial side, and an instep region of the upper. Frederick Dec. at ¶ 72; see also Nishida at 3:15-4:46; FIGS. 1-5. <u>Grounds 15-17:</u> Glidden discloses that the knit textile element may form at least a portion of a lateral side, a medial side, and an instep region of the upper. Frederick Dec. at ¶ 84; see also Glidden at p. 1, 2:3-10; FIGS. 1-3. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element may form at least a portion of a lateral side, a medial side, and an instep region of the upper. Frederick Dec. at ¶ 91; see also Osamu at [0007]-[0010]; FIGS. 1, 3.
3. The article of footwear recited in claim 1, wherein the edges include a pair of first edges that are joined to form a first seam extending longitudinally along a lower region of the upper.	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that edges of the knit textile element may include a pair of first edges that are joined to form a first seam extending longitudinally along a lower region of the upper. Frederick Dec. at ¶ 72; see also Nishida at 5:3-13; FIG. 4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that edges of the textile element may include a pair of first edges that are joined to form a first seam extending longitudinally along a lower region of the upper. Frederick Dec. at ¶ 91; see also Osamu at [0007]; FIG. 1.
4. The article of footwear recited in claim 3, wherein the edges include a pair of second edges that are joined to form a second seam extending along a heel region of the upper.	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that edges of the knit textile element may also include a pair of second edges that are joined to form a second seam extending along a heel region of the upper. Frederick Dec. at ¶ 72; see also Nishida at 3:31-36; 4:9-11; FIGS. 2, 4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that edges of the textile element may also include a pair of second edges that are joined to form a second seam extending along a heel region of the upper. Frederick Dec. at ¶ 91; see also Osamu at [0010]; FIGS. 1, 3.

5. The article of footwear recited in claim 4, wherein the second seam extends vertically.	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that the second seam extends vertically. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:31-36; 4:9-11; FIGS. 2-4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the second seam extends vertically. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0010]; FIGS. 1, 3.
6. The article of footwear recited in claim 4, wherein the edges include at least a pair of third edges that are joined to form a third seam extending through a forefoot area of the upper.	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that edges of the knit textile element may also include a pair of third edges that are joined to form a third seam extending through a forefoot area of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 4:19-30; FIG. 4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that edges of the textile element may also include a pair of third edges that are joined to form a third seam extending through a forefoot area of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at FIG. 1.
7. The article of footwear recited in claim 1, wherein the weft-knitted textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper.	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-9; 3:66-4:1; FIG. 3. <u>Grounds 15-17:</u> Glidden discloses that the knit textile element may at least be an exterior layer of the upper (see FIG. 1) and/or an interior layer of the upper. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 2:3-23; p. 2, 1:68-74; FIGS. 1-3, 6-8. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0001]; [0005]; [0010]; claim 1.
8. The article of footwear recited in claim 1, wherein the upper includes an exterior layer, an intermediate layer, and an interior layer, and the weft-knitted textile element	<u>Grounds 1-2:</u> Nishida discloses that the upper may include two or more layers, and the knit textile element may form at least a portion of the interior layer. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-9; 3:62-4:1. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's use of two or more layers to include three layers, and that the knit textile element and/or knitted backing layer of the textile element forms a

forms at least a portion of the interior layer.

portion of the interior layer. Frederick Dec. at ¶ 72.

Grounds 4-5; 8-9; 12-13:

Nishida discloses that the upper may include two or more layers, and the knit textile element may form at least a portion of the interior layer. Frederick Dec. at ¶ 72; see *also* Nishida at 3:6-9; 3:62-4:1. Uppers incorporating three layers, wherein a knit textile element forms a portion of an inner layer and an outer layer were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim 34; p. 7, line 32-p. 8, line 5; Shiomura at 2:26-45. It would have been obvious at the time of the priority date of the '011 patent to incorporate three layers, wherein a knit textile element forms a portion of an inner layer and an outer layer as disclosed by Curley or Shiomura into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C).

Grounds 15-17:

Glidden discloses that the knit textile element may at least be an exterior layer of the upper and/or an interior layer of the upper. Frederick Dec. at ¶ 84; see *also* Glidden at p. 1, 2:3-23; p. 2, 1:9-19; p. 2, 1:68-74; FIGS. 1-2.

Ground 18:

Osamu discloses that the upper may include two or more layers, and the textile element may form at least a portion of the interior layer. Frederick Dec. at ¶ 91; see *also* Osamu at [0001]; [0005]; [0006]; [0010]; claim 1. A POSITA at the time of the priority date of the '011 patent would have understood Osamu's use of two or more layers to include three layers, and that the textile element forms a portion of the interior layer. Frederick Dec. at ¶ 91.

Grounds 20-21; 25-26; 30-31; 36-38:

Osamu discloses that the upper may include two or more layers, and the textile element may form at least a portion of the interior layer. Frederick Dec. at ¶ 91; see *also* Osamu at [0001]; [0005]; [0006]; [0010]; claim 1. Uppers incorporating three layers, wherein a knit textile element forms a portion of an inner layer and an outer layer were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim 34; p. 7, line 32-p. 8, line 5; Shiomura at 2:26-45. It would have been obvious at the time of the priority date of the '011 patent to incorporate three layers, wherein a knit textile element forms a portion of an inner layer and an outer layer as

	disclosed by Curley or Shiomura into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
9. The article of footwear recited in claim 1, wherein the weft-knitted textile element forms at least a portion of both an interior surface and an exterior surface of the upper.	<u>Grounds 1-2:</u> Nishida discloses that the knit textile element may form at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-4:46; FIG. 3. A POSITA at the time of the priority date of the '011 patent would have understood that Nishida's knit textile element and/or knit backing layer may form at least a portion of the interior and exterior surfaces of the upper. Frederick Dec. at ¶ 72. <u>Grounds 4-6; 8-10; 12-14:</u> Nishida discloses that the knit textile element may form at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-4:46; FIG. 3. Uppers having a knit textile element that forms a portion of an interior surface and an exterior surface were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim 34; p. 7, line 32-p. 8, line 5; Shiomura at 2:26-45; Glidden at FIGS. 1-2, p. 1, 2:3-32. It would have been obvious at the time of the priority date of the '011 patent to incorporate a knitted upper where the knitted material forms a portion of both interior and exterior surfaces of the upper as disclosed by Curley, Shiomura, or Glidden into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Grounds 15-17:</u> Glidden discloses that the knit textile element forms at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 2:3-23; p. 2, 1:68-74; FIGS. 1-3, 6-8. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element may form at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0001]; [0005]; [0010]; claim 1.
10. The article of footwear recited in claim 9, wherein at least one additional element is	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that elements such as toe caps or heel counters may be secured to the exterior surface of the upper and may form a portion of the exterior surface of the upper.

secured to the exterior surface and forms a portion of the exterior surface.	Frederick Dec. at ¶ 72; <i>see also</i> Nishida at 2:37-47; 3:37-42; 3:53-58; 4:9-11; FIG. 3. <u>Grounds 15-17:</u> Glidden discloses that counters, heel reinforcements, blucher saddle, toe caps, and heel straps may be secured to the exterior surface of the upper and may form a portion of the exterior surface of the upper. Frederick Dec. at ¶ 84; <i>see also</i> Glidden at p. 2, 1:9-19, 1:50-55, 1:64-74, 2:24-26; FIGS. 1-8. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that other elements may be secured to the exterior surface of the upper and may form a portion of the exterior surface of the upper. Frederick Dec. at ¶ 91; <i>see also</i> Osamu at [0006].
11. The article of footwear recited in claim 10, wherein the additional element is secured to a forefoot area of the upper.	<u>Grounds 1-3; 7; 11:</u> Nishida discloses that a toe cap may be secured to a forefoot area of the upper. Frederick Dec. at ¶ 72; <i>see also</i> Nishida at 3:37-42. <u>Grounds 15-17:</u> Glidden discloses that a toe cap may be secured to a forefoot area of the upper. Frederick Dec. at ¶ 84; <i>see also</i> Glidden at p. 2, 2:24-26; FIGS. 6, 8. <u>Ground 18:</u> Osamu discloses that other elements may be secured to the exterior surface of the upper. Frederick Dec. at ¶ 91; <i>see also</i> Osamu at [0006]. A POSITA at the time of the priority date of the '011 patent would have understood that such additional elements may be secured to a forefoot area of the upper. Frederick Dec. at ¶ 91. <u>Grounds 22-23; 27-29; 35:</u> Osamu discloses that other elements may be secured to the exterior surface of the upper. Frederick Dec. at ¶ 91; <i>see also</i> Osamu at [0006]. The incorporation of additional features onto a forefoot area of an upper were well-known in the art at the time of the priority date of the '011 patent. <i>See</i> Nishida at 3:37-42; Glidden at p. 2, 2:24-26; FIGS. 6, 8. It would have been obvious at the time of the priority date of the '011 patent to incorporate an additional element secured to a forefoot area of the upper as disclosed by Nishida or Glidden into Osamu's upper. Frederick Dec. at ¶ 91. <i>See</i> MPEP § 2143(A), (C).
12. The article of	<u>Grounds 1-3; 7; 11:</u>

footwear recited in claim 10, wherein the additional element is secured to a heel area of the upper.	Nishida discloses that a heel counter may be secured to the heel area of the upper. Frederick Dec. at ¶ 72; see also Nishida at 4:9-11. <u>Grounds 15-17:</u> Glidden discloses that a heel counter or heel reinforcement may be secured to the heel area of the upper. Frederick Dec. at ¶ 84; see also Glidden at p. 2, 1:9-19, 2:24-26; FIGS. 1-6. <u>Ground 18:</u> Osamu discloses that other elements may be secured to the exterior surface of the upper. Frederick Dec. at ¶ 91; see also Osamu at [0006]. A POSITA at the time of the priority date of the '011 patent would have understood that such additional elements may be secured to a heel area of the upper. Frederick Dec. at ¶ 91. <u>Grounds 22-23; 27-29; 35:</u> Osamu discloses that other elements may be secured to the exterior surface of the upper. Frederick Dec. at ¶ 91; see also Osamu at [0006]. The incorporation of additional features onto a heel area of an upper were well-known in the art at the time of the priority date of the '011 patent. See Nishida at 4:9-11; FIG. 3; Glidden at p. 2, 1:9-19, 2:24-26; FIGS. 1-6. It would have been obvious at the time of the priority date of the '011 patent to incorporate an additional element secured to a heel area of the upper as disclosed by Nishida or Glidden into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
13. The article of footwear recited in claim 1, wherein the textile element forms an interior surface of the upper.	<u>Grounds 1-2:</u> Nishida discloses that the knit textile element may form an interior surface of the upper. Frederick Dec. at ¶ 72; see also Nishida at 3:6-46. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's knit textile element and/or knitted backing layer may form an interior surface of the upper. Frederick Dec. at ¶ 72. <u>Grounds 4-6; 8-10; 12-14:</u> Nishida discloses that the knit textile element may form an interior surface of the upper. Frederick Dec. at ¶ 72; see also Nishida at 3:6-46. Uppers incorporating knit textile elements that form an interior surface of the upper were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim 34; Shiomura at 2:26-45; Glidden at FIGS. 1-2, p. 1, 2:3-32. It would have been obvious at the

	time of the priority date of the '011 patent to incorporate a knit textile element that forms an interior surface of the upper as disclosed by Curley, Shiomura, or Glidden into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Grounds 15-17:</u> Glidden discloses that the knit textile element forms an interior surface of the upper. Frederick Dec. at ¶ 84; <i>see also</i> Glidden at p. 1, 2:3-23; p. 2, 1:68-74; FIGS. 1-3, 6-8. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element forms an interior surface of the upper. Frederick Dec. at ¶ 91; <i>see also</i> Osamu at [0001]; [0005]; [0010]; claim 1.
14. The article of footwear recited in claim 1, wherein the weft-knitted textile element is created by circular knitting.	<u>Grounds 1-2:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include circular knitting. Frederick Dec. at ¶ 72. <u>Grounds 3; 7:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. Uppers incorporating textile elements formed by circular knitting were well-known in the art at the time of the priority date of the '011 patent. See McDonald at p. 1, 2:26-39; Whiting at 2:39-56. It would have been obvious at the time of the priority date of the '011 patent to incorporate circular-knitted textile elements as disclosed by McDonald or Whiting into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Ground 15:</u> Glidden describes fabricating a unitary knitted upper as a shaped, "sock-like" article. Frederick Dec. at ¶ 84; <i>see also</i> Glidden at p. 1, 2:3-10, 2:45-48; FIGS. 1, 6, 8. A POSITA at the time of the priority date of the '011 patent would have understood that Glidden is describing a weft-knitted textile element, and that fabrication of this element would have utilized circular knitting, which has been used for making socks for many decades. Frederick Dec. at ¶ 84. <u>Grounds 16-17:</u> Glidden describes fabricating a unitary knitted upper as a shaped, "sock-like" article. Frederick Dec. at ¶ 84; <i>see also</i>

	Glidden at p. 1, 2:3-10, 2:45-48; FIGS. 1, 6, 8. Uppers incorporating textile elements formed by circular knitting were well-known in the art at the time of the priority date of the '011 patent. See McDonald at p. 1, 2:26-39; Whiting at 2:39-56. It would have been obvious at the time of the priority date of the '011 patent to incorporate circular-knitted textile elements as disclosed by McDonald or Whiting into Glidden's upper. Frederick Dec. at ¶ 84. See MPEP § 2143(A), (C). <u>Ground 18:</u> As described above for claim 1, a POSITA at the time of the priority date of the '011 patent would have understood that the selection of circular knitting, a sub-type of weft knitting, is an obvious design choice or a selection from among a finite number of weft knitting techniques. Frederick Dec. at ¶ 91. <u>Grounds 19; 24; 33; 34:</u> Uppers incorporating textile elements formed by circular knitting, a sub-type of weft knitting, were well-known in the art at the time of the priority date of the '011 patent. See Whiting at 2:39-56; McDonald, at p. 1, 2:26-39. It would have been obvious at the time of the priority date of the '011 patent to incorporate circular-knitted textile elements as disclosed by McDonald or Whiting into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
15. The article of footwear recited in claim 1, wherein the weft-knitted textile element is created by flat knitting.	<u>Grounds 1-2:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include flat knitting. Frederick Dec. at ¶ 72. <u>Ground 7:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. Uppers incorporating textile elements formed by flat knitting were well-known in the art at the time of the priority date of the '011 patent. See Whiting at 2:39-56. It would have been obvious at the time of the priority date of the '011 patent to incorporate flat-knitted textile elements as disclosed by Whiting into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Ground 18:</u>

	As described above for claim 1, a POSITA at the time of the priority date of the '011 patent would have understood that the selection of flat knitting, a sub-type of weft knitting, is an obvious design choice or a selection from among a finite number of weft knitting techniques. Frederick Dec. at ¶ 91. <u>Ground 24; 34:</u> Uppers incorporating textile elements formed by flat knitting, a sub-type of weft knitting, were well-known in the art at the time of the priority date of the '011 patent. See Whiting at 2:39-56. It would have been obvious at the time of the priority date of the '011 patent to incorporate flat-knitted textile elements as disclosed by Whiting into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
24. An article of footwear comprising:	<u>Grounds 1-2:</u> Nishida discloses an article of footwear. Frederick Dec. at ¶ 72; see also Nishida at Abstract; FIG. 3. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses an article of footwear. Frederick Dec. at ¶ 91; see also Osamu at Title; [0001]; [0007].
an upper incorporating a textile element having edges that are joined together to form seams and define at least a portion of a void for receiving a foot,	<u>Grounds 1-2:</u> Nishida discloses an upper incorporating a textile element having edges that are joined together to form seams and define at least a portion of a void for receiving a foot Frederick Dec. at ¶ 72; see also Nishida at Abstract; 3:6-12; 3:31-42; FIGS. 2-3. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses an upper incorporating a textile element having edges that are joined together to define at least a portion of a void for receiving a foot. Frederick Dec. at ¶ 91; see also Osamu at [0007]; [0009]; [0010]; FIGS. 1, 3.
the seams including a first seam and a second seam, the first seam extending from a heel area to a forefoot area of the footwear along a lower surface of the upper, and the second seam extending vertically in the heel area,	<u>Grounds 1-2:</u> Nishida discloses that the seams include a first seam that extends from a heel area to a forefoot area of the footwear along a lower surface of the upper and a second seam that extends vertically in the heel area. Frederick Dec. at ¶ 72; see also Nishida at 3:31-36; 4:9-11; 5:3-13; FIGS. 2, 4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the seams include a first seam that extends from a heel area to a forefoot area of the footwear along a lower surface of the upper and a second seam that extends vertically in the heel area. Frederick Dec. at ¶ 91; see also

wherein the textile element incorporates a single type of textile having a plurality of knit constructions; and	Osamu at [0007]; [0010]; FIGS. 1, 3. <u>Grounds 1-2:</u> Nishida discloses that the textile element may be a single textile element having a plurality of knit constructions. Frederick Dec. at ¶ 72; see also Nishida at 3:15-4:18; 4:47-60; 5:41-45; 5:63-6:2; 6:4-41. <u>Ground 18:</u> Osamu discloses that the textile element may be a single textile element having a plurality of constructions. Frederick Dec. at ¶ 91; see also Osamu at [0005]; [0007]; [0009]; [0012]; claim 1. Osamu describes a woven textile element with a plurality of weave structures, rather than a knitted textile element with a plurality of knit constructions. A POSITA at the time of the priority date of the '011 patent would have understood that woven and knitted textiles are both suitable for use in uppers and the selection of one versus the other is an obvious design choice. Frederick Dec. at ¶ 91. <u>Grounds 19; 24; 29; 35; 38:</u> Osamu discloses that the textile element may be a single textile element having a plurality of constructions. Frederick Dec. at ¶ 91; see also Osamu at [0005]; [0007]; [0009]; [0012]; claim 1. Woven and knitted textiles are both suitable for use in uppers and were well-known in the art at the time of the priority date of the '011 patent. See Nishida at 1:61-62; 1:67-68; 2:42-45; 3:6-10; 3:45-52; 3:66-68; 5:63-6:2; 6:23-25; Curley at p. 7, lines 32-33; p. 8, lines 7-9; p. 16, lines 5-8. Additionally, McDonald, Whiting, and Curley each disclose an upper incorporating a weft-knitted textile element. See McDonald at p. 1, 2:26-39; Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate a knitted textile as disclosed by Nishida, Curley, Glidden, McDonald, or Whiting into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
a sole structure secured to the upper.	<u>Grounds 1-2:</u> Nishida discloses that a sole structure may be secured to the upper Frederick Dec. at ¶ 72; see also Nishida at Abstract; FIG. 3. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 91; see also Osamu at [0001], [0007],

	[0013], [0015].
25. The article of footwear recited in claim 24, wherein the footwear includes a third seam extending through the forefoot area of the upper.	<u>Grounds 1-2:</u> Nishida discloses that the footwear includes a third seam that extends through a forefoot area of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 4:19-30; FIG. 4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the footwear includes a third seam that extends through a forefoot area of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at FIG. 1.
26. The article of footwear recited in claim 24, wherein at least one of the knit constructions forms an aperture in the textile element.	<u>Grounds 1-2:</u> Nishida discloses that at least one knit construction may form a net-like structure (i.e. having apertures) in the textile element. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:43-52. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses at least one configuration may form a weave structure with high breathability (i.e. having apertures) in the textile element. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0009].
27. The article of footwear recited in claim 24, wherein the knit constructions produce varying properties in the textile element including a varying elasticity of the textile element.	<u>Grounds 1-2:</u> Nishida discloses that the knit constructions may produce varying elasticity of the textile element. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 2:26-37; 3:43-52; 6:16-31. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the knit constructions may produce varying elasticity of the textile element. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0008]; [0009].
28. The article of footwear recited in claim 24, wherein the knit constructions produce varying properties in the textile element including a varying air permeability of the textile element.	<u>Grounds 1-2:</u> Nishida discloses that the knit constructions may produce a varying air permeability of the textile element. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:43-52; 6:16-31. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the constructions may produce a varying air permeability of the textile element. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0009].
29. The article of footwear recited in claim 24, wherein the textile element is one of an exterior layer, an intermediate layer, and	<u>Grounds 1-2:</u> Nishida discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-9; 3:66-4:1; FIG. 3. <u>Grounds 18-19; 24; 29; 35; 38:</u>

an interior layer of the upper.	Osamu discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 91; see also Osamu at [0001]; [0005]; [0010]; claim 1.
30. The article of footwear recited in claim 24, wherein the textile element forms at least a portion of both an interior surface and an exterior surface of the upper.	<u>Grounds 1-2:</u> Nishida discloses that the knit textile element may form at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 72; see also Nishida at 3:6-4:46; FIG. 3. A POSITA at the time of the priority date of the '011 patent would have understood that Nishida's knit textile element and/or knit backing layer may form at least a portion of the interior and exterior surfaces of the upper. Frederick Dec. at ¶ 72. <u>Grounds 12-14:</u> Nishida discloses that the knit textile element may form at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 72; see also Nishida at 3:6-4:46; FIG. 3. Uppers having a knit textile element that forms a portion of an interior surface and an exterior surface were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim 34; p. 7, line 32-p. 8, line 5; Shiomura at 2:26-45; Glidden at FIGS. 1-2, p. 1, 2:3-32. It would have been obvious at the time of the priority date of the '011 patent to incorporate a knitted upper where the knitted material forms a portion of both interior and exterior surfaces of the upper as disclosed by Curley, Shiomura, or Glidden into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element may form at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 91; see also Osamu at [0001]; [0005]; [0010]; claim 1.
31. The article of footwear recited in claim 24, wherein the textile element forms an interior surface of the footwear, and at least one additional layer forms an	<u>Grounds 1-2:</u> Nishida discloses that the upper may include two or more layers, and that the knit textile element may form an interior surface of the upper. Frederick Dec. at ¶ 72; see also Nishida at 2:37-39; 3:6-46; 4:9-11. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's knit textile element and/or knitted backing layer may form an interior

exterior surface of the footwear.	surface of the upper, and one additional layer may form an exterior surface. Frederick Dec. at ¶ 72. <u>Grounds 12-14:</u> Nishida discloses that the upper may include two or more layers, and that the knit textile element may form an interior surface of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 2:37-39; 3:6-46; 4:9-11. Uppers incorporating knit textile elements that form an interior surface of the footwear and have at least one additional layer forming an exterior surface were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim 34; Shiomura at 2:20-35; FIG. 1; Glidden at p. 2, 1:9-19, 1:68-74; FIGS. 1, 6, 8. It would have been obvious at the time of the priority date of the '011 patent to incorporate a knit textile element that forms an interior surface, along with an additional layer forming an exterior surface, as disclosed by Curley, Shiomura, or Glidden into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element forms an interior surface of the footwear and at least one additional layer forms an exterior surface of the footwear. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0001]; [0005]; [0006]; [0010]; claim 1.
32. The article of footwear recited in claim 24, wherein at least a portion of the textile element has a weft knitted construction.	<u>Grounds 1-2:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include weft knitting. Frederick Dec. at ¶ 72. <u>Grounds 3, 7, 12:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. Uppers incorporating weft-knitted textile elements were well-known in the art at the time of the priority date of the '011 patent. See McDonald at p. 1, 2:26-39; Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate weft-knitted textile elements as disclosed by McDonald, Whiting, or Curley into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C).

	<u>Ground 18:</u> As described above for claim 24, a POSITA at the time of the priority date of the '011 patent would have understood that woven and knitted textiles are both suitable for use in uppers and the selection of one versus the other is an obvious design choice. Frederick Dec. at ¶ 91. <u>Grounds 19; 24; 29; 35; 38:</u> Woven and knitted textiles are both suitable for use in uppers and were well-known in the art at the time of the priority date of the '011 patent. See Nishida at 1:61-62; 1:67-68; 2:42-45; 3:6-10; 3:45-52; 3:66-68; 5:63-6:2; 6:23-25; Curley at p. 7, lines 32-33; p. 8, lines 7-9; p. 16, lines 5-8. Additionally, Glidden, McDonald, Whiting, and Curley discloses an upper incorporating a weft-knitted textile element. See Glidden at p. 1, 2:3-10; p. 1, 2:45-48; FIGS. 1, 6, 8; McDonald at p. 1, 2:26-39; Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate a weft-knitted textile as disclosed by Nishida, Curley, Glidden, McDonald, or Whiting into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
33. The article of footwear recited in claim 32, wherein the weft knitted construction is produced by one of circular knitting and flat knitting.	<u>Ground 1-2:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include circular knitting and/or flat knitting. Frederick Dec. at ¶ 72. <u>Grounds 3; 7:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. Uppers incorporating textile elements formed by circular knitting and/or flat knitting, both sub-types of weft knitting, were well-known in the art at the time of the priority date of the '011 patent. See McDonald at p. 1, 2:26-39; Whiting at 2:39-56. It would have been obvious at the time of the priority date of the '011 patent to incorporate circular knitted and/or flat knitted textile elements as disclosed by McDonald or Whiting into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Ground 18:</u> As described above for claim 24, a POSITA at the time of the

	priority date of the '011 patent would have understood that the selection of circular knitting and/or flat knitting, both sub-types of weft knitting, is an obvious design choice or a selection from among a finite number of weft knitting techniques. Frederick Dec. at ¶ 91. <u>Grounds 19; 24; 33-34:</u> Uppers incorporating textile elements formed by circular knitting and/or flat knitting, both sub-types of weft knitting, were well-known in the art at the time of the priority date of the '011 patent. See Whiting at 2:39-56; McDonald, at p. 1, 2:26-39. It would have been obvious at the time of the priority date of the '011 patent to incorporate circular knitted and/or flat knitted textile elements as disclosed by McDonald or Whiting into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
34. The article of footwear recited in claim 24, wherein the textile element has a warp knitted construction.	<u>Grounds 1-2:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include warp knitting. Frederick Dec. at ¶ 72. <u>Grounds 12-13:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. Uppers incorporating textile elements formed by warp knitting were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 7, lines 31-32; Shiomura at 3:4-43. It would have been obvious at the time of the priority date of the '011 patent to incorporate warp-knitted textile elements as disclosed by Curley or Shiomura into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Ground 18:</u> As described above for claim 24, a POSITA at the time of the priority date of the '011 patent would have understood that the selection of warp knitting is an obvious design choice or a selection from among a finite number of weft knitting techniques. Frederick Dec. at ¶ 91. <u>Grounds 20-21; 23; 25-26; 28-29; 36-38:</u> Uppers incorporating textile elements formed by warp knitting were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 7, lines 31-32; Shiomura at 3:4-43.

	It would have been obvious at the time of the priority date of the '011 patent to incorporate warp-knitted textile elements as disclosed by Curley or Shiomura into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
35. The article of footwear recited in claim 34, wherein the warp knitted construction is produced by a jacquard double needle-bar raschel.	<u>Ground 2:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include the use of jacquard double needle-bar raschel. Frederick Dec. at ¶ 72. <u>Ground 13:</u> Nishida discloses that a knitted textile element may be formed with a knitting machine. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 2:40-47; 4:12-18; 4:47-60; 5:63-6:2. Uppers incorporating textile elements formed by warp knitted construction and produced by a jacquard double needle-bar raschel were well-known in the art at the time of the priority date of the '011 patent. See Shiomura at 3:4-43; FIG. 5. It would have been obvious at the time of the priority date of the '011 patent to incorporate textile elements formed by warp knitted construction and produced by a jacquard double needle-bar raschel as disclosed by Shiomura into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Ground 18:</u> Osamu describes a Jacquard woven textile element, which may be formed by a weaving machine. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0005]; [0012]; [0014]. As described above for claim 24, a POSITA at the time of the priority date of the '011 patent would have understood that the selection of jacquard double needle-bar raschel, a sub-type of warp knitting, is an obvious design choice or a selection from among a finite number of warp knitting techniques. Frederick Dec. at ¶ 91. <u>Grounds 21; 26; 31; 37; 39:</u> Osamu describes a Jacquard woven textile element, which may be formed by a weaving machine. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0005]; [0012]; [0014]. Uppers incorporating textile elements formed by warp knitted construction and produced by a jacquard double needle-bar raschel were well-known in the art at the time of the priority date of the '011 patent.

	See Shiomura at 3:4-43. It would have been obvious at the time of the priority date of the '011 patent to incorporate textile elements formed by warp knitted construction and produced by a jacquard double needle-bar raschel as disclosed by Shiomura into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
36. An article of footwear comprising:	<u>Grounds 1-2:</u> Nishida discloses an article of footwear. Frederick Dec. at ¶ 72; see also Nishida at Abstract; FIG. 3. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses an article of footwear. Frederick Dec. at ¶ 91; see also Osamu at Title; [0001]; [0007].
an upper incorporating a knitted textile element formed with a knitting machine, the textile element being removed from a textile structure that includes an outline of the textile element, and	<u>Grounds 1-2:</u> Nishida discloses an upper incorporating a knitted textile element that may be formed with a knitting machine, where the textile element is removed from a textile structure that includes an outline of the textile element. Frederick Dec. at ¶ 72; see also Nishida at Abstract; 1:48-2:47; 3:6-12; 4:12-18; 4:31-42; 4:47-55; 5:63-6:2; 6:32-35; FIG. 2. <u>Ground 18:</u> Osamu discloses an upper incorporating a textile element that may be formed with a weaving machine, where the textile element is removed from a textile structure that includes an outline of the textile element. Frederick Dec. at ¶ 91; see also Osamu at [0005]; [0007]-[0009]; [0012]; [0014]; FIG. 1. Osamu describes a woven textile element, rather than a knitted textile element. A POSITA at the time of the priority date of the '011 patent would have understood that woven and knitted textiles are both suitable for use in uppers and the selection of one versus the other is an obvious design choice. Frederick Dec. at ¶ 91. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses an upper incorporating a textile element that may be formed with a weaving machine, where the textile element is removed from a textile structure that includes an outline of the textile element. Frederick Dec. at ¶ 91; see also Osamu at [0005]; [0007]-[0009]; [0012]; [0014]. Woven and knitted textiles are both suitable for use in uppers and were well-known in the art at the time of the priority date of the '011 patent. See Nishida at 1:61-62; 1:67-68; 2:42-45; 3:6-10; 3:45-52; 3:66-

	68; 5:63-6:2; 6:23-25; Curley at p. 7, lines 32-33; p. 8, lines 7-9; p. 16, lines 5-8. Additionally, Glidden, McDonald, Whiting, and Curley each disclose an upper incorporating a weft-knitted textile element. See Glidden at p. 1, 2:45-48; FIGS. 1, 6, 8; McDonald at p. 1, 2:26-39; Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate a knitted textile as disclosed by Nishida, Curley, Glidden, McDonald, or Whiting into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
the textile element having edges that are joined together to define at least a portion of a void for receiving a foot,	<u>Grounds 1-2:</u> Nishida discloses that the knitted textile element may have edges that are joined together to define at least a portion of a void for receiving a foot. Frederick Dec. at ¶ 72; see also Nishida at Abstract; 3:6-12; 3:31-42; FIGS. 2-3. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element may have edges that are joined together to define at least a portion of a void for receiving a foot. Frederick Dec. at ¶ 91; see also Osamu at [0009]; [0010]; FIGS. 1, 3.
wherein the textile element incorporates a single type of textile having a plurality of knit constructions; and	<u>Grounds 1-2:</u> Nishida discloses that the knitted textile element may be a single textile element having a plurality of knit constructions Frederick Dec. at ¶ 72; see also Nishida at 3:15-4:18; 4:47-60; 5:41-45; 5:63-6:2; 6:4-41. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element may be a single textile element having a plurality of constructions. Frederick Dec. at ¶ 91; see also Osamu at [0005]; [0007]; [0009]; [0012]; claim 1.
a sole structure secured to the upper.	<u>Grounds 1-2:</u> Nishida discloses that a sole structure may be secured to the upper Frederick Dec. at ¶ 72; see also Nishida at Abstract; FIG. 3. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 91; see also Osamu at [0001], [0007], [0013], [0015].
37. The article of footwear recited in claim 36, wherein the knitted	<u>Ground 2:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. A

textile element has a structure formed by a wide-tube circular knitting machine.	POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include wide-tube circular knitting machines. Frederick Dec. at ¶ 72. <u>Ground 3:</u> Nishida discloses that a knitted textile element may be formed with a knitting machine. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 2:40-47; 4:12-18; 4:47-60; 5:63-6:2. Uppers incorporating textile elements formed by a wide-tube circular knitting machine were well-known in the art at the time of the priority date of the '011 patent. See McDonald at p. 1, 2:26-30. It would have been obvious at the time of the priority date of the '011 patent to incorporate textile elements formed by a wide-tube circular knitting machine as disclosed by McDonald into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Ground 18:</u> Osamu discloses that a woven textile element may be formed by a weaving machine. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0012]; [0014]. As described above for claim 36, a POSITA at the time of the priority date of the '011 patent would have understood that the selection wide-tube circular knitting machine, a sub-type of weft knitting, is an obvious design choice or a selection from among a finite number of weft knitting techniques. Frederick Dec. at ¶ 91. <u>Ground 19; 33:</u> Osamu discloses that a woven textile element may be formed by a weaving machine. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0012]; [0014]. Uppers incorporating textile elements formed by a wide-tube circular knitting machine were well-known in the art at the time of the priority date of the '011 patent. See McDonald at p. 1, 2:26-30. It would have been obvious at the time of the priority date of the '011 patent to incorporate textile elements formed by a wide-tube circular knitting machine as disclosed by McDonald into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
38. The article of footwear recited in claim 36, wherein the knitted textile element has a structure formed by a	<u>Ground 2:</u> Nishida discloses the use of "conventional" knitting processes to form the textile element of the upper. Frederick Dec. at ¶ 72. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to

jacquard double needle-bar raschel knitting machine.	include the use of jacquard double needle-bar raschel knitting machines. Frederick Dec. at ¶ 72. <u>Ground 13:</u> Nishida discloses that a knitted textile element may be formed with a knitting machine. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 2:40-45; 4:15-19. Uppers incorporating textile elements formed by warp knitted construction and produced by a jacquard double needle-bar raschel knitting machine were well-known in the art at the time of the priority date of the '011 patent. See Shiomura at 3:4-43. It would have been obvious at the time of the priority date of the '011 patent to incorporate textile elements formed by warp knitted construction and produced by a jacquard double needle-bar raschel knitting machine as disclosed by Shiomura into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Grounds 18; 21; 26; 31; 37; 39:</u> Osamu describes a Jacquard woven textile element, which may be formed by a weaving machine. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0005]; [0012]; [0014]. Uppers incorporating textile elements formed by warp knitted construction and produced by a jacquard double needle-bar raschel knitting machine were well-known in the art at the time of the priority date of the '011 patent. See Shiomura at 3:4-43. It would have been obvious at the time of the priority date of the '011 patent to incorporate textile elements formed by warp knitted construction and produced by a jacquard double needle-bar raschel as disclosed by Shiomura into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
39. The article of footwear recited in claim 36, wherein the edges include a pair of first edges that are joined to form a first seam extending longitudinally along a lower region of the upper.	<u>Grounds 1-2:</u> Nishida discloses that edges of the knit textile element may include a pair of first edges that are joined to form a first seam extending longitudinally along a lower region of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 5:3-13; FIG. 4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that edges of the textile element may include a pair of first edges that are joined to form a first seam extending longitudinally along a lower region of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0007]; FIG. 1.
40. The article of footwear recited in claim	<u>Grounds 1-2:</u> Nishida discloses that edges of the knit textile element may also

39, wherein the edges include a pair of second edges that are joined to form a second seam extending along a heel region of the upper.	include a pair of second edges that are joined to form a second seam extending along a heel region of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:31-36; 4:9-11; FIGS. 2, 4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that edges of the textile element may also include a pair of second edges that are joined to form a second seam extending along a heel region of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0010]; FIGS. 1, 3.
41. The article of footwear recited in claim 40, wherein the edges include at least a pair of third edges that are joined to form a second [third?] seam extending through a forefoot area of the upper.	<u>Grounds 1-2:</u> Nishida discloses that edges of the knit textile element may also include a pair of third edges that are joined to form a third seam extending through a forefoot area of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 4:19-30; FIG. 4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that edges of the textile element may also include a pair of third edges that are joined to form a third seam extending through a forefoot area of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at FIG. 1.
42. The article of footwear recited in claim 36, wherein the knitted textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper.	<u>Grounds 1-2:</u> Nishida discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-9; 3:66-4:1; FIG. 3. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0001]; [0005]; [0010]; claim 1.
43. The article of footwear recited in claim 36, wherein the knitted textile element forms an interior surface of the upper.	<u>Grounds 1-2:</u> Nishida discloses that the knit textile element may form an interior surface of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-46. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's knit textile element and/or knitted backing layer may form an interior surface of the upper. Frederick Dec. at ¶ 72. <u>Grounds 12-14:</u> Nishida discloses that the knit textile element may form an interior surface of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-46. Uppers incorporating knit textile elements that form an interior surface of the upper were well-known in the art

at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim 34; Shiomura at 2:26-45; Glidden at FIGS. 1-2, p. 1, 2:3-32. It would have been obvious at the time of the priority date of the '011 patent to incorporate a knit textile element that forms an interior surface of the upper as disclosed by Curley, Shiomura, or Glidden into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C).

Grounds 18-19; 24; 29; 35; 38:

Osamu discloses that the knit textile element forms an interior surface of the upper. Frederick Dec. at ¶ 91; see *also* Osamu at [0001]; [0005]; [0010]; claim 1.

B. “Textile Element Having A First Area And A Second Area With A Unitary Construction, The First Area Being Formed Of A First Stitch Configuration, And The Second Area Being Formed Of A Second Stitch Configuration That Is Different From The First Stitch Configuration To Impart Varying Properties To The Textile Element” in Claims 16-23

As discussed above, the Applicants argued that the prior art of record did not teach a textile element having first and second areas that each has a different stitch configuration to impart varying properties to each area of the textile element as the sole basis for distinguishing claim 16 over the prior art of record. ('011 file history (Ex. 1003), at 01/12/2007 Response, pp. 10-12). Because the next action from the PTO was a Notice of Allowance, the Examiner appears to have relied on this ground as the reason for allowance of claim 16.

Yet, several prior art references, which were not before the Examiner or apparently were not applied by the Examiner for this feature during prosecution, teach textile elements having first and second areas that each has a different stitch configuration to impart varying properties to each area of the textile element as required by claim 16. For example,

Nishida, Glidden, and Osamu all disclose textile elements having first and second areas that each has a different stitch configuration to impart varying properties to each area of the textile element. (Frederick Dec. (Ex. 1001), ¶¶ 68, 72, 81, 84, 88-89, 91). For example, Glidden states:

In fabricating the unitary upper, as by knitting, areas thereof which are normally subjected to greater wear and in which a lower degree of elasticity is desired, such as the toe 11 and the heel portion 12, may be more densely fabricated to provide therein heavier weight and less extensibility than in the other parts of the upper, as by changing the type of stitch or amount [of] thickness of the yarn in the knitting. Other areas, such as the ankle portion 13, are preferably made so as to provide softness and elasticity, as by making them of ribbed construction, as shown.

(Glidden (Ex. 1007), p. 1, col. 2, ll. 33-44).

The use of textile elements having a first area and a second area with a unitary construction, the first area being formed of a first stitch configuration, and the second area being formed of a second stitch configuration that is different from the first stitch configuration to impart varying properties to the textile element was well-known in the art at the time of the priority date of the '011 patent.

As set forth in the claim charts below, Nishida, Glidden, and Osamu anticipate or, at the very least, render obvious claims 16-23 of the '011 patent, alone or in combination. Regarding various combinations of prior art, the '011 patent claims merely recite the combination of "prior art elements according to known methods to yield predictable results"

and/or the “[u]se of known technique[s] to improve similar devices (methods, or products) in the same way.” See MPEP § 2143 (A, C). For example, a person of ordinary skill in the art would have understood that using a knitted textile element having first and second areas that each has a different stitch configuration to impart varying properties to each area of the textile element was a well-known endeavor among those in the textile industry. (Frederick Dec. (Ex. 1001), ¶¶ 72, 84, 91). With regard to the other recited elements in claim 16, it is undisputed the prior art discloses the combination of these features in uppers for an article of footwear.

Moreover, one of ordinary skill in the art would have understood and expected the benefits of using a knitted textile element having first and second areas that each has a different stitch configuration to impart varying properties to each area of the textile element with such an upper – that is, that a knitted textile element having first and second areas that each has a different stitch configuration to impart varying properties to each area of the textile element would provide the advantages of different properties in the shoe upper, such as breathability and elasticity, while increasing the efficiency of the manufacturing process. (’011 patent (Ex. 1002), 2:62-3:16; 11:12-18). Specifically, the prior art references cited in Section VI.A above teach the construction of and/or process for constructing a knitted shoe upper. The common teachings of these prior art references show that it would have been obvious for a person of ordinary skill in the art to combine their teachings in designing a knitted shoe upper to achieve the claimed features of the ’011 patent. Thus, claims 16-23 of

the '011 patent are not patentable in view of the above-noted references considered individually or in combination.

'011 Patent Claims	Description of Prior Art
16. An article of footwear comprising:	<u>Grounds 1-3; 7; 12:</u> Nishida discloses an article of footwear. Frederick Dec. at ¶ 72; see also Nishida at Abstract; FIG. 3. <u>Grounds 15-17:</u> Glidden discloses an article of footwear. Frederick Dec. at ¶ 84; see also Glidden at Title; p. 1, 1:1-4. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses an article of footwear. Frederick Dec. at ¶ 91; see also Osamu at Title; [0001]; [0007].
an upper incorporating a weft-knitted textile element, the textile element having a first area and a second area with a unitary construction,	<u>Grounds 1-2:</u> Nishida discloses an upper incorporating a knit textile element having first and second areas with a unitary construction. Frederick Dec. at ¶ 72; see also Nishida at Abstract; 3:6-12; 3:15-26; 4:12-18; FIGS. 2-3. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include weft knitting. Frederick Dec. at ¶ 72. <u>Grounds 3; 7; 12:</u> Nishida discloses an upper incorporating a knit textile element having first and second areas with a unitary construction. Frederick Dec. at ¶ 72; see also Nishida at Abstract; 3:6-12; 3:15-26; 4:12-18; FIGS. 2-3. Uppers incorporating weft-knitted textile elements were well-known in the art at the time of the priority date of the '011 patent. See McDonald at p. 1, 2:26-39; Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate weft-knitted textile elements as disclosed by McDonald, Whiting, or Curley into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Ground 15:</u> Glidden discloses an upper incorporating a knit textile element having first and second areas with a unitary construction. Frederick Dec. at ¶ 84; see also Glidden at p. 1, 2:3-10; p. 1, 2:33-44; p. 1, 2:45-48; FIGS. 1, 6, 8. A POSITA at the time of the priority date of the '011 patent would have understood that

Glidden is describing and showing a weft-knitted textile element. Frederick Dec. at ¶ 84.

Grounds 16-17:

Glidden discloses an upper incorporating a knit textile element having first and second areas with a unitary construction. Frederick Dec. at ¶ 84; see also Glidden at p. 1, 2:3-10; p. 1, 2:33-44; p. 1, 2:45-48; FIGS. 1, 6, 8. Uppers incorporating weft-knitted textile elements were well-known in the art at the time of the priority date of the '011 patent. See McDonald at p. 1, 2:26-39; Whiting at 2:39-56. It would have been obvious at the time of the priority date of the '011 patent to incorporate weft-knitted textile elements as disclosed by McDonald or Whiting into Glidden's upper. Frederick Dec. at ¶ 84. See MPEP § 2143(A), (C).

Ground 18:

Osamu discloses an upper incorporating a textile element having first and second areas with a unitary construction. Frederick Dec. at ¶ 91; see also Osamu at [0005]; [0007]; [0009]-[0012]; claim 1; FIGS. 1, 3. Osamu describes a woven textile element, rather than a weft-knitted textile element. A POSITA at the time of the priority date of the '011 patent would have understood that woven and knitted textiles are both suitable for use in uppers and the selection of one versus the other is an obvious design choice. Frederick Dec. at ¶ 91.

Grounds 18-19; 24; 29; 35; 38:

Osamu discloses an upper incorporating a textile element having first and second areas with a unitary construction. Frederick Dec. at ¶ 91; see also Osamu at [0005]; [0007]; [0009]-[0012]; claim 1; FIGS. 1, 3. Woven and knitted textiles are both suitable for use in uppers and were well-known in the art at the time of the priority date of the '011 patent. See Nishida at 1:61-62; 1:67-68; 2:42-45; 3:6-10; 3:45-52; 3:66-68; 5:63-6:2; 6:23-25; Curley at p. 7, lines 32-33; p. 8, lines 7-9; p. 16, lines 5-8. Additionally, Glidden, McDonald, Whiting, and Curley each disclose an upper incorporating a weft-knitted textile element. See Glidden at p. 1, 2:45-48; FIGS. 1, 6, 8; McDonald at p. 1, 2:26-39; Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate a weft-knitted textile as disclosed by Nishida, Curley, Glidden, McDonald, or

	Whiting into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
the first area being formed of a first stitch configuration, and the second area being formed of a second stitch configuration that is different from the first stitch configuration to impart varying properties to the textile element; and	<u>Grounds 1-2:</u> Nishida discloses that the first and second areas may be formed of different stitch configurations to impart varying properties to the textile element. Frederick Dec. at ¶ 72; see also Nishida at 3:15-4:18; 4:47-60; 5:41-45; 5:63-6:2; 6:4-41. A POSITA at the time of the priority date of the '011 patent would have understood that varying stitch configurations to impart different properties to two different areas is an obvious design choice or a selection from among a finite number of techniques to do so. Frederick Dec. at ¶ 72. <u>Grounds 3; 7; 12:</u> Nishida discloses that the first and second areas may be formed of different stitch configurations to impart varying properties to the textile element. Frederick Dec. at ¶ 72; see also Nishida at 3:15-4:18; 4:47-60; 5:41-45; 5:63-6:2; 6:4-41. Uppers incorporating different stitch configurations to impart varying properties to a textile element were well-known in the art at the time of the priority date of the '011 patent. See Glidden at p. 1, 2:33-44; See McDonald at p. 1, 2:26-49; FIG. 1. It would have been obvious at the time of the priority date of the '011 patent to incorporate uppers with different stitch configurations as disclosed by Glidden or McDonald into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Grounds 15-17:</u> Glidden discloses that the first and second areas may be formed of different stitch configurations to impart varying properties to the textile element. Frederick Dec. at ¶ 84; see also Glidden at p. 1, 2:33-44; FIGS. 1, 2, 6. <u>Ground 18:</u> Osamu discloses that the first and second areas may be formed of different stitch configurations to impart varying properties to the textile element. Frederick Dec. at ¶ 91; see also Osamu at [0005]; [0007]; [0009]; claim 1. A POSITA at the time of the priority date of the '011 patent would have understood that varying stitch configurations to impart different properties to two different areas is an obvious design choice or a selection from among a finite number of techniques to do so.

	Frederick Dec. at ¶ 91. <u>Grounds 19; 24; 29; 35; 38:</u> Osamu discloses that the first and second areas may be formed of different stitch configurations to impart varying properties to the textile element. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0005]; [0007]; [0009]; claim 1. Uppers incorporating different stitch configurations to impart varying properties to a textile element were well-known in the art at the time of the priority date of the '011 patent. See Glidden at p. 1, 2:33-44; McDonald at p. 1, 2:26-49; FIG. 1; Nishida at 3:15-26; 3:43-52; 5:41-45. It would have been obvious at the time of the priority date of the '011 patent to incorporate uppers with different stitch configurations as disclosed by Glidden, McDonald, or Nishida into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
a sole structure secured to the upper.	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at Abstract; 4:39-46; FIG. 3. <u>Grounds 15-17:</u> Glidden discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 2, 1:9-19, 2:8-15, 2:23-30; FIGS. 1, 6. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0001], [0007], [0013], [0015].
17. The article of footwear recited in claim 16, wherein the first stitch configuration provides a substantially smooth texture to the first area, and the second stitch configuration provides a texture to the second area that is rougher than the smooth texture.	<u>Grounds 3; 10; 11; 19; 27; 32-33; 35:</u> Uppers with a first stitch configuration that provides a substantially smooth texture to the first area, and a second stitch configuration that provides a texture to the second area that is rougher than the smooth texture were well-known in the art at the time of the priority date of the '011 patent. See Glidden at p. 1, 2:35-44; McDonald, p. 1, 2:26-49; FIG. 1. It would have been obvious at the time of the priority date of the '011 patent to incorporate the stitch configurations as disclosed by Glidden or McDonald into Nishida's or Osamu's upper. Frederick Dec. at ¶¶ 72, 91. See MPEP § 2143(A), (C). <u>Grounds 15-17:</u> Glidden discloses that the first stitch configuration provides a

	substantially smooth texture to the first area, and the second stitch configuration provides a texture to the second area that is rougher than the smooth texture. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 2:33-44; FIGS. 1, 2, 6.
18. The article of footwear recited in claim 17, wherein the second stitch configuration forms a rib structure in the second area.	<u>Grounds 3; 10; 11; 19; 27; 32-33; 35:</u> Uppers with a first stitch configuration that provides a substantially smooth texture to the first area, and a second stitch configuration that forms a rib structure were well-known in the art at the time of the priority date of the '011 patent. See Glidden at p. 1, 2:35-44; FIGS. 1, 2, 6; McDonald at p. 1, 2:26-49; FIG. 1. It would have been obvious at the time of the priority date of the '011 patent to incorporate the stitch configurations as disclosed by Glidden or McDonald into Nishida's or Osamu's upper. Frederick Dec. at ¶¶ 72, 91. See MPEP § 2143(A), (C). <u>Grounds 15-17:</u> Glidden discloses that the second stitch configuration forms a rib structure in the second area. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 2:33-44.
19. The article of footwear recited in claim 16, wherein at least one of the first stitch configuration and the second stitch configuration forms an aperture in the weft-knitted textile element.	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that at one stitch configuration may form a net-like structure (i.e. having apertures) in the knit textile element. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:43-52; 6:25-31. <u>Grounds 15-17:</u> Glidden discloses that at least one stitch configuration may have high porosity for good ventilation (i.e., apertures) in the knitted textile element. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 1:25-30; p. 2, 2:40-53; claims 1-5. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses at least one stitch configuration may form a weave structure with high breathability (i.e. having apertures) in the textile element. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0009].
20. The article of footwear recited in claim 16, wherein the weft-knitted textile element is one of an exterior layer, an intermediate layer, and an interior layer of	<u>Grounds 1-3; 7; 12:</u> Nishida discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-9; 3:66-4:1; FIG. 3. <u>Grounds 15-17:</u> Glidden discloses that the knit textile element may at least be

the upper.	an exterior layer of the upper (see FIG. 1) and/or an interior layer of the upper. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 2:3-23; p. 2, 1:68-74; FIGS. 1-3, 6-8. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0001]; [0005]; [0010]; claim 1.
21. The article of footwear recited in claim 16, wherein the upper includes an exterior layer, an intermediate layer, and an interior layer, and the weft-knitted textile element forms at least a portion of the interior layer.	<u>Grounds 1-2:</u> Nishida discloses that the upper may include two or more layers, and the knit textile element may form at least a portion of the interior layer. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-9; 3:62-4:1. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's use of two or more layers to include three layers, and that the knit textile element and/or knitted backing layer of the textile element forms a portion of the interior layer. Frederick Dec. at ¶ 72. <u>Grounds 4-5; 8-9; 12-13:</u> Nishida discloses that the upper may include two or more layers, and the knit textile element may form at least a portion of the interior layer. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-9; 3:13-15; 3:62-4:1. Uppers incorporating three layers, wherein a knit textile element forms a portion of an inner layer and an outer layer were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim 34; p. 7, line 32-p. 8, line 5; Shiomura at 2:26-45. It would have been obvious at the time of the priority date of the '011 patent to incorporate three layers, wherein a knit textile element forms a portion of an inner layer and an outer layer as disclosed by Curley or Shiomura into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Grounds 15-17:</u> Glidden discloses that the knit textile element may at least be an exterior layer of the upper and/or an interior layer of the upper. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 2:3-23; p. 2, 1:9-19; p. 2, 1:68-74; FIGS. 1-2. <u>Ground 18:</u> Osamu discloses that the upper may include two or more layers, and the knit textile element may form at least a portion of the interior layer. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at

	[0001]; [0005]; [0006]; [0010]; claim 1. A POSITA at the time of the priority date of the '011 patent would have understood Osamu's use of two or more layers to include three layers, and that the textile element forms a portion of the interior layer. Frederick Dec. at ¶ 91. <u>Grounds 20-21; 25-26; 30-31; 36-38:</u> Osamu discloses that the upper may include two or more layers, and the knit textile element may form at least a portion of the interior layer. Frederick Dec. at ¶ 91; see also Osamu at [0001]; [0005]; [0006]; [0010]; claim 1. Uppers incorporating three layers, wherein a knit textile element forms a portion of an inner layer and an outer layer were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim 34; p. 7, line 32-p. 8, line 5; Shiomura at 2:26-45. It would have been obvious at the time of the priority date of the '011 patent to incorporate three layers, wherein a knit textile element forms a portion of an inner layer and an outer layer as disclosed by Curley or Shiomura into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
22. The article of footwear recited in claim 16, wherein the textile layer forms at least a portion of both the interior surface and an exterior surface of the upper.	<u>Grounds 1-2:</u> Nishida discloses that the knit textile element may form at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 72; see also Nishida at 3:6-4:46; FIG. 3. A POSITA at the time of the priority date of the '011 patent would have understood that Nishida's knit textile element and/or knit backing layer may form at least a portion of the interior and exterior surfaces of the upper. Frederick Dec. at ¶ 72. <u>Grounds 4-6; 8-10; 12-14:</u> Nishida discloses that the knit textile element may form at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 72; see also Nishida at 3:6-4:46; FIG. 3. See Curley at p. 6, lines 30-32; p. 30, claim 34; p. 7, line 32-p. 8, line 5; Shiomura at 2:26-45; Glidden at FIGS. 1-2, p. 1, 2:3-32. It would have been obvious at the time of the priority date of the '011 patent to incorporate a knitted upper where the knitted material forms a portion of both interior and exterior surfaces of the upper as disclosed by Curley, Shiomura, or Glidden into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C).

	<u>Grounds 15-17:</u> Glidden discloses that the knit textile element forms at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 2:3-23; p. 2, 1:68-74; FIGS. 1-3, 6-8. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the textile element may form at least a portion of an interior surface and an exterior surface of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0001]; [0005]; [0010]; claim 1.
23. The article of footwear recited in claim 16, wherein the weft-knitted textile element forms an interior surface of the upper.	<u>Grounds 1-2:</u> Nishida discloses that the knit textile element may form an interior surface of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-46. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's knit textile element and/or knitted backing layer may form an interior surface of the upper. Frederick Dec. at ¶ 72. <u>Grounds 4-6; 8-10; 12-14:</u> Nishida discloses that the knit textile element may form an interior surface of the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:6-46. Uppers incorporating knit textile elements that form an interior surface of the upper were well-known in the art at the time of the priority date of the '011 patent. See Curley at p. 6, lines 30-32; p. 30, claim; Shiomura at 2:26-45; Glidden at FIGS. 1-2, p. 1, 2:3-32. It would have been obvious at the time of the priority date of the '011 patent to incorporate a knit textile element that forms an interior surface of the upper as disclosed by Curley, Shiomura, or Glidden into Nishida's upper. Frederick Dec. at ¶ 72. See MPEP § 2143(A), (C). <u>Grounds 15-17:</u> Glidden discloses that the knit textile element forms an interior surface of the upper. Frederick Dec. at ¶ 84; see <i>also</i> Glidden at p. 1, 2:3-23; p. 2, 1:68-74; FIGS. 1-3, 6-8. <u>Grounds 18-19; 24; 29; 35; 38:</u> Osamu discloses that the knit textile element forms an interior surface of the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0001]; [0005]; [0010]; claim 1.

C. “Textile Element Having A First Area With A First Unitary Construction And A Second Area With A Second Unitary Construction Different From The First Unitary Construction” in Claims 44-46

The '011 specification states that “[m]any conventional articles of footwear incorporate uppers with various material elements that each exhibit different properties. For example, a first material element may be smooth, and a second material element may be textured. The first and second material elements are then stitched together to form a portion of the conventional upper. Textile element 40’ also exhibits smooth and textured areas. In contrast with the conventional upper, however, **first texture 46’ and second texture 47’ are incorporated into a single, unitary element of textile**, rather than two separate elements that are stitched or otherwise joined together.” (’011 patent (Ex. 1002) 9:25-35 (emphasis added)).

As discussed above, the Applicants amended independent claim 44 to require “the flat-knitted textile element having a first area with a first unitary construction and a second area with a second unitary construction different from the first unitary construction.” (’011 file history (Ex. 1003), at 01/12/2007 Response, p. 8).

The Applicants relied on this element as the sole basis for distinguishing claim 44 over U.S. Patent No. 6,308,438 to Throneburg (“Throneburg”). (’011 file history (Ex. 1003), at 01/12/2007 Response, p. 10. The Applicants relied on language from the original claim, stating that U.S. Patent No. 1,888,172 to Joha (“Joha”) does not have “a first area having a first set of properties and a second area having a second set of properties that is different

from the first set of properties” as the sole basis for distinguishing claim 44 over Joha. (*Id.*). Because the next action from the PTO was a Notice of Allowance, the Examiner appears to have relied on this ground as the reason for allowance of claim 44 over Throneburg.

Yet, several prior art references, which were not before the Examiner or were not applied by the Examiner for this feature during prosecution, teach textile elements having a first area with a first unitary construction and a second area with a second unitary construction different from the first unitary construction as required by claim 44. For example, Nishida and Osamu each disclose textile elements having a unitary construction with two areas, each area having a different construction. (Frederick Dec. (Ex. 1001), ¶¶ 72, 91).

As demonstrated by the various references that either were not before the Examiner or were not applied by the Examiner for this feature during prosecution of the '011 patent, the use of textile elements with a unitary construction with a first area and a second area with a different construction from the first area, as well as flat-knitted textile elements having a first area having a first set of properties and a second area having a second set of properties that is different from the first set of properties, were well-known in the art at the time of the priority date of the '011 patent.

As set forth in the claim charts below, Nishida and Osamu anticipate or, at the very least, render obvious claims 44-46 of the '011 patent, alone or in combination with other prior art. Regarding various combinations of prior art, the '011 patent claims merely recite

the combination of “prior art elements according to known methods to yield predictable results” and/or the “[u]se of known technique[s] to improve similar devices (methods, or products) in the same way.” See MPEP § 2143 (A, C). For example, a person of ordinary skill in the art would have understood that using flat-knitted textile elements having a unitary construction with a first area construction different from a second area construction, as well as flat-knitted textile elements having a first area having a first set of properties and a second area having a second set of properties that is different from the first set of properties was a well-known endeavor among those in the textile industry. (Frederick Dec. (Ex. 1001), ¶¶ 72, 91). The prior art unquestionably discloses the combination of the other recited elements of claim 44 in uppers for an article of footwear.

Moreover, one of ordinary skill in the art would have understood and expected the benefits of using (a) unitary, flat-knitted textile elements having two areas with different constructions, as well as (b) flat-knitted textile elements having a first area having a first set of properties and a second area having a second set of properties that is different from the first set of properties with such an upper, would provide the advantages of different properties in the shoe upper, such as breathability and elasticity, while increasing the efficiency of the manufacturing process. Specifically, the prior art references cited in Section VI.A above teach the construction of and/or process for constructing a knitted shoe upper. The common teachings of these prior art references show that it would have been obvious for a person of ordinary skill in the art to combine their teachings in designing a knitted shoe

upper to achieve the claimed features of the '011 patent. Thus, claims 44-46 of the '011 patent are not patentable in view of the above-noted references considered individually or in combination.

'011 Patent Claims	Description of Prior Art
44. An article of footwear comprising:	<u>Grounds 1-2; 7; 12:</u> Nishida discloses an article of footwear. Frederick Dec. at ¶ 72; <i>see also</i> Nishida at Abstract; FIG. 3. <u>Grounds 18; 24; 29; 38:</u> Osamu discloses an article of footwear. Frederick Dec. at ¶ 91; <i>see also</i> Osamu at Title; [0001]; [0007].
an upper incorporating a flat-knitted textile element, the flat-knitted textile element having a first area with a first unitary construction and a second area with a second unitary construction different from the first unitary construction,	<u>Grounds 1-2:</u> Nishida discloses an upper incorporating a knit textile element having first and second areas having constructions that are different. Frederick Dec. at ¶ 72; <i>see also</i> Nishida at Abstract; 3:6-12; 3:15-26; 3:31-42; 4:12-18; FIGS. 2-3. A POSITA at the time of the priority date of the '011 patent would have understood Nishida's conventional knitting processes to include flat knitting. Frederick Dec. at ¶ 72. <u>Grounds 7; 12:</u> Nishida discloses an upper incorporating a knit textile element having first and second areas having constructions that are different. Frederick Dec. at ¶ 72; <i>see also</i> Nishida at Abstract; 3:6-12; 3:15-26; 3:31-42; 4:12-18; FIGS. 2-3. Uppers incorporating textile elements formed by flat knitting were well-known in the art at the time of the priority date of the '011 patent. <i>See</i> Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate flat-knitted textile elements as disclosed by Whiting or Curley into Nishida's upper. Frederick Dec. at ¶ 72. <i>See</i> MPEP § 2143(A), (C). <u>Ground 18:</u> Osamu discloses an upper incorporating a woven textile element having first and second areas having constructions that are different. Frederick Dec. at ¶ 91; <i>see also</i> Osamu at [0005]; [0007]; [0009]-[0012]; claim 1; FIGS. 1, 3. A POSITA at the time of the priority date of the '011 patent would have understood that the selection of flat knitting, a sub-type of weft knitting, is an

	obvious design choice or a selection from among a finite number of weft knitting techniques. Frederick Dec. at ¶ 91. <u>Grounds 24; 29; 38:</u> Osamu discloses an upper incorporating a woven textile element having first and second areas having constructions that are different. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0005]; [0007]; [0009]-[0012]; claim 1; FIGS. 1, 3. Woven and knitted textiles are both suitable for use in uppers and were well-known in the art at the time of the priority date of the '011 patent. See Nishida at 1:61-62; 1:67-68; 2:42-45; 3:6-10; 3:45-52; 3:66-68; 5:63-6:2; 6:23-25; Curley at p. 7, lines 32-33; p. 8, lines 7-9; p. 16, lines 5-8. Additionally, Nishida, Whiting, and Curley each disclose an upper incorporating a weft-knitted textile element. See Nishida at 3:6-12; Whiting at 2:39-56; Curley at p. 7, line 32-p. 8, line 25. It would have been obvious at the time of the priority date of the '011 patent to incorporate flat-knitted textile elements as disclosed by Nishida, Whiting, or Curley into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
the first area having a first set of properties, and the second area having a second set of properties that is different from the first set of properties to impart varying characteristics to the textile element; and	<u>Grounds 1-2; 7; 12:</u> Nishida discloses that the first and second areas may have different properties that impart varying properties to the textile element. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at 3:15-4:18; 4:47-60; 5:41-45; 5:63-6:2; 6:4-41. <u>Grounds 18; 24; 29; 38:</u> Osamu discloses that the first and second areas may have different properties that impart varying properties to the textile element. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0005]; [0007]; [0009]; claim 1; FIGS. 1, 3.
a sole structure secured to the upper.	<u>Grounds 1-2; 7; 12:</u> Nishida discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 72; see <i>also</i> Nishida at Abstract; 4:39-46; FIG. 3. <u>Grounds 18; 24; 29; 38:</u> Osamu discloses that a sole structure may be secured to the upper. Frederick Dec. at ¶ 91; see <i>also</i> Osamu at [0001], [0007], [0013], [0015].
45. The article of footwear recited in claim 44, wherein the first set	<u>Grounds 1-2; 7; 12:</u> Nishida discloses that the first and second areas may have different stitch configurations and/or yarn types. Frederick Dec.

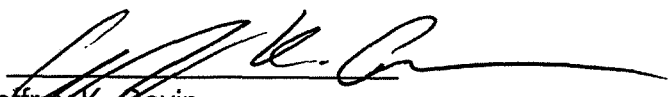
of properties and the second set of properties are at least one of a stitch configuration and a yarn type.	at ¶ 72; see also Nishida at 3:15-26; 3:43-52; 5:63-6:2. <u>Ground 18:</u> Osamu discloses that the first and second areas may have different stitch configurations and/or yarn types. Frederick Dec. at ¶ 91; see also Osamu at [0007]; [0009]. A POSITA at the time of the priority date of the '011 patent would have understood that varying stitch configurations and/or yarn types to impart different properties to two different areas is an obvious design choice or a selection from among a finite number of techniques to do so. Frederick Dec. at ¶ 91. <u>Grounds 27-29:</u> Osamu discloses that the first and second areas may have different stitch configurations and/or yarn types. Frederick Dec. at ¶ 91; see also Osamu at [0007]; [0009]. Uppers incorporating different stitch configurations and/or yarn types to impart varying properties to a textile element were well-known in the art at the time of the priority date of the '011 patent. See Glidden at p. 1, 2:33-44; McDonald at p. 1, 2:26-49; FIG. 1; Nishida at 3:15-26; 3:43-52; 5:41-45. It would have been obvious at the time of the priority date of the '011 patent to incorporate uppers with different stitch configurations and/or yard types as disclosed by Glidden, McDonald, or Nishida into Osamu's upper. Frederick Dec. at ¶ 91. See MPEP § 2143(A), (C).
46. The article of footwear recited in claim 44, wherein the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper.	<u>Grounds 1-2; 7; 12:</u> Nishida discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 72; see also Nishida at 3:6-9; 3:66-4:1; FIG. 3. <u>Grounds 18; 24; 29; 38:</u> Osamu discloses that the textile element is one of an exterior layer, an intermediate layer, and an interior layer of the upper. Frederick Dec. at ¶ 91; see also Osamu at [0001]; [0005]; [0010]; claim 1.

VII. CONCLUSION

The prior art references identified in this Petition contain pertinent technological teachings, either explicitly or inherently disclosed, that were not previously considered in the manner presented herein or applied during original examination of the '011 patent. At least by virtue of disclosing the limitations that served as the basis for the allowance of the claims at issue, the references relied upon herein should be considered important in determining patentability. In sum, these references provide new, non-cumulative technological teachings not previously considered and relied upon on the record, and they establish a reasonable likelihood of success as to Petitioner's assertions that claims 1-46 of the '011 patent are not patent eligible pursuant to the grounds presented in this Petition. Accordingly, Petitioner respectfully requests institution of *inter partes* review for claims 1-46 of the '011 patent for each of the grounds presented herein.

Respectfully submitted,

Dated: Nov. 28, 2012

By: 

Geoffrey K. Gavin

Reg. No. 47,591

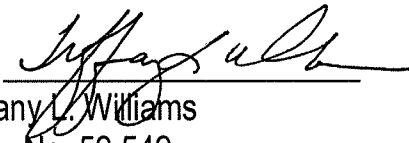
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CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.8(e) and 42.105(b), the undersigned certifies that on November 28, 2012, a complete and entire copy of this Petition for *Inter Partes* Review and all supporting exhibits were provided via Express Mail, costs prepaid, to the Patent Owner by serving the correspondence address of record as follows:

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U.S. Patent No. 7,347,011
Petition For *Inter Partes* Review
Petitioner Power of Attorney

Paper No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

adidas AG
Petitioner

V.

Nike, Inc.
Patent Owner

Patent No. 7,347,011
Filing Date: March 3, 2004
Issue Date: March 25, 2008
Title: ARTICLE OF FOOTWEAR HAVING A TEXTILE UPPER

Inter Partes Review No. Unassigned

PETITIONER POWER OF ATTORNEY

U.S. Patent No. 7,347,011
Petition For *Inter Partes* Review
Petitioner Power of Attorney

PETITIONER POWER OF ATTORNEY

Petitioner, adidas AG, hereby appoints the following as its attorneys to transact all business in the United States Patent & Trademark Office associated with the above-captioned *inter partes* review:

Lead Counsel	Back-Up Counsel
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The individual signing below has the authority to execute this document on behalf of adidas AG.

Dated: 22/11/12

By: 

Name T S J BEFFAN
Title - adidas AG

GENERAL COUNSEL GROUP IP