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(54) **SLIP-ON FOOTWEAR SYSTEM**

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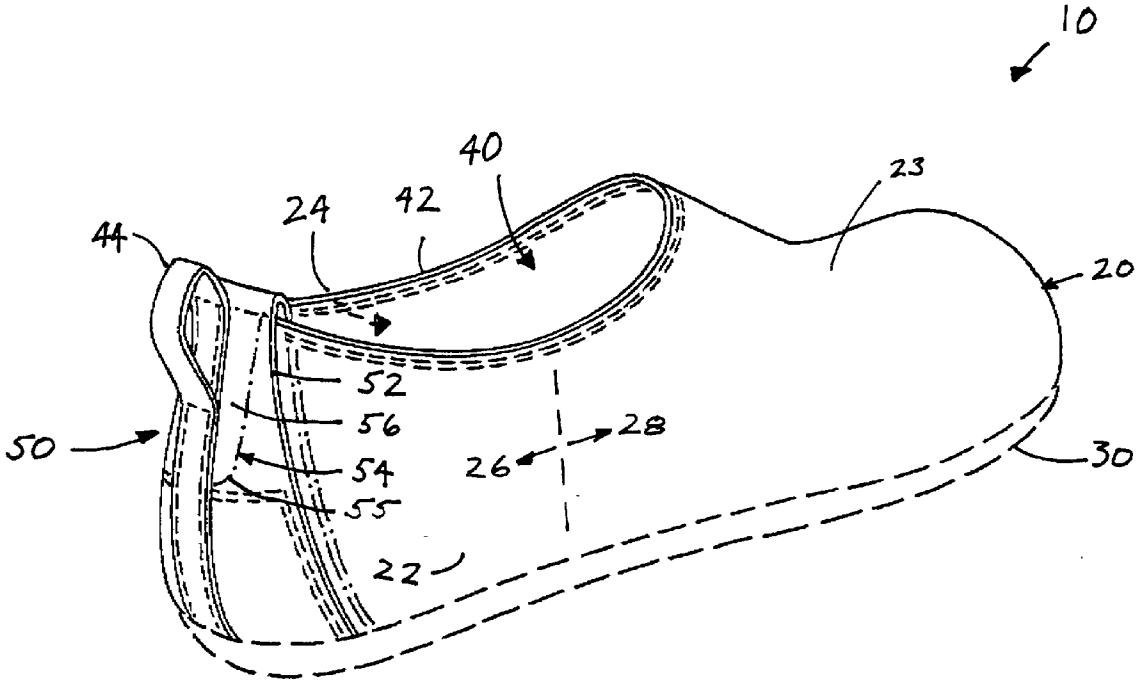
(57) **ABSTRACT**

A slip-on footwear system including an upper that defines an elasticized gore in the heel portion of the footwear. In the heel portion of the footwear, one or more upper panels cooperate to define a recess, also referred to as a gore, which is bounded by a perimeter. An elastic panel is secured along the perimeter and cooperates with the one or more upper panels to further define an opening through which a foot is inserted into the upper. The elastic panel is stretchable and resilient so that when a user inserts their foot into the footwear, the gore opens-up, which in turn enlarges the opening. A heel flap may be secured to the upper panels in the heel region below the gore to conceal the gore and elastic panel, without inhibiting the stretch of the elastic panel. The heel flap may also add structural rigidity to the footwear.



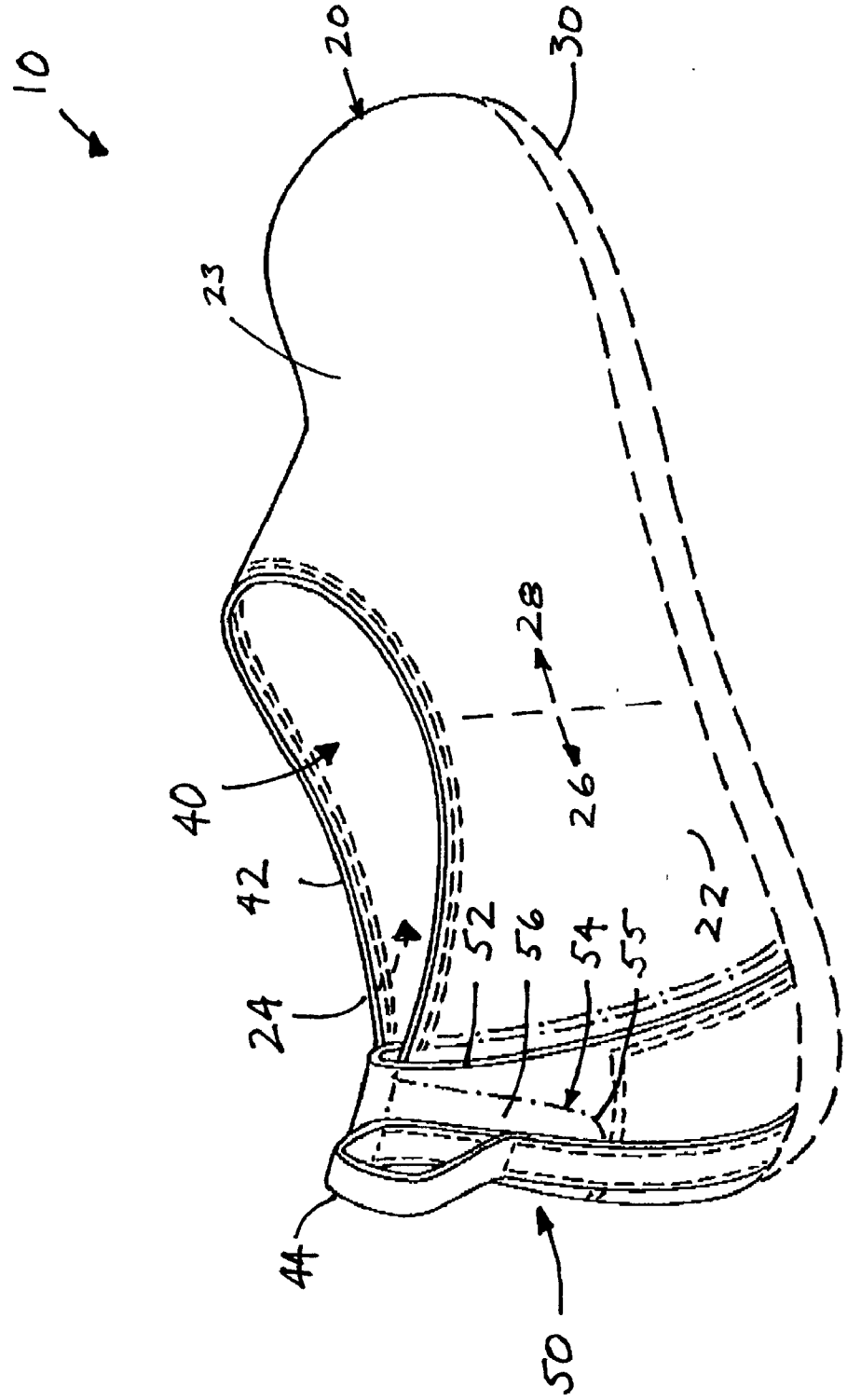


FIG. 1

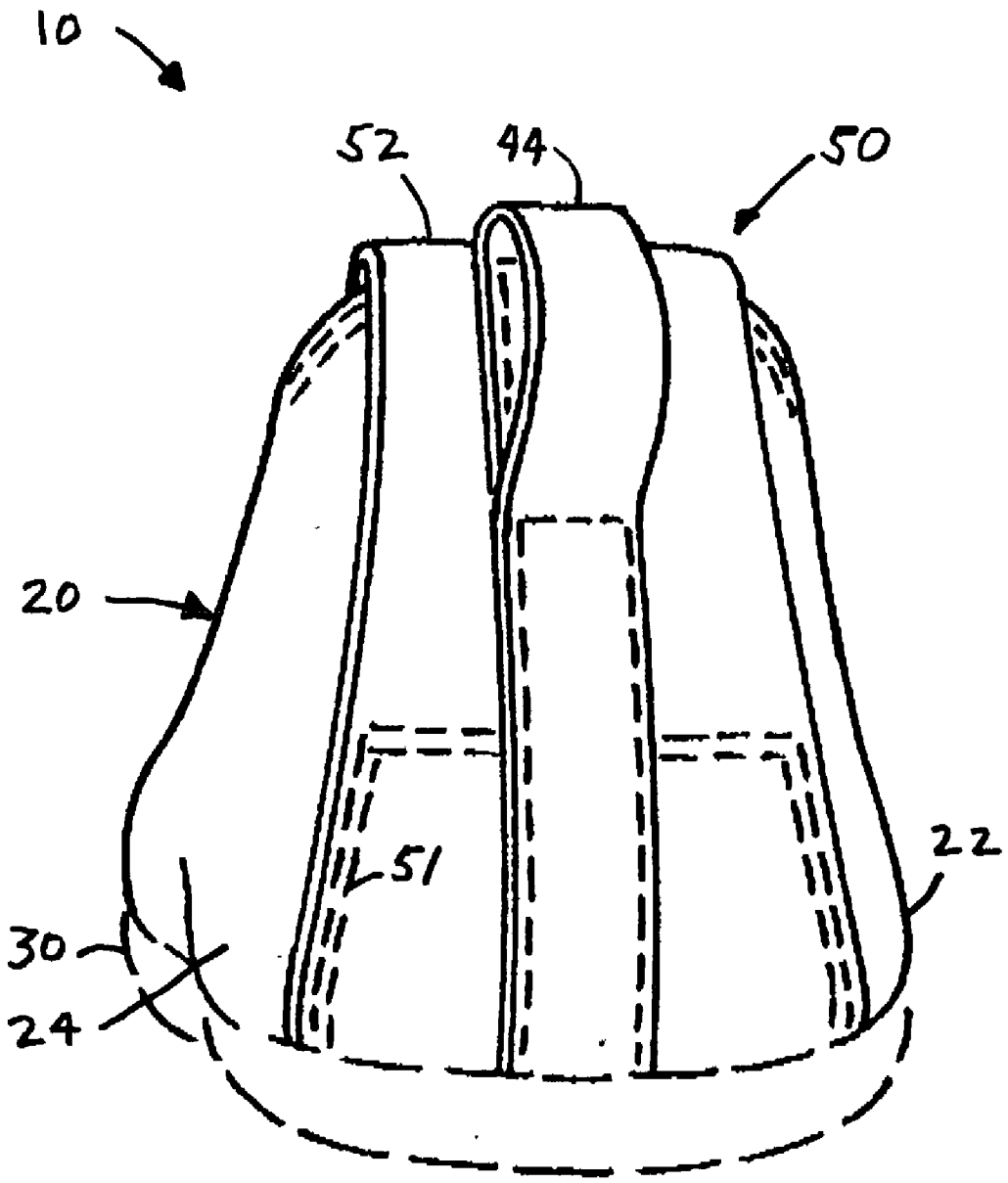


FIG. 2

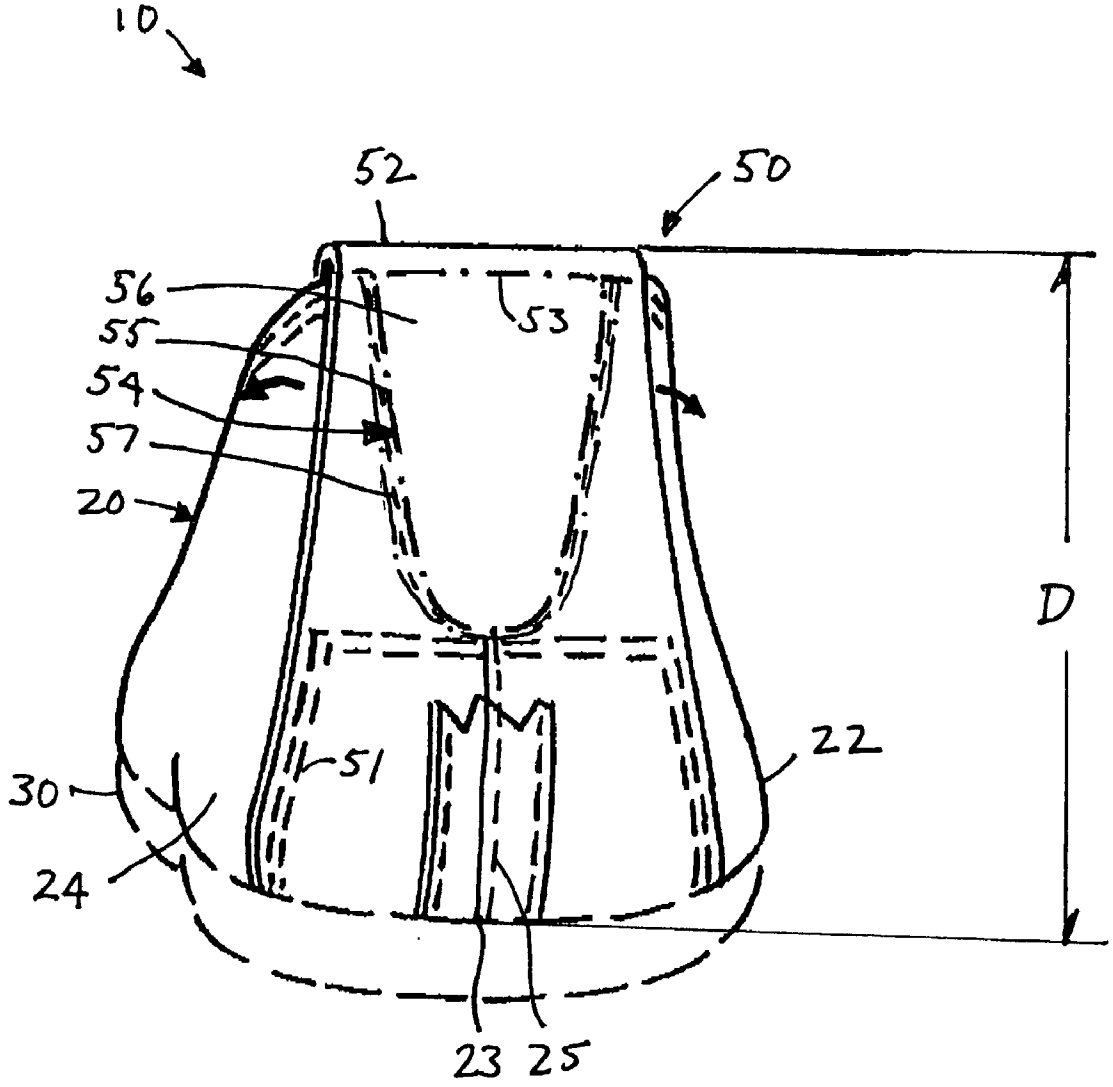


FIG. 3

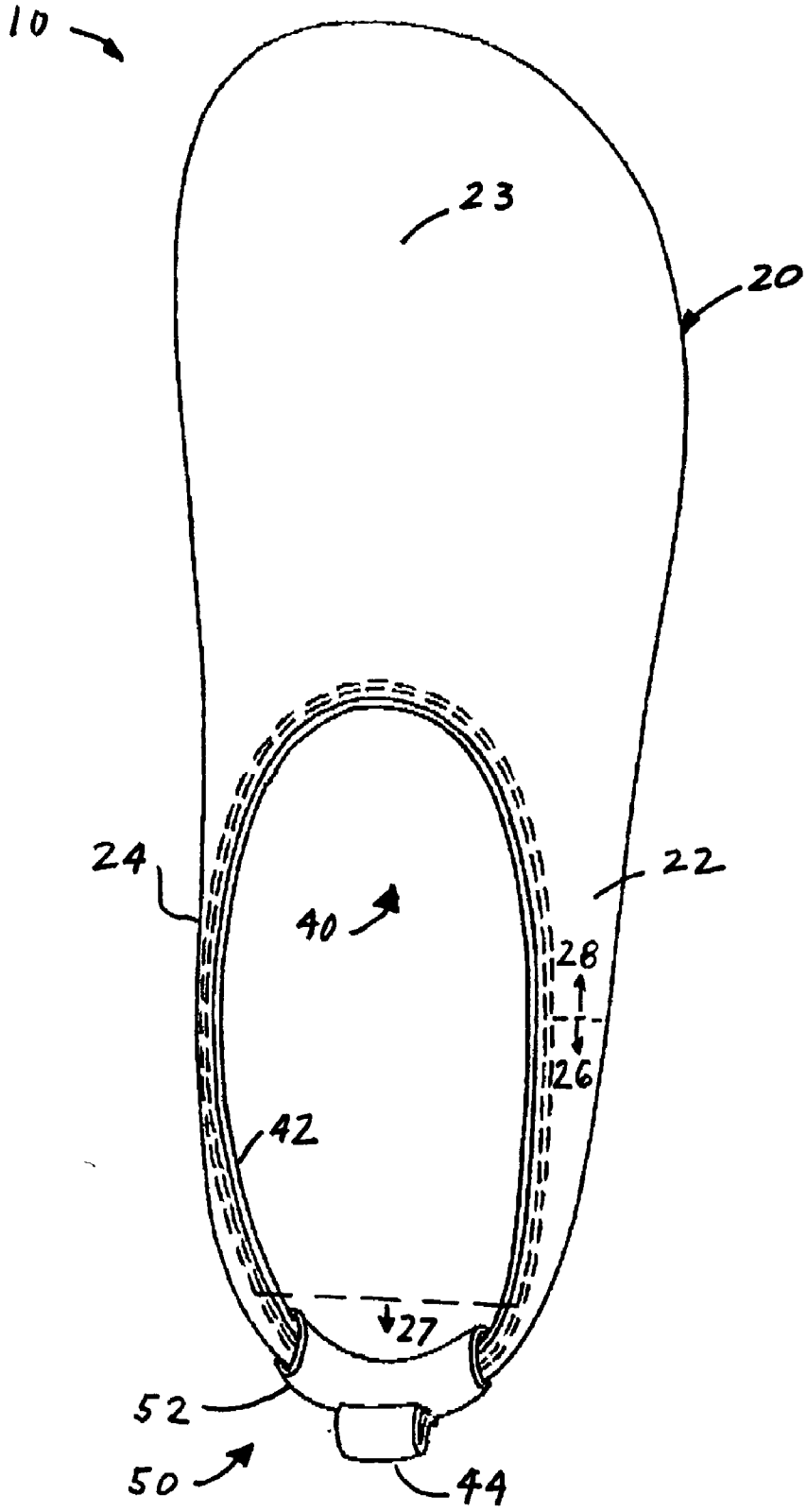


FIG. 4

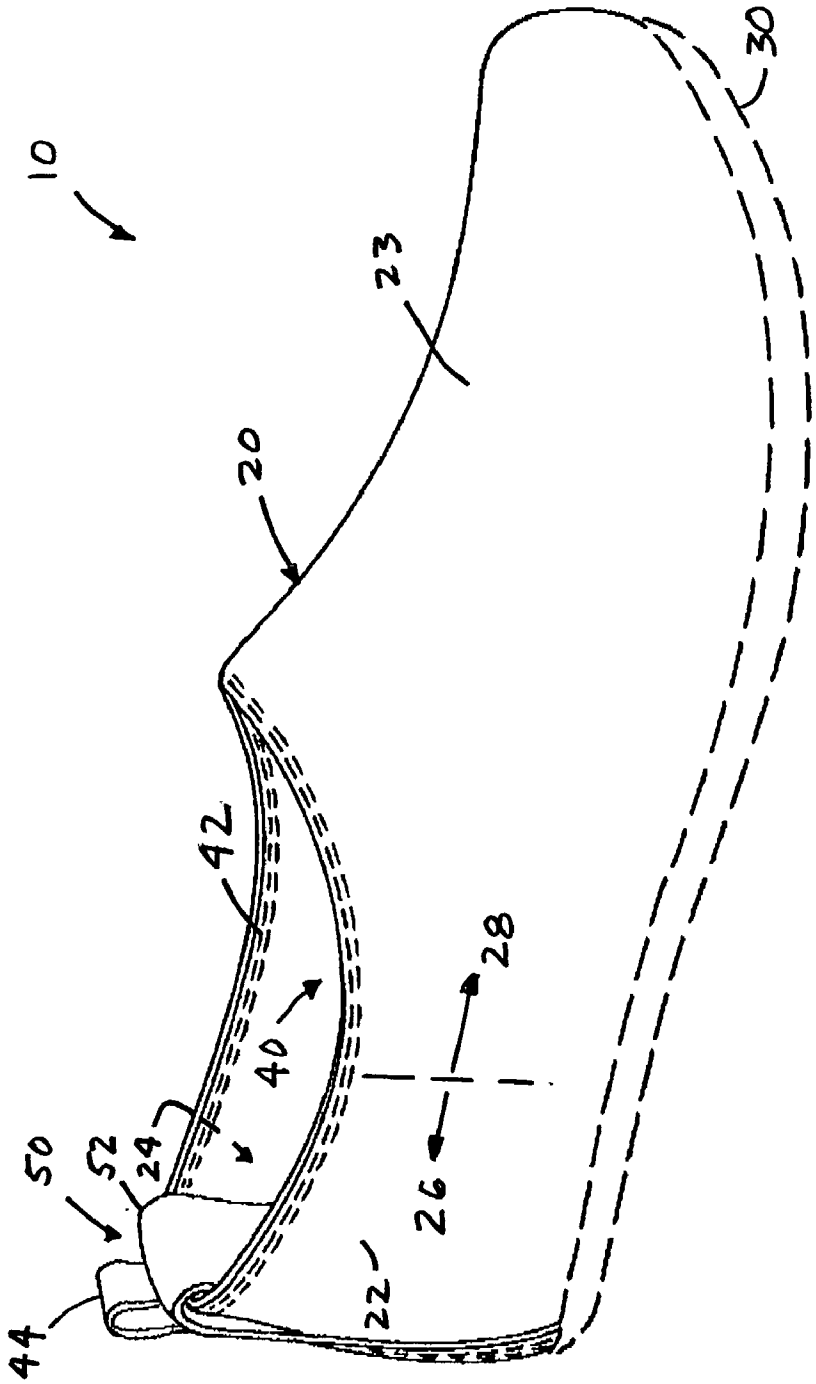


FIG. 5

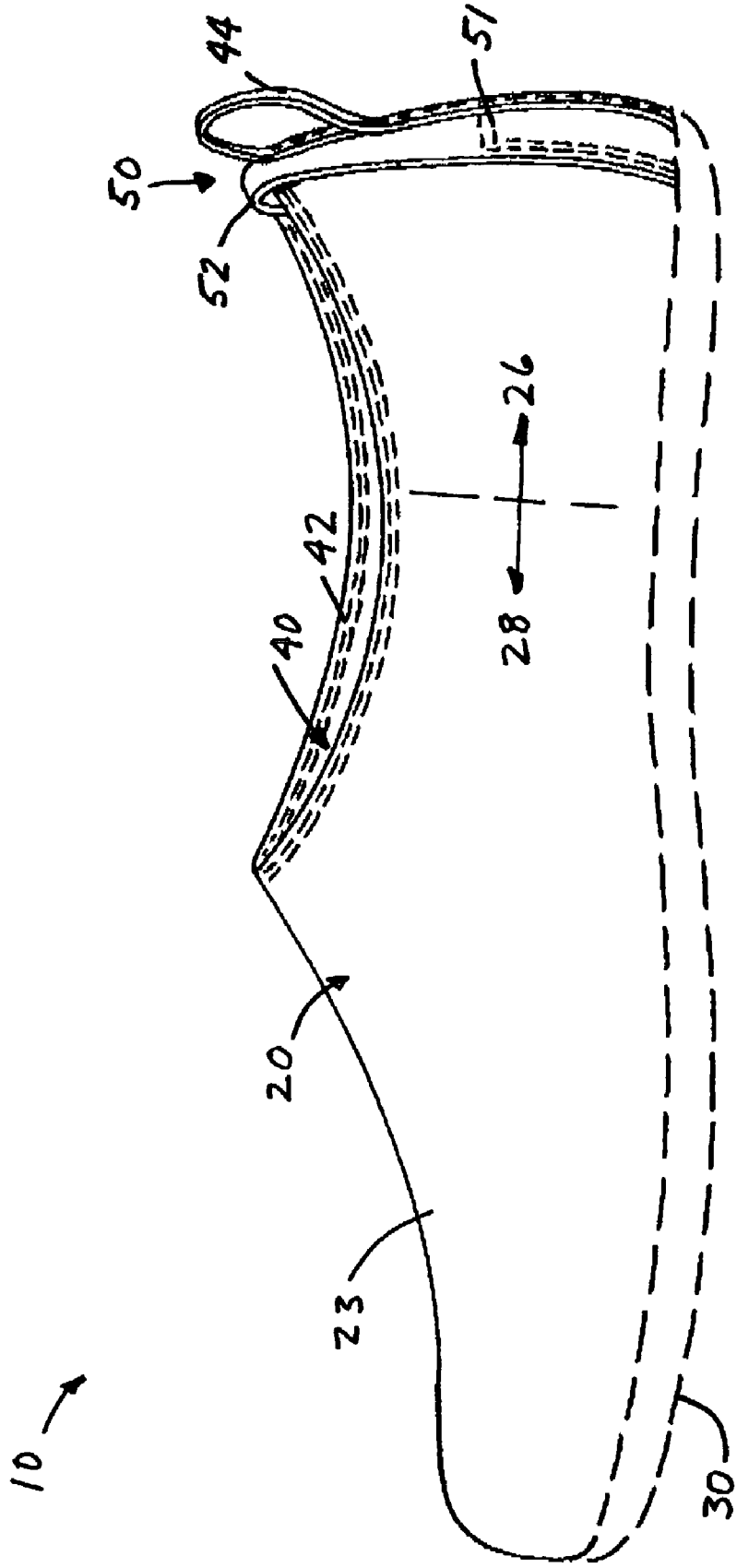


FIG. 6

SLIP-ON FOOTWEAR SYSTEM

BACKGROUND

[0001] The present invention relates to footwear and, more particularly, to a slip-on footwear construction and a method for making the same.

[0002] Many conventional footwear designs, including work, walking and athletic designs, enable a user to easily don the footwear without substantial use of their hands. These designs are generally referred to as "slip-on" designs. Typically, a user puts on slip-on footwear simply by inserting their foot through an opening in the footwear and pushing the foot forward.

[0003] A popular slip-on design is the "twin gore" design. Footwear with this design defines single gores on opposite sides of the foot in the forefoot region of the footwear. Specifically, the gores are defined by a void between the vamp (i.e., the portion of the footwear that covers the toes and upper portion of the forefoot) and the side panels (i.e., the portions of the footwear in the forefoot that cover the medial and lateral sides the foot). Within the gores, a piece of elastic is secured to the vamp and the respective side panels. The elastic is clearly visible between the vamp and respective side panels.

[0004] Twin gore footwear is easy to put on the foot because as the foot is inserted into the footwear, the elastic allows the vamp to move away from the side panels, thereby providing more room for the upper portion of the forefoot, and subsequently the remainder of the foot, to slide into the shoe. After the foot is fully inserted in the footwear, the elastic retracts to conform the vamp to the upper forefoot.

[0005] Although the twin gore design enables users to easily put on footwear, it suffers a number of shortcomings. First, footwear with the twin gore design frequently feels like it is poorly secured to the wearer's feet. It is believed that this feeling is the result of the forefoot stretching the elastic within the gore and moving the vamp away from the side panels. As a result, the user's heel comes partially out of the shoe during the push-off portion of a wearer's stride. This characteristic reduces the wearer's confidence in the footwear, particularly when conducting rigorous activity. Second, in some twin gore designs, the elastic visible within the gore detracts from the aesthetics of the footwear. Third, if not well-protected, the elastic within the gores may tear or abrade with repeated exposure to obstacles that the wearer may encounter with the upper part of their forefoot. As a result, the vamp may permanently separate from the side panels, thereby rendering the footwear unsafe. Fourth, wearers with relatively long forefeet frequently discover that with the twin gore design, the vamp does not separate far enough from the side panels to allow their foot to be easily inserted into the shoe. Therefore, the wearer must manually pull the shoe onto the foot with significant force. In effect, this defeats the purpose of the twin gore design.

SUMMARY OF THE INVENTION

[0006] The aforementioned problems are overcome in the present invention that provides a slip-on footwear including an elasticized gore defined in the heel portion of the footwear. A footwear upper defines a gore in the heel portion of the upper and a resilient and flexible material is secured to the upper within the gore. The material is stretchable to enable an opening defined by the upper to enlarge so that a user may easily insert their foot into the footwear.

[0007] In one embodiment, the footwear upper includes side panels that are secured to one another and cooperate to define a recess or gore in the heel of the footwear upper. An elastic material is secured to edges of the side panels within the gore. Optionally, where a single heel panel is substituted for or secured to the side panels in the heel portion, the heel panel defines a gore and the elastic material is secured to the heel panel. The elastic material allows the side panels to move away from one another and thereby facilitate insertion of a wearer's foot into the footwear.

[0008] In a specific embodiment, a heel flap, also referred to as a cover panel, is disposed over the elastic material and secured to the upper. The heel flap conceals at least a portion of the elastic material and the gore without inhibiting the ability of the elastic material to stretch and facilitate insertion of the foot into the footwear. Optionally, the heel flap is secured to an exterior of the upper, folds over the elastic material, and is secured again to the upper on an interior of the upper.

[0009] In a more specific embodiment, the heel flap is secured to the upper in an area beneath the gore in the heel portion of the footwear to increase rigidity of the footwear in the heel portion.

[0010] Footwear incorporating the slip-on system of the present invention preferably is manufactured using the general steps of (a) providing an upper that defines an opening and defines a gore in the heel portion of the upper, (b) securing an elastic material to the upper within the gore, and (c) joining the upper with an outsole. Optionally, a heel flap is disposed over the elastic material to conceal all or part of the material without restricting or preventing the material from stretching so that the opening enlarges when a foot is inserted through the opening.

[0011] The present invention provides a unique slip-on footwear construction having a previously unachieved combination of being easy to put on the foot and feeling well-secured to the foot when worn. With the elasticized gore in the heel region of the upper, panels in the forefoot of the footwear remain relatively immovable in relation to one another, even in strenuous activity. Therefore, the wearer's heel is less likely to come up and out of the heel portion of the footwear. Additionally, with the elastic material positioned in the heel of the footwear, it is less likely to abrade or be torn by obstacles that the wearer may walk through. Furthermore, in footwear of the present invention including a heel flap that covers the elastic material, the elastic material is further protected and prevented from interfering with insertion of a foot into the footwear. Moreover, with the heel flap covering the gore, the footwear has a clean and streamlined look. Finally, where the heel flap is secured to the upper below the gore in the heel portion of the footwear, the footwear exhibits good structural rigidity.

[0012] These and other objects, advantages and features of the invention will be more readily understood and appreciated by reference to the detailed description of the invention and the drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0013] **FIG. 1** is a rear perspective view of an article of footwear incorporating the slip-on system of the present invention;

[0014] **FIG. 2** is a rear elevational view of the article of footwear;

[0015] **FIG. 3** is a rear elevational view of the article of footwear showing an elasticized gore of the slip-on system;

[0016] **FIG. 4** is a top plan view of the article of footwear;

[0017] **FIG. 5** is a front perspective of the article of footwear; and

[0018] **FIG. 6** is a left side elevational of the article of footwear, the right side being a mirror image thereof.

DETAILED DESCRIPTION OF THE INVENTION

[0019] I. Overview

[0020] Footwear constructed in accordance with an embodiment of the present invention is shown in FIGS. **1-6** and generally designated **10**. The shoe **10** includes an upper **20** joined with an outsole **30**. The upper **20** defines an opening **40** through which a foot is placed to slip the wearer's foot into the shoe **10**. The upper **20** and shoe **10** are divided generally into a forefoot section **28** and a heel section **26**. A slip-on system **50** is incorporated into the heel portion **26**, and generally includes a recess or gore **54** that is defined in the heel portion **26** of the upper. A flexible and resilient material **156** is secured to the upper **10** within the gore **54**.

[0021] For purposes of disclosure, the present invention is described in connection with a casual shoe that includes an upper constructed from an integral panel. For example, the vamp **23** and the side panels **22** and **24** of the shoe are constructed from one piece of material. As will be appreciated, the present invention is well suited for use with other types of soled footwear, and multi-paneled uppers as the application requires.

[0022] II. Structure

[0023] The components of the shoe **10** of the present invention will now be described in more detail. The upper **20** includes a slip-on system **50** and is secured to the outsole **30** in a conventional manner.

[0024] As shown in FIGS. **1-3**, the upper **20** generally includes one piece of material that forms the vamp **23** and the side panels **22** and **24**. However, the upper may be divided into separate panels constructed of different materials and secured to one another in a conventional manner. Optionally, the vamp and side panels as shown may be substituted with other conventional footwear panels, for example, the vamp **23** may be replaced with a panel or panels that include a lacing system.

[0025] The upper **20** also defines an opening **40** that is bounded by a perimeter **42**. The opening **40** provides an entrance to the upper through which a foot may be inserted to place the foot within the upper **20** and effectively don the footwear **10**. As shown, the vamp **23** and side panels **22** and **24** form a portion of the perimeter, and the flexible panel **56** of the slip-on system **50**, described below, forms another portion of the perimeter **42**. Optionally, the perimeter may include cushioning.

[0026] The upper **20**, as well as the footwear **10** in general, is divided into a heel portion **26** and a forefoot portion **28**. Depending on the configuration of the shoe, and the actual boundary of the heel portion **26** and forefoot portion **28** may vary from that shown in the figures as the application requires. As shown in **FIG. 4**, the heel portion **26** of the upper **20** also includes an apex **27**, which defines the rearmost portion of the footwear, adjacent the heel.

[0027] The upper **20** components may be manufactured from leather, canvas, nylon or other suitable materials and may include a liner (not shown) or other conventional accessories.

[0028] The outsole **30** may be a conventional solid outsole secured to the upper in a conventional manner such as by stitching, gluing, stapling or securing with other fastening elements. Optionally, the outsole **30** may be an outsole shell within which a foot bed (not shown) is disposed.

[0029] With reference to **FIGS. 1 and 3**, the slip-on system **50** is included in the shoe **10**, preferably within the heel portion **26**. The slip-on system **50** enables the side panels to move away from one another, at least in the portion of the depth D of the upper **20** within which gore **54** is defined. More generally, the slip-on system **50** allows the opening **40** to enlarge when a foot is inserted through it.

[0030] In the slip-on system, the upper **20** in the heel portion **26** defines a recess, also referred to as a gore or opening **54**, which is bounded by the edge **55**, also referred to as a perimeter or boundary. In a specific embodiment, the upper **20** defines the gore in the apex **27** of the heel portion **26**, shown in **FIG. 4**; however, the gore may extend beyond the apex **27** within the heel portion as the application requires. Optionally, the gore may be defined substantially only in the heel portion of the footwear, and in another embodiment, the gore may be defined substantially only in the apex region. In a more specific embodiment, the gore is defined in the upper half of depth D, and in an even more specific embodiment, the gore is defined in the upper two-thirds of the depth D. However, the gore may be defined in any portion of the depth D of the upper **20** as desired.

[0031] As shown in **FIGS. 1 and 3**, the gore **54** is rounded in the lower portion, nearest the outsole **30**, and tapers outward in the upper portion of the depth D of the upper **20**. Optionally, the gore may be of any shape or configuration, including but not limited to, a square shape, a rectangular shape, a triangular shape, a V-shape, and the like.

[0032] With reference to **FIG. 3**, the free end portions of side panels **22** and **24** within the gore define the edge **55** and the end portions of the side panels **22** and **24** are joined to one another beneath the gore **54**. In one embodiment, the panels are joined in the lower half of the depth D of upper **20**, and in another embodiment, in the lower one-third of the depth D; however, the panels may be joined in and form any portion of the depth D as desired. Moreover, the panels may be joined with any conventional fastening means, such as stitching, staples, rivets, glue and the like. Optionally, in an embodiment where a heel panel (not shown) joins or is joined with the side panels **22** and **24**, that heel panel may define the gore and form the edge **55**.

[0033] A panel or material **56** is secured to the edge **55** of the gore **54** with conventional fastening means, for example with stitching **57** as shown, or other fastening means such as glue, rivets, staples and the like. The panel is constructed of a flexible and resilient material, for example, elastic, neoprene, synthetic rubber, rubber, and the like. The panel **56** preferably is resilient and flexible to allow the panels **22** and **24** to move away from each other in the directions shown with the arrows in **FIG. 3** as a foot is inserted through the opening **40**. Optionally, the panel **56** also pulls the panels **22** and **24** back toward one another after a foot is fully inserted into the footwear **10**.

[0034] As shown in **FIGS. 1 and 3**, the panel is secured to the edge of the gore **54** along the entire edge, and generally is of the same shape of the gore. As the application requires, however, the elastic panel may be of a different shape than the gore. Moreover, the panel **56** may be secured to portions of the edge on opposite sides of the gore. For example, the panel **56** may be secured to the edge **55** adjacent the perimeter **42**, but not secured to the edge **55** in the lowermost, rounded portion of the gore **54**.

[0035] Referring to FIGS. **1-3**, the gore **54** may be coincident with the perimeter **42** of the opening **40** defined by the upper so that the panel **56** forms a portion of the perimeter **42**. Additional stitching (not shown) may be added to the panel **56** adjacent the perimeter to secure the panel **56** to the perimeter **42** and increase durability.

[0036] With reference to FIGS. **3-5**, the slip-on system **50** optionally includes a heel flap **52**, also referred to as a cover or cover panel. The cover panel **52** generally is disposed over the gore **54** and elastic panel **56**. Preferably, the cover panel conceals substantially all of the gore **54** and cover panel **56**. The elastic panel **56** may be exposed when the panels **22** and **24** are pulled away from one another a significant distance so that the panel **56** stretches beyond the edges of the cover panel **52**; however, it is preferred that significant stretching of the panel **56** is required for this to occur.

[0037] In one embodiment, the cover panel **52** extends upward from the outsole **30** on the exterior of the upper **20** over the elastic panel **56**, and then downward toward the outsole **30** on the interior of the upper. The cover panel may be secured to the exterior and/or interior of the upper with stitching **51** or any other conventional fastening means such as staples, glue, rivets and the like. As shown in **FIGS. 2 and 3**, stitching **51** extends along the edges of cover panel **52** from the outsole upwardly along the depth D of the upper **20**, then traverses the width of the cover panel **53** and continues back downward to the outsole **30** along the edge of the cover panel. The cover panel **52** may be stitched to the interior of the upper in a similar manner and, if desired, the stitching may pass completely through the cover panel **52** on the exterior of the upper, the upper **20**, and the cover panel **52** on the interior of the upper.

[0038] In the region where the cover panel **53** and upper **20** are joined, an additional heel panel is effectively formed. This heel panel may enhance the rigidity of the shoe **10** and the structural support provided in the heel portion **26** of the shoe. In an optional embodiment, however, the cover panel extends below the lowermost portion of the gore **54** a distance sufficient to fasten the cover panel **52** to the upper **20**.

[0039] With reference to **FIGS. 1 and 3**, the stitching **51**, does not extend above that portion of the depth D of the upper that corresponds to the gore **54**. With this stitching pattern, or other, similar securing patterns implemented with other fastening means, the gore is allowed to open-up when side panels **22** and **24** are pulled apart, for example, when a foot is inserted into the opening **40**. Accordingly, the opening **40** enlarges.

[0040] In the embodiments shown, the cover panel is not secured to the portion of the upper **20** around the gore **54** and/or the elastic panel **56**. Thus, even with the cover panel **52** disposed over the elastic panel **56**, the elastic panel may be stretched, and the panels **22** and **24** may be pulled in the direction of the arrows as shown, without the cover panel **20** inhibiting or restricting the stretch or movement.

[0041] The cover panel **53** may be constructed from the same materials as the upper, or other materials as desired. Additionally, as shown in **FIGS. 5 and 6**, the cover panel optionally is contoured to hug the heel of a wearer to increase comfort and to further secure the shoe to the foot of the wearer.

[0042] Optionally, webbing **44** may be secured to the cover panel or other portion of the upper **20** as desired to provide a grasping loop so the user may pull the shoe over their heel.

[0043] III. Manufacture and Assembly

[0044] The manufacture and assembly of the footwear **10** will now be described. Generally, the footwear is manufactured using the steps of (a) providing an upper that defines an opening and includes a gore defined in a heel portion of the upper, (b) securing a flexible and resilient material to the upper within the gore, and (c) joining the upper with an outsole. Optionally, a heel flap is disposed over the elastic material to conceal all or part of the material without restricting or preventing the material from stretching so that the opening enlarges when a foot is inserted through the opening.

[0045] More specifically, the desired upper material is cut to form the various elements of the upper, including the vamp **23**, the side panels **22** and **24**. In the heel portion, the upper is cut to define a gore **56**, which is bounded by edge **55**. The elements of the upper are then fitted and sewn together. In the heel portion **26**, the ends of the side panels **22** and **24** are sewn together along seam **23** with stitching **25**. The ends of the panels in the upper portion of the depth D remain free to define the gore **54**. A lining (not shown) may be sewn within the upper during the fitting step.

[0046] In another step, the panel **56** is secured to the edge **55** of the gore. As shown in **FIG. 3**, the panel **56** is secured to the edge **55** with stitching **57**. Specifically, the panel is sewn to the free ends of the side panels **22** and **24**. Where the panel is secured to only portions of the edge, the stitching is disposed only in those respective portions. Where the gore is optionally defined by a one heel panel (not shown), rather than multiple side panels, the elastic panel is sewn directly to the heel panel.

[0047] The cover panel shown in **FIGS. 1 and 3** is secured in place in another step. Specifically, the cover panel is positioned over the gore **54** and elastic panel **56** so that a portion of the panel folds down against the interior of the

upper **20** and another portion folds down against the exterior of the upper **20**. The cover panel is secured to the interior and/or exterior of the upper with conventional fastening means. In one embodiment, the cover panel is secured to the upper in an area below the gore **54** to form a rigid heel panel in the area. Optionally, a grasping loop **44** is secured to the cover panel **52**.

[**0048**] In yet another step, the outsole **30**, which is manufactured using conventional techniques and apparatus, is secured to the outsole. For example, in one embodiment, the outsole and upper are stitched to one another. In another embodiment, the upper is secured to a midsole and the outsole is molded to the upper and midsole. In yet another embodiment, the upper is secured to an outsole shell (not shown) and a footbed (not shown) is positioned in the outsole shell.

[**0049**] Finally, a number of conventional finishing operations are performed on the shoe **10**. For example, the edges of the outsole **30** are trimmed and shaped and the upper is cleaned and treated as necessary.

[**0050**] The above descriptions are those of the preferred embodiments of the invention. Various alterations and changes can be made without departing from the spirit and broader aspects of the invention as defined in the appended claims, which are to be interpreted in accordance with the principles of patent law including the doctrine of equivalents. Any references to claim elements in the singular, for example, using the articles "a,""an,""the," or "the," is not to be construed as limiting the element to the singular.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. An upper for an article of footwear including a forefoot portion and a heel portion comprising:

a first panel terminating at a first end in the heel portion;

a second panel terminating at a second end in the heel portion; and

an elastic material joined with the first and the second end, located substantially entirely in the heel portion, wherein the first end and the second end are movable away from one another and retractable toward one another so that a foot is insertable into the upper.

2. The upper of claim 1 comprising a third panel secured to at least one of the first and second panels, the third panel concealing the elastic material.

3. The upper of claim 1 wherein the first end includes a first portion and a second portion, the second end includes a third portion and a fourth portion, wherein the first portion is joined with the third portion, and wherein the elastic material is joined with the second portion and the fourth portion.

4. The upper of claim 3 comprising a third panel secured to at least one of the first and second portions and covering the elastic material.

5. The upper of claim 4 wherein the third panel is secured to the first and third portions and adds structural rigidity to the heel portion.

6. The upper of claim 1 wherein the first panel and the second panel are integrally joined with one another in the forefoot portion.

7. The upper of claim 1 wherein the first panel, second panel and the elastic material cooperate to define at least a portion of an opening through which a foot is inserted, wherein the elastic material enables the opening to enlarge when a foot is inserted through the opening.

8. A footwear construction comprising:

an upper including a heel portion, the upper defining an opening through which a foot is inserted into the footwear, the upper defining a gore in the heel portion, the gore bounded by an edge;

a stretchable member secured to the edge, wherein the opening enlarges when the stretchable member is stretched; and

an outsole secured to the upper.

9. The footwear construction of claim 8 comprising a heel flap, the heel flap disposed in the heel portion and concealing at least a portion of the stretchable member from view.

10. The footwear construction of claim 9 wherein the heel portion is of a depth including a first portion adjacent the opening and a second portion adjacent the outsole, and wherein the gore is defined within the first portion and wherein the heel flap is secured to the upper in the second portion.

11. The footwear construction of claim 7 wherein the upper includes an interior and an exterior.

12. The footwear construction of claim 11 comprising a cover panel secured to the interior and the exterior, the cover panel concealing the stretchable member without preventing the stretchable member from stretching.

13. The footwear construction of claim 7 comprising a cover secured to the upper and disposed over the gore.

14. The footwear construction of claim 13 wherein the gore is defined substantially only into the heel portion.

15. A footwear construction comprising;

an outsole;

an upper joined with the outsole, the upper including a heel portion, the upper defining an opening through which a foot is inserted, the upper defining a recess in the heel portion; and

a flexible and resilient member secured to the upper in the recess, wherein the member stretches to enlarge the opening when a foot is inserted into the footwear construction.

16. The footwear construction of claim 15 comprising a heel panel that conceals the member without preventing the member from stretching.

17. A method for manufacturing footwear comprising:

providing an upper defining an opening and including a forefoot portion and a heel portion, the upper defining a gore in the heel portion;

securing an elastic member to the upper within the gore; and

joining the upper with an outsole.

18. The method of claim 17 wherein the opening is bounded by a perimeter and the elastic member forms a portion of the perimeter in the heel region.

19. The method of claim 17 wherein the elastic member is stretchable so that the opening enlarges when a foot is inserted through the opening.

20. The method of claim 17 comprising securing a heel flap to the upper to conceal at least one of the elastic member and the gore.

21. A method for manufacturing a footwear upper including a heel region and a forefoot region comprising:

providing a first panel in the forefoot region;

joining a second panel and a third panel to one another in a first area in the heel region; and

joining each of the second panel and the third panel to an elastic member in a second area in the heel region, wherein the elastic member enables the second panel and third panel to move relative to one another in the heel region.

22. The method of claim 21 comprising securing a heel flap to the first area, the heel flap concealing the elastic member.

23. The method of claim 21 comprising covering at least a portion of the elastic member with a cover without restricting movement of the second panel and the third panel relative to one another.

24. The method of claim 21 wherein the first, second and third panels are integrally joined with one another to form a unitary piece of material.

* * * * *