US010327511B2

(12) **United States Patent**
Boys et al.

(10) **Patent No.: US 10,327,511 B2**
(45) **Date of Patent: Jun. 25, 2019**

(54) **SHOE HAVING KNIT WINGTIP UPPER**

(71) Applicant: **Cole Haan LLC**, New York, NY (US)

(72) Inventors: **Jack Boys**, New York, NY (US); **Ann Bono**, New York, NY (US); **Aubert Shepherd**, Greenland, NH (US); **Mattias Verfl**, Brooklyn, NY (US)

(73) Assignee: **COLE HAAN LLC**, New York, NY (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 83 days.

(21) Appl. No.: **15/205,672**

(22) Filed: **Jul. 8, 2016**

(65) **Prior Publication Data**

US 2018/0008006 A1 Jan. 11, 2018

(51) **Int. Cl.**

D04B 1/10	(2006.01)
A43B 23/02	(2006.01)
A43B 23/04	(2006.01)
D04B 1/22	(2006.01)
D04B 1/24	(2006.01)
A43B 1/04	(2006.01)

(52) **U.S. Cl.**

CPC ***A43B 23/0245*** (2013.01); ***A43B 1/04*** (2013.01); ***A43B 23/0205*** (2013.01); ***A43B 23/042*** (2013.01); ***D04B 1/104*** (2013.01); ***D04B 1/22*** (2013.01); ***D04B 1/24*** (2013.01); *D10B 2401/041* (2013.01); *D10B 2403/032* (2013.01); *D10B 2501/043* (2013.01)

(58) **Field of Classification Search**

CPC .. D04B 1/10; D04B 1/104; D04B 1/24; A43B 23/0245; A43B 23/04; A43B 23/042

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

D97,783	S	*	12/1935	Peterson	D2/945
2,312,078	A	*	2/1943	Crannell	A43B 1/0027 36/45
D293,386	S	*	12/1987	Kelley	D2/969
D394,739	S	*	6/1998	Carlson	D2/906
D401,398	S	*	11/1998	Carlson	D2/969
6,910,288	B2	*	6/2005	Dua	A43B 1/04 36/45
7,347,011	B2	*	3/2008	Dua	A43B 1/04 36/45
2012/0255201	A1		10/2012	Little	
2014/0310985	A1		10/2014	Tran et al.	
2015/0342285	A1		12/2015	Huffman et al.	

FOREIGN PATENT DOCUMENTS

KR	10-1367445 B1	2/2014

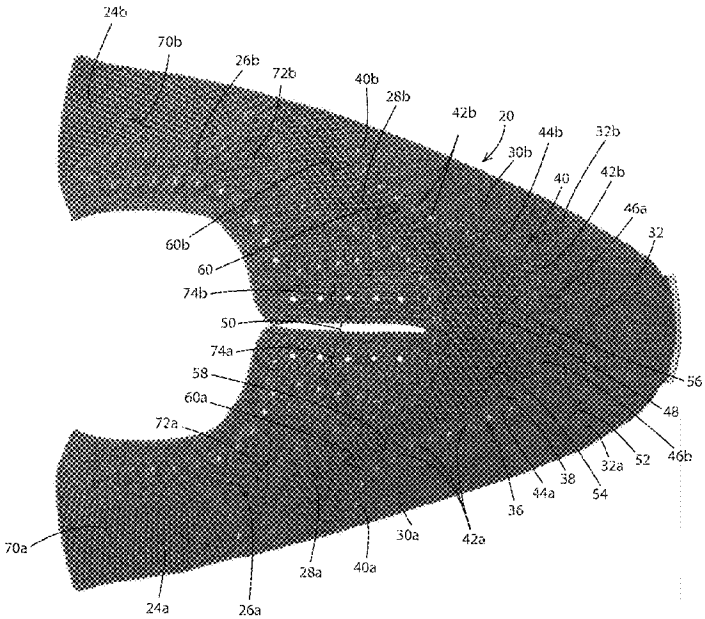
* cited by examiner

Primary Examiner — Danny Worrell
Assistant Examiner — Larry D Worrell, Jr.
(74) *Attorney, Agent, or Firm* — Thompson Coburn LLP

(57) **ABSTRACT**

A shoe includes a knit upper and a sole secured to the upper. The knit upper has a wingtip pattern knit into the knit upper.

23 Claims, 6 Drawing Sheets



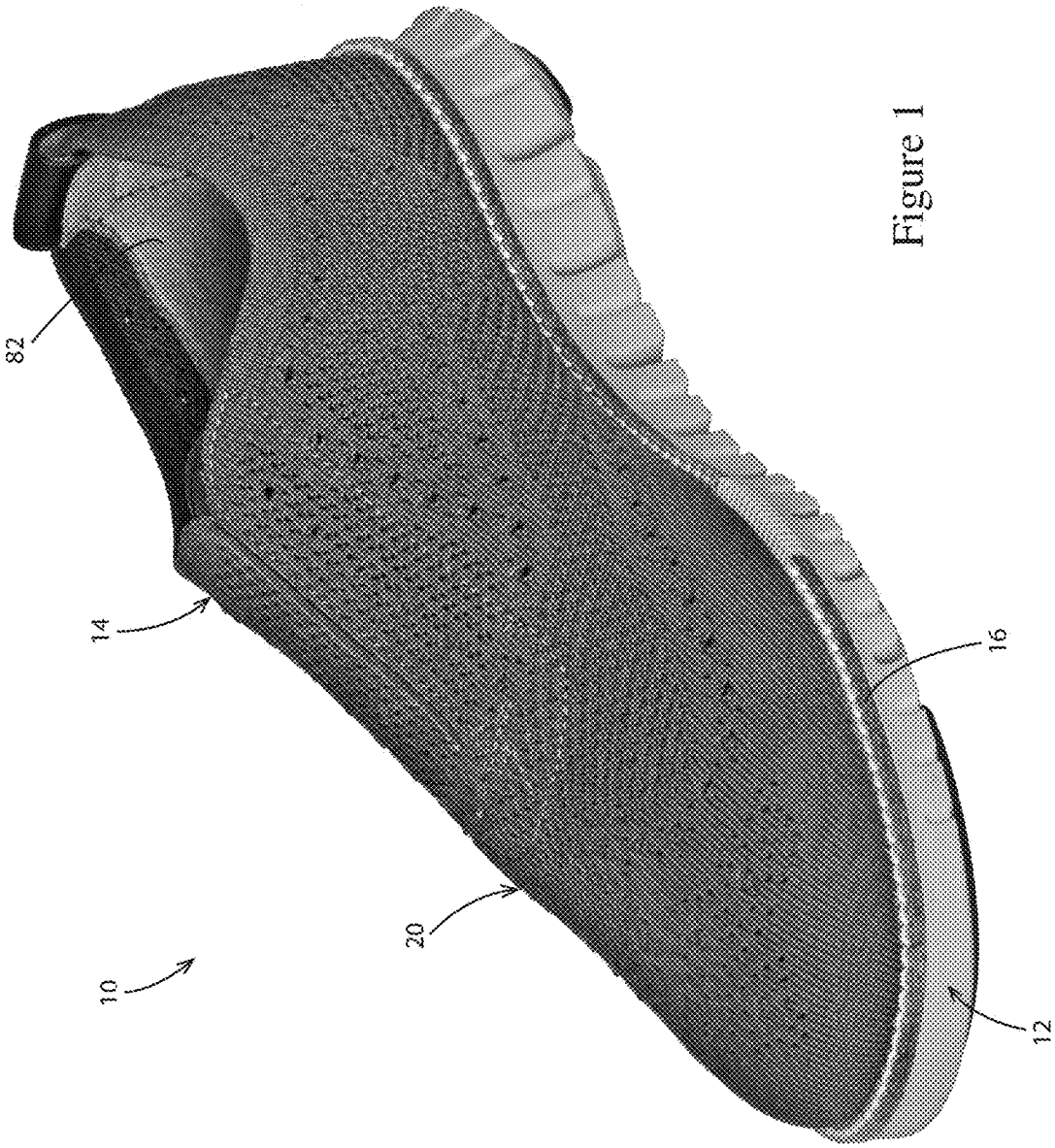


Figure 1

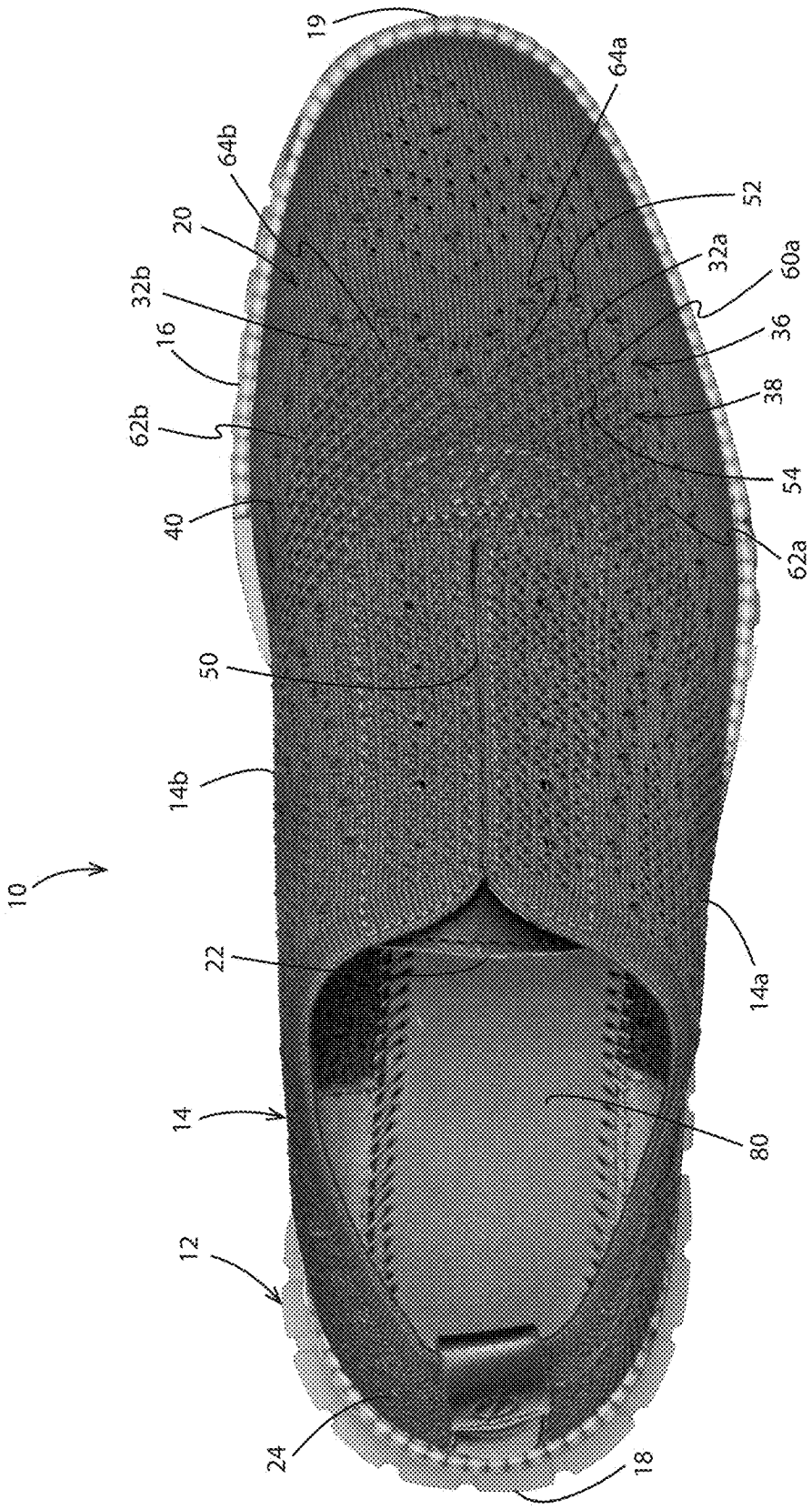

10
12
14
14a
14b
16
18
19
20
22
24
32a
32b
36
38
40
50
52
54
60a
62a
62b
64a
64b
80

Figure 2

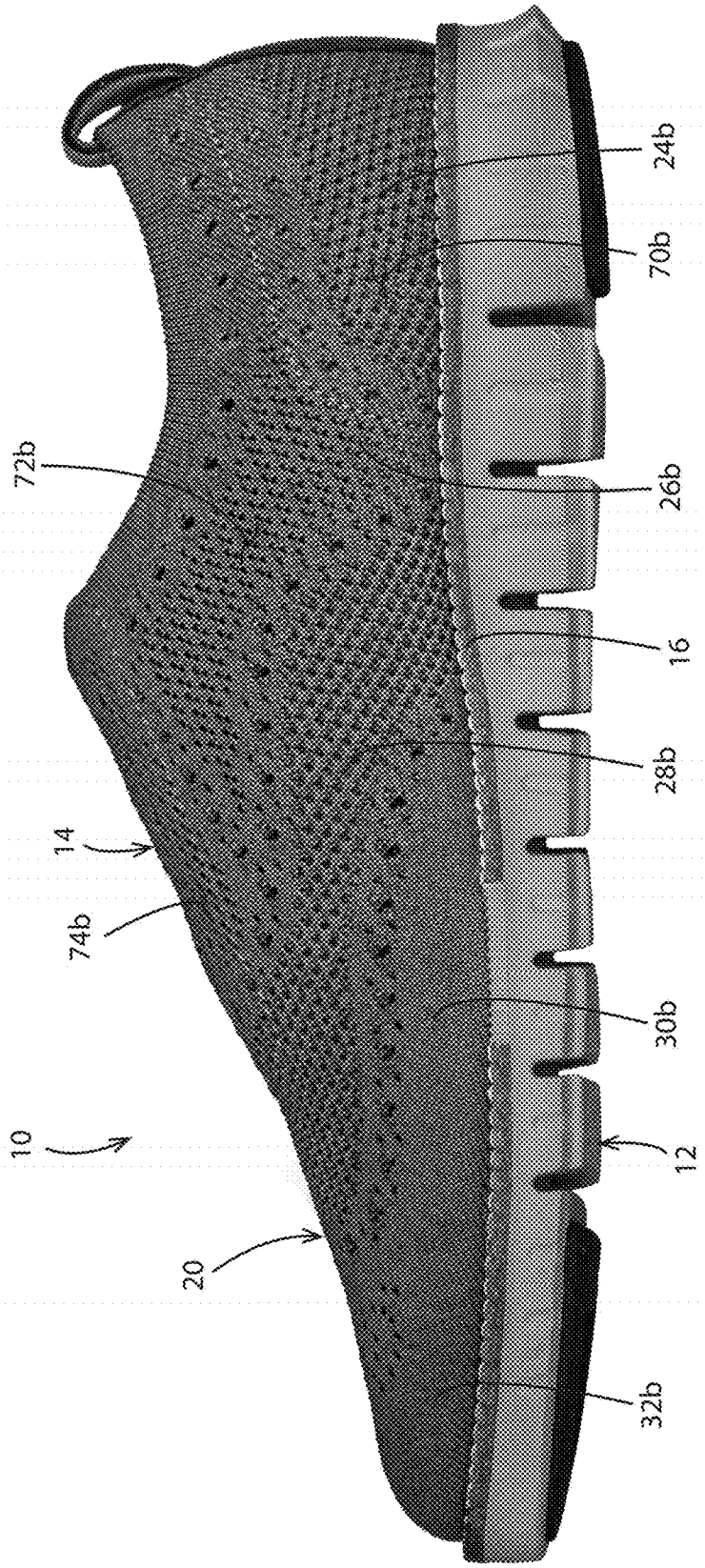


Figure 3

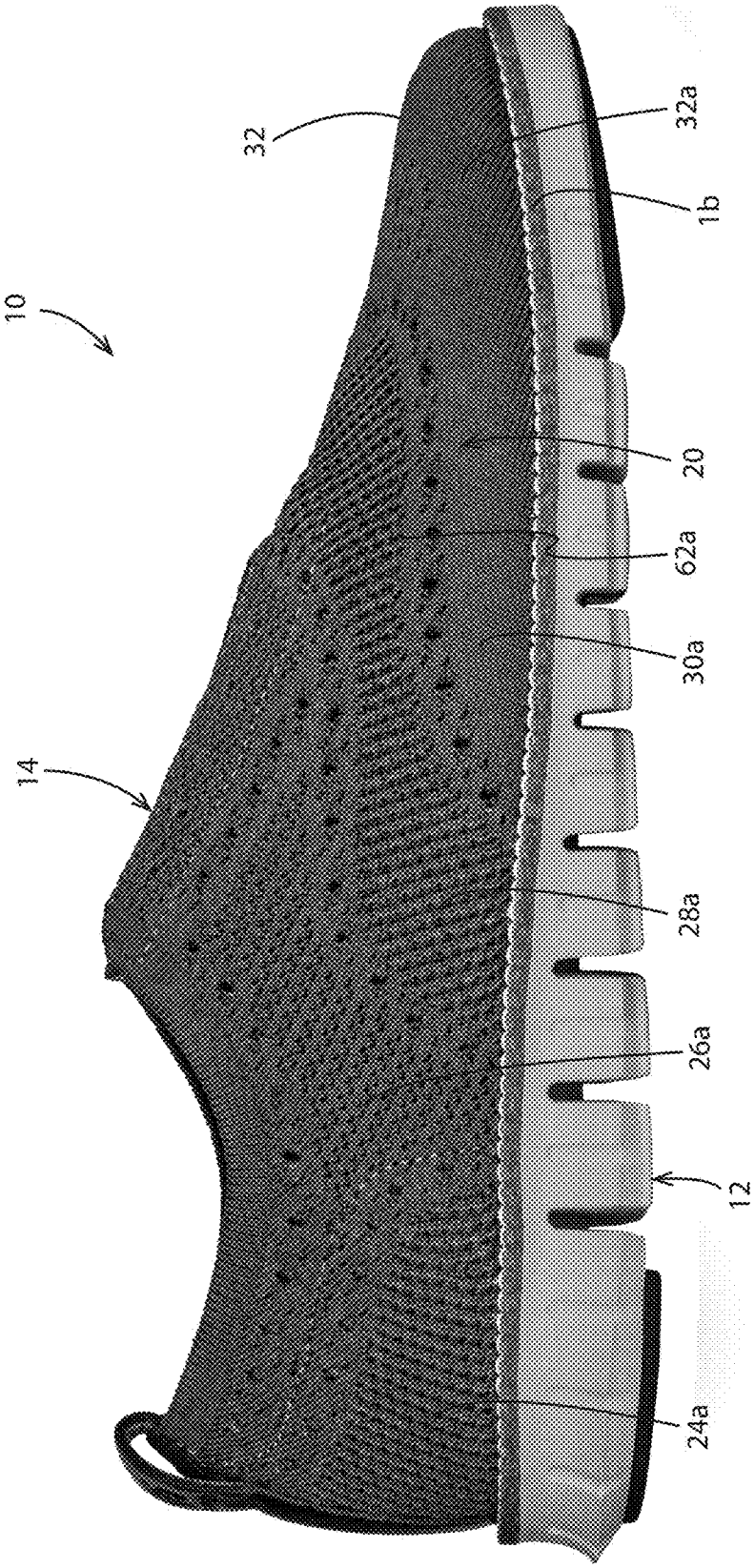


Figure 4

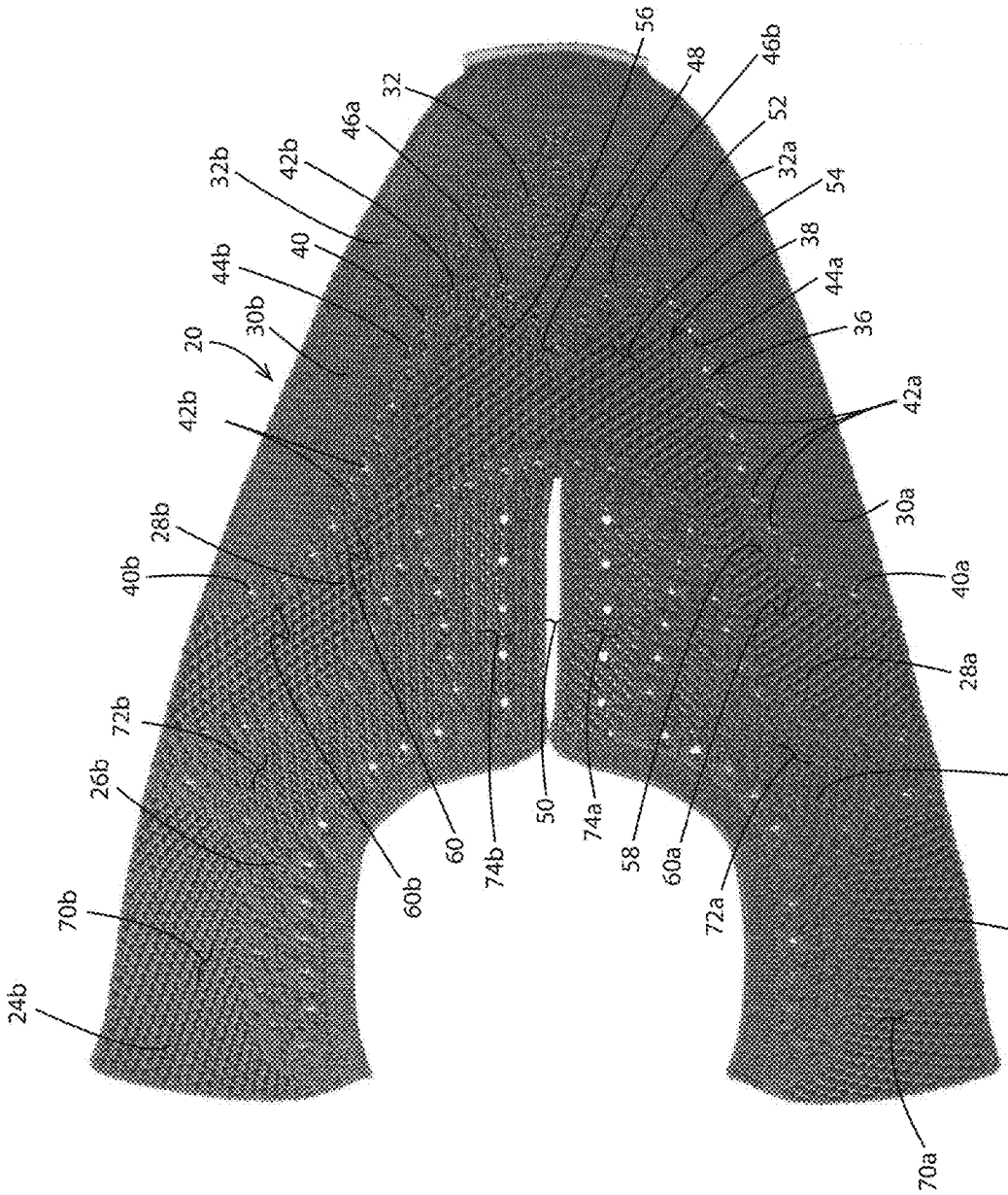

24b
70b
26b
72b
40b
28b
42b
20
30b
44b
40
32b
42b
46a
32
56
48
46b
52
32a
54
38
44a
36
42a
30a
40a
28a
26a
24a
70a
72a
60a
58
74a
50
74b
60
60b

Figure 5

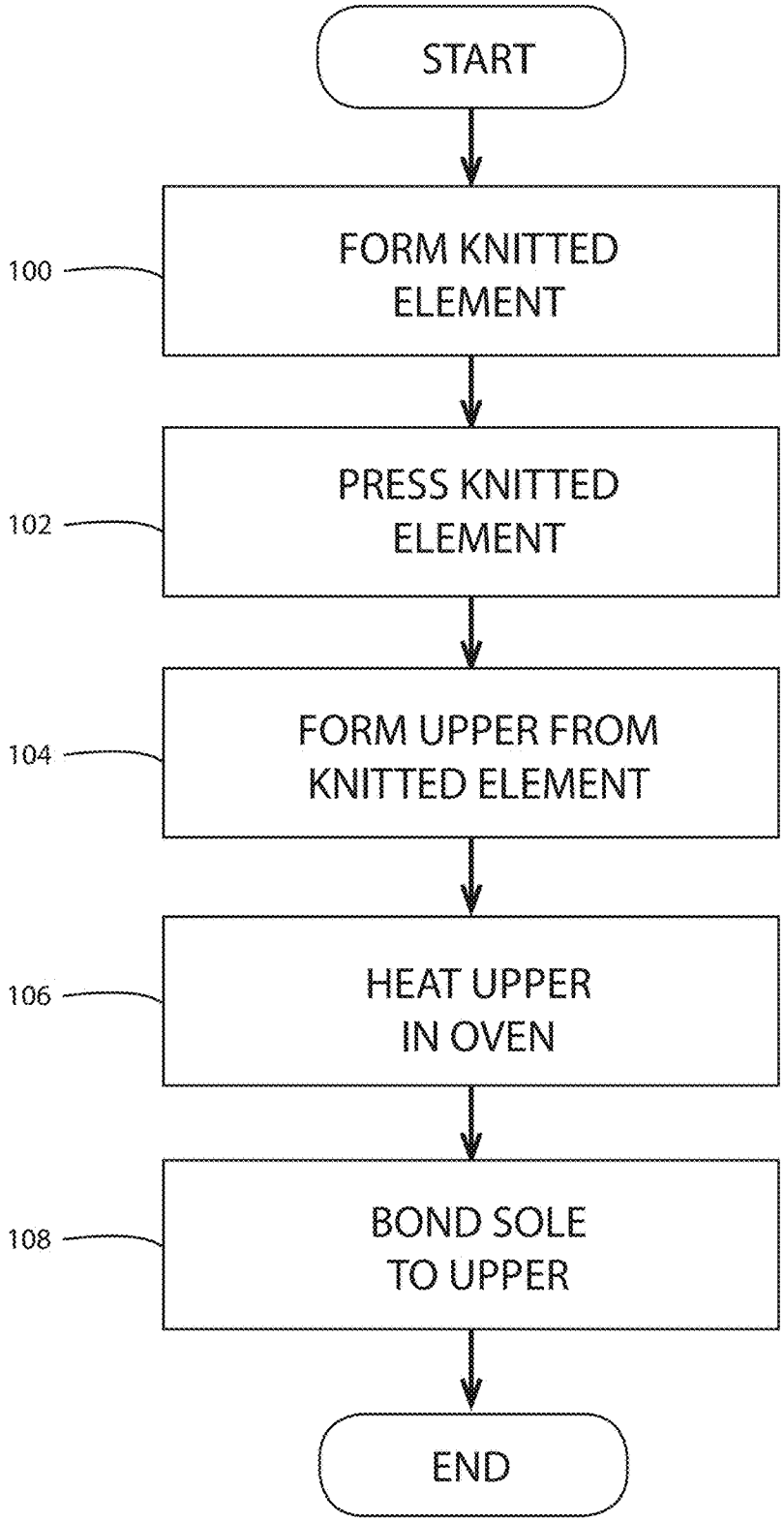

START
100
FORM KNITTED ELEMENT
102
PRESS KNITTED ELEMENT
104
FORM UPPER FROM KNITTED ELEMENT
106
HEAT UPPER IN OVEN
108
BOND SOLE TO UPPER
END

Figure 6

SHOE HAVING KNIT WINGTIP UPPER

CROSS-REFERENCE TO RELATED APPLICATIONS

Not Applicable.

STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT

Not Applicable.

APPENDIX

Not Applicable.

BACKGROUND OF THE INVENTION

Field of the Invention

This invention pertains to shoes having knit uppers.

SUMMARY

One aspect of the invention is a shoe comprising a knit upper and a sole secured to the upper. The knit upper has a knitted element. The knitted element is formed of a unitary one-piece construction during a knitting process on a knitting machine. The knitted element comprises a knitted upper heel region, a knitted upper lateral midfoot region, a knitted upper medial midfoot region, a knitted upper metatarsal region, a knitted upper lateral ball region, a knitted upper medial ball region, and a knitted upper toe region. The upper metatarsal region includes a knitted upper lateral metatarsal region and a knitted upper medial metatarsal region. The upper has a knitted upper lateral side region and a knitted upper medial side region. The upper lateral side region includes the upper lateral midfoot region, the upper lateral metatarsal region and the upper lateral ball region. The upper medial side region includes the upper medial midfoot region, the upper medial metatarsal region and the upper medial ball region. The upper toe region is seamlessly knitted with the upper medial and lateral ball regions during the knitting process. The upper medial and lateral ball regions are seamlessly knitted with the upper metatarsal region during the knitting process. The upper metatarsal region is seamlessly knitted with the upper lateral and medial midfoot regions during the knitting process. The knitted element includes a wingtip pattern. The wingtip pattern comprises portions of at least the upper toe region, the upper lateral and medial ball regions, and the upper lateral and medial metatarsal regions. The upper toe region, the upper lateral and medial ball regions, and the upper lateral and medial metatarsal regions collectively are knitted with the wingtip pattern during the knitting process.

Another aspect of the invention is a shoe comprising a knit upper and a sole secured to the upper. The knit upper has a knitted element formed of a unitary one-piece construction during a knitting process on a knitting machine. The knitted element comprises a knitted upper heel region, a knitted upper lateral midfoot region, a knitted upper medial midfoot region, a knitted upper metatarsal region, a knitted upper lateral ball region, a knitted upper medial ball region, and a knitted upper toe region. The upper metatarsal region includes a knitted upper lateral metatarsal region and a knitted upper medial metatarsal region. The upper has a knitted upper lateral side region and a knitted upper medial side region. The upper lateral side region includes the upper lateral midfoot region, the upper lateral metatarsal region and the upper lateral ball region. The upper medial side region includes the upper medial midfoot region, the upper medial metatarsal region and the upper medial ball region. The upper toe region is seamlessly knitted with the upper medial and lateral ball regions during the knitting process. The upper medial and lateral ball regions are seamlessly knitted with the upper metatarsal region during the knitting process. The upper metatarsal region is seamlessly knitted with the upper lateral and medial midfoot regions during the knitting process. The knitted element includes a line of broguing. The upper toe region is knitted with the line of broguing during the knitting process. The line of broguing comprises a line of holes. The knitted element comprises a first area of a first type of knit structure and a second area of a second type of knit structure. The second type of knit structure is different from the first type of knit structure. The first area is at least in the upper toe region. The second area is at least in the upper lateral and medial metatarsal regions. The line of broguing being adjacent a rear boundary of the first area. The line of broguing being adjacent a forward boundary of the second area.

Another aspect of the invention is a method of manufacturing an upper for an article of footwear. The method comprises knitting with a knitting machine to form a knitted element of the upper such that the knitted element is of a unitary one-piece construction comprising a knitted upper heel region, a knitted upper lateral midfoot region, a knitted upper medial midfoot region, a knitted upper metatarsal region, a knitted upper lateral ball region, a knitted upper medial ball region, and a knitted upper toe region. The upper metatarsal region includes an upper lateral metatarsal region and an upper medial metatarsal region. The knitted element has an upper lateral side region and an upper medial side region. The upper lateral side region includes the upper lateral midfoot region, the upper lateral metatarsal region and the upper lateral ball region. The upper medial side region includes the upper medial midfoot region, the upper medial metatarsal region and the upper medial ball region. The knitted element includes a line of broguing. The line of broguing comprises a line of holes. The knitted element comprises a first area of a first type of knit structure and a second area of a second type of knit structure. The second type of knit structure is different from the first type of knit structure. The first area is at least in the upper toe region. The second area is at least in the upper lateral and medial metatarsal regions. The line of broguing being adjacent a rear boundary of the first area. The line of broguing being adjacent a forward boundary of the second area. The upper toe region is seamlessly knitted with the upper medial and lateral ball regions during the knitting step. The upper medial and lateral ball regions are seamlessly knitted with the upper metatarsal region during the knitting step. The upper metatarsal region is seamlessly knitted with the upper lateral and medial midfoot regions during the knitting step. The upper toe region is knitted with the line of broguing during the knitting step. The first and second areas are knitted during the knitting step.

Another aspect of the invention is a method of manufacturing an article of footwear having a knitted upper and a sole. The method comprises knitting with a knitting machine to form a knitted element of the upper such that the knitted element is of a unitary one-piece construction comprising a knitted upper heel region, a knitted upper lateral midfoot region, a knitted upper medial midfoot region, a knitted upper metatarsal region, a knitted upper lateral ball region,

a knitted upper medial ball region, and a knitted upper toe region. The upper metatarsal region includes an upper lateral metatarsal region and an upper medial metatarsal region. The knitted element has an upper lateral side region and an upper medial side region. The upper lateral side region includes the upper lateral midfoot region, the upper lateral metatarsal region and the upper lateral ball region. The upper medial side region includes the upper medial midfoot region, the upper medial metatarsal region and the upper medial ball region. The knitted element comprises a first area of a jersey stitch knit and a second area of a pointelle stitch knit. The first area is at least in the upper toe region. The second area is at least in the upper lateral and medial metatarsal regions. The method further comprises attaching the sole to the upper. The upper toe region is seamlessly knitted with the upper medial and lateral ball regions during the knitting step. The upper medial and lateral ball regions are seamlessly knitted with the upper metatarsal region during the knitting step. The upper metatarsal region is seamlessly knitted with the upper lateral and medial midfoot regions during the knitting step. The first and second areas are knitted during the knitting step.

Further features and advantages, as well as the operation, are described in detail below with reference to the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** is a perspective view of an exemplary embodiment of a shoe of the present disclosure.

FIG. **2** is a top plan view of the shoe of FIG. **1**.

FIG. **3** is a medial side view of the shoe of FIG. **1**.

FIG. **4** is a lateral side view of the shoe of FIG. **1**.

FIG. **5** is a plan view of a knitted element to be formed into a part of an upper of the shoe of FIG. **1**.

FIG. **6** is a flow diagram of a method of making the shoe of FIG. **1** according to an exemplary embodiment of the present disclosure.

Reference numerals in the written specification and in the figures indicate corresponding items.

DETAILED DESCRIPTION

An embodiment of a shoe in accordance with the present invention is indicated by reference numeral **10** in FIGS. **1-4**. The shoe **10** comprises a sole, generally indicated at **12**, a knit upper, generally indicated at **14**, and a welt, generally indicated at **16**. The sole **12** and welt **16** are secured to the upper **14**. The shoe **10** extends forward from a heel end **18** to a toe end **19**. The knit upper **14** has a knitted element **20** and a tongue **22** secured to the knitted element. The knitted element **20** is shown alone in FIG. **5** and shown as part of the assembled shoe in FIGS. **1-5**.

The knitted element **20** is formed of a unitary one-piece construction during a knitting process on a knitting machine (not shown). The knitted element **20** comprises a knitted upper heel region **24**, a knitted upper lateral midfoot region **26***a*, a knitted upper medial midfoot region **26***b*, a knitted upper metatarsal region **28**, a knitted upper lateral ball region **30***a*, a knitted upper medial ball region **30***b*, and a knitted upper toe region **32**. The upper heel region **24** includes a knitted upper lateral heel region **24***a* and a knitted upper medial heel region **24***b*. The upper metatarsal region **28** includes a knitted upper lateral metatarsal region **28***a* and a knitted upper medial metatarsal region **28***b*. The knitted upper toe region **32** includes a knitted upper lateral toe region **32***a* and a knitted upper medial toe region **32***b*. The upper **14** has a knitted upper lateral side region **14***a* and a knitted upper medial side region **14***b*. The upper lateral side region **14***a* includes the upper lateral heel region **24***a*, the upper lateral midfoot region **26***a*, the upper lateral metatarsal region **28***a*, the upper lateral ball region **30***a*, and the upper lateral toe region **32***a*. The upper medial side region **14***b* includes the upper medial heel region **24***b*, the upper medial midfoot region **26***b*, the upper medial metatarsal region **28***b*, the upper medial ball region **30***b*, and the upper medial toe region **32***b*. The upper toe region **32** is seamlessly knitted with the upper lateral and medial ball regions **30***a*, **30***b* during the knitting process. The upper lateral and medial ball regions **30***a*, **30***b* are seamlessly knitted with the upper lateral and medial metatarsal regions **28***a*, **28***b* during the knitting process. The upper lateral and medial metatarsal regions **28***a*, **28***b* are seamlessly knitted with the upper lateral and medial midfoot regions **26***a*, **26***b* during the knitting process.

The knitted element includes a first wingtip pattern, generally indicated at **36**, and a second wingtip pattern, generally indicated at **38**. Each of the first and second wingtip patterns **36**, **38** comprises portions of at least the upper toe region **32**, the upper lateral and medial ball regions **30***a*, **30***b*, and the upper lateral and medial metatarsal regions **28***a*, **28***b*. The upper toe region **32**, the upper lateral and medial ball regions **30***a*, **30***b*, and the upper lateral and medial metatarsal regions **28***a*, **28***b* collectively are knitted with the first and second wingtip patterns **36**, **38** during the knitting process.

The first wingtip pattern **36** comprises a line of broguing **40** comprising a lateral line of broguing **40***a* and a medial line of broguing **40***b*. The upper toe region **32**, the upper lateral and medial ball regions **30***a*, **30***b*, and the upper lateral and medial metatarsal regions **28***a*, **28***b* collectively are knitted with the lateral and medial lines of broguing **40***a*, **40***b*. The lateral line of broguing **40***a* comprises a wing-shaped curved line of holes **42***a*. The lateral line of broguing **40***a* comprises a lateral side broguing portion **44***a* extending forward from at least the upper lateral metatarsal region **28***a* to the upper toe region **32**, and a central broguing portion **46***a* extending rearward from the upper toe region **32**. The lateral side broguing portion **44***a* and the central broguing portion **46***a* are each comprised of some of the holes **42***a* of the lateral line of broguing **40***a*. The medial line of broguing **40***b* comprises a wing-shaped curved line of holes **42***b*. The medial line of broguing **40***b* comprises a medial side broguing portion **44***b* extending forward from at least the upper medial metatarsal region **28***b* to the upper toe region **32**, and a central broguing portion **46***b* extending rearward from the upper toe region **32**. The medial side broguing portion **44***b* and the central broguing portion **46***b* are each comprised of some of the holes **42***b* of the medial line of broguing **40***b*. The central broguing portions **46***a*, **46***b* converge rearwardly toward each other, and meet to constitute a rearwardly pointing apex **48**. The upper **14** further comprises a throat **50**. The apex **48** points rearwardly toward the throat **50** of the upper **14**. Preferably, the holes **42***a*, **42***b* of the lateral and medial lines of broguing **40***a*, **40***b* are in the knitting element via the knitting process as opposed to being formed by removal of material such as by cutting or punching.

The knitted element **20** comprises a first area, generally indicated at **52**, of a first type of knit structure and a second area, generally indicated at **54**, of a second type of knit structure. The second type of knit structure is different from the first type of knit structure. The first area **52** is generally forward of the second area **54**. The first area **52** has a rear boundary **56** and the second area **54** has a forward boundary

58. The rear boundary **56** of the first area **52** and the forward boundary **58** of the second area **54** is coincident and coextensive with each other and define a boundary line **60** between the first and second areas **52**, **54**. The second wingtip pattern **38** comprises the boundary line **60**. The first wingtip pattern **36** is forward of and adjacent the second wingtip pattern **38**. Also, the lateral and medial lines of broguing **40***a*, **40***b* are adjacent the boundary line **60**. As such the lateral and medial lines of broguing **40***a*, **40***b* are adjacent the rear boundary **56** of the first area **52**, and adjacent the forward boundary **58** of the second area **54**. The boundary line **60** has a lateral boundary line **60***a* and a medial boundary line **60***b*. The lateral boundary line **60***a* comprises a wing-shaped curved line having a lateral side portion **62***a* extending forward from at least the upper lateral metatarsal region **28***a* to the upper toe region **32**, and a central portion **64***a* extending rearward from the upper toe region **32**. The medial boundary line **60***b* comprises a wing-shaped curved line having a medial side portion **62***b* extending forward from at least the upper medial metatarsal region **28***b* to the upper toe region **32**, and a central portion **64***b* extending rearward from the upper toe region **32**. The central portions **64***a*, **64***b* of the lateral and medial boundary lines **60***a*, **60***b* converge rearwardly toward each other, and meet to constitute a rearwardly pointing apex **66**. The apex **66** points rearwardly toward the throat **50** of the upper **14**.

The first type of knit structure (that is, the knit structure of the first area **52**) may be more tightly knit than the second type of knit structure (that is, the knit structure of the second area **54**). In this embodiment, the first type of knit structure is a jersey stitch knit and the second type of knit structure is a pointelle stitch knit. The knitted element **20** may be knitted with one or more yarns, such as polyester yarns, nylon yarns, cotton yarns, and spandex yarns. In one embodiment, the knitted element **20** is knitted of polyester covered spandex yarn and hot melt yarn, such that of the finished knitted element, the polyester covered spandex yarn constitutes at least 50% by mass (and more preferably at least 60% by mass), and the hot melt yarn constitutes at least 15% by mass (and more preferably at least 20% by mass but not more than 30% by mass). The hot melt yarn is knitted with the polyester covered spandex yarn during the knitting process. Preferably, the polyester covered spandex yarn has a linear density of between about 120 denier and about 180 denier, and the hot melt yarn has a linear density of between about 80 denier and about 120 denier. In addition to the polyester covered spandex yarn and the hot melt yarn, the knitted element **20** may be knitted with stretch yarn, with the stretch yarn preferably constituting at least 5% by mass of the knitted upper. If stretch yarn is included, it is preferably limited (but need not be limited) to the topline area of the knitted element **20** to provide a stretch function primarily in the ankle region of the upper **14** of the shoe **10**. Preferably, the polyester covered spandex yarn includes a double layer of polyester. Also preferably, the stretch yarn is spandex yarn. In another embodiment, the knitted element **20** is formed by knitting hot melt yarn with polyester yarn during the knitting process such that polyester yarn constitutes at least 50% by mass of the knitted element and the hot melt yarn constitutes at least 15% by mass of the knitted element.

FIG. **6** is a flow diagram of a method of making the shoe **20** of FIGS. **1**-**5**. In step **100**, the knitted element **20** is formed via a knitting machine, such as a CNC knitting machine, as a unitary one-piece construction. During the knitting step **100**, the upper lateral and medial heel regions **24***a*, **24***b* are knitted, the upper lateral and medial midfoot regions **26***a*, **26***b* are knitted, the upper lateral and medial metatarsal regions **28***a*, **28***b* are knitted, the upper lateral and medial ball regions **30***a*, **30***b* are knitted, and the upper lateral and medial toe regions **32***a*, **32***b* are knitted. By being knitted as a as a unitary one-piece construction, it is to be understood these various regions of the knitted element are formed together via the knitting process, as opposed to the regions being formed separately and then sewn or bonded together. As such, the upper toe region **32** is seamlessly knitted with the upper medial and lateral ball regions **30***a*, **30***b* during the knitting step, the upper medial and lateral ball regions are seamlessly knitted with the upper metatarsal region **28** during the knitting step, the upper metatarsal region is seamlessly knitted with the upper lateral and medial midfoot regions **26***a*, **26***b* during the knitting step, and the upper lateral and medial midfoot regions are seamlessly knitted with the upper lateral and medial heel regions **24***a*, **24***b* during the knitting step.

The knitted element **20** is also knitted with a multiple of different types of knit structures during the knitting step. As described above, the first area **52** is of the first type of knit structure (e.g., jersey stitch knit) and the second area **54** is of the second type of knit structure (e.g., pointelle stitch knit). Also, the holes **42***a*, **42***b* of the lateral and medial lines of broguing **40***a*, **40***b* are formed via the knitting step, as opposed to being formed via removal of material (e.g., punching, cutting, etc.) after the knitting step. As shown in FIG. **5**, the knitted element **20** also includes lateral and medial heel areas **70***a*, **70***b* of the second type of knit structure (e.g., pointelle stitch knit), lateral and medial midfoot areas **72***a*, **72***b* of the second type of knit structure (e.g., pointelle stitch knit), and lateral and medial eyestay areas **74***a*, **74***b* of the second type of knit structure (e.g., pointelle stitch knit). Broguing holes forming lines of broguing (the same or similar in form and construction to the lateral and medial lines of broguing **40***a*, **40***b*) are between the lateral heel area **70***a* and the lateral midfoot area **72***a*, between the lateral midfoot area and the lateral eyestay area **74***a*, between the lateral midfoot region and the second area **52**, between the lateral eyestay area and the second area, between the medial heel area **70***b* and the medial midfoot area **72***b*, between the medial midfoot area and the medial eyestay area **74***b*, between the medial midfoot region and the second area, and between the medial eyestay area and the second area.

After the knitted element **20** is knitted via the knitting step **100**, the knitted element is pressed with a hot press during a pressing step, indicated at reference number **102** in FIG. **6**.

During step **104**, the upper **14** is formed by attaching a strobel board **80** (see FIG. **2**)) to the knitted element **20**, attaching the tongue **22** to the knitted element, and attaching the upper lateral heel region **24***a* to the upper medial heel region **24***b*. A heel counter **82** (see FIG. **1**) may also be attached to the inner surface of the upper lateral and medial heel regions **24***a*, **24***b*. The upper **14** is then placed around a last at step **106**. Adhesive is applied to the underside of the strobel board **80**, and the upper **14** is passed via a conveyer through an oven (or heat tunnel). The oven heats the adhesive and also heats the hot melt yarn of the knitted element **20**. The heating and subsequent cooling of the hot melt yarn causes the hot melt yarn to affix to the other yarns (e.g., to the polyester yarn or polyester covered spandex yarn) so that the upper **14** conforms to the shape of the last. The sole **12** and welt **16** are bonded via the adhesive to the strobel board **80** and bottom periphery of the knitted element at step **108**.

An inner surface of the knitted element **20** (i.e., the surface facing the inside of the shoe **10**) may be lined or

unlined. In an unlined configuration, the inner surface of the knitted element **20** is devoid of a lining (other than the heel counter **82** or eyelet reinforcement adjacent the throat) and such inner surface of the knitted element defines at least a majority of a foot receiving cavity of the shoe. In a completely lined configuration, a lining is between the inner surface of the knitted element and the foot receiving cavity of the shoe such that the foot receiving cavity of the shoe is in part defined by the lining (instead of by the inner surface of the knitted element).

In view of the foregoing, it should be appreciated that the invention has several advantages over the prior art.

As various modifications could be made in the constructions and methods herein described and illustrated without departing from the scope of the invention, it is intended that all matter contained in the foregoing description or shown in the accompanying drawings shall be interpreted as illustrative rather than limiting. For example, the wedge shoe may be any type of wedge shoe, such as a wedge sandal, a wedge pump, an open-toe wedge, a platform wedge, etc. Thus, the breadth and scope of the present invention should not be limited by any of the above-described exemplary embodiments, but should be defined only in accordance with the following claims appended hereto and their equivalents

It should also be understood that when introducing elements of the present invention in the claims or in the above description of exemplary embodiments of the invention, the terms "comprising," "including," and "having" are intended to be open-ended and mean that there may be additional elements other than the listed elements. Additionally, the term "portion" should be construed as meaning some or all of the item or element that it qualifies. Moreover, use of identifiers such as first, second, and third should not be construed in a manner imposing any relative position or time sequence between limitations.

What is claimed is:

1. A shoe comprising:

a knit upper;

a sole secured to the upper;

the knit upper having a knitted element, the knitted element being formed of a unitary one-piece construction during a knitting process on a knitting machine, the knitted element comprising a knitted upper heel region, a knitted upper lateral midfoot region, a knitted upper medial midfoot region, a knitted upper metatarsal region, a knitted upper lateral ball region, a knitted upper medial ball region, and a knitted upper toe region, the upper metatarsal region including a knitted upper lateral metatarsal region and a knitted upper medial metatarsal region, the upper having a knitted upper lateral side region and a knitted upper medial side region, the upper lateral side region including the upper lateral midfoot region, the upper lateral metatarsal region and the upper lateral ball region, the upper medial side region including the upper medial midfoot region, the upper medial metatarsal region and the upper medial ball region, the upper toe region being seamlessly knitted with the upper medial and lateral ball regions during the knitting process, the upper medial and lateral ball regions being seamlessly knitted with the upper metatarsal region during the knitting process, the upper metatarsal region being seamlessly knitted with the upper lateral and medial midfoot regions during the knitting process, the knitted element including a wingtip pattern, the wingtip pattern being portions of at least the upper toe region, the upper lateral and medial ball regions, and the upper lateral and medial metatarsal regions;

the upper toe region, the upper lateral and medial ball regions, and the upper lateral and medial metatarsal regions collectively being knitted with the wingtip pattern during the knitting process, the wingtip pattern comprising a medial line of broguing and a lateral line of broguing, the upper toe region, the upper lateral and medial ball regions, and the upper lateral and medial metatarsal regions collectively being knitted with the medial and lateral lines of broguing, the medial line of broguing comprising a wing-shaped curved line of holes having a medial side broguing portion extending forward from at least the upper medial metatarsal region to the upper toe region and a central broguing portion extending rearward from the upper toe region, the lateral line of broguing comprising a wing-shaped curved line of holes having a lateral side broguing portion extending forward from at least the upper lateral metatarsal region to the upper toe region and a central broguing portion extending rearward from the upper toe region, the rearwardly extending central broguing portion of the medial line of broguing converging toward the rearwardly extending central broguing portion of the lateral line of broguing.

2. A shoe as set forth in claim **1** wherein the central broguing portions of the medial and lateral lines of broguing meet at a rearwardly pointing apex.

3. A shoe as set forth in claim **2** wherein the upper further comprises a throat, and wherein the apex points toward the throat.

4. A shoe as set forth in claim **1** wherein the knitted element comprises a first area of a first type of knit structure and a second area of a second type of knit structure, the second type of knit structure being different from the first type of knit structure, the medial and lateral lines of broguing being adjacent a rear boundary of the first area, the medial and lateral lines of broguing being adjacent a forward boundary of the second area.

5. A shoe as set forth in claim **4** wherein the first type of knit structure is more tightly knit than the second type of knit structure.

6. A shoe as set forth in claim **4** wherein the first type of knit structure is a jersey stitch knit and the second type of knit structure is a pointelle stitch knit.

7. A shoe as set forth in claim **1** wherein the knitted element comprises covered spandex yarn and hot melt yarn, the hot melt yarn being knitted with the covered spandex yarn during the knitting process.

8. A shoe as set forth in claim **7** wherein the hot melt yarns constitute at least 15% by mass of the knitted element.

9. A shoe as set forth in claim **8** wherein the covered spandex yarn constitute at least 50% by mass of the knitted element.

10. A shoe as set forth in claim **9** wherein the covered spandex yarn comprises polyester covered spandex yarn.

11. A shoe as set forth in claim **10** wherein the knitted element further comprises stretch yarn, the stretch yarn constituting at least 5% by mass of the knitted element.

12. A shoe as set forth in claim **1** wherein the knitted element comprises polyester yarn and hot melt yarn, the hot melt yarn being knitted with the polyester yarn during the knitting process.

13. A shoe as set forth in claim **7** wherein the covered spandex yarn has a linear density of between about 120

denier and about 180 denier, and wherein the hot melt yarn has a linear density of between about 80 denier and about 120 denier.

14. A shoe as set forth in claim **1** wherein the knitted element comprises hot melt yarn, the hot melt yarn constituting at least 15% by mass of the knitted element.

15. A shoe as set forth in claim **1** wherein the knitted element comprises a first area of a first type of knit structure and a second area of a second type of knit structure, the second type of knit structure being different from the first type of knit structure, the first area having a rear boundary, the second area having a forward boundary, the rear boundary of the first area and the forward boundary of the second area being coincident and coextensive with each other and defining a boundary line between the first and second areas, the wingtip pattern comprising the boundary line, the boundary line having a medial boundary line and a lateral boundary line, the medial boundary line comprising a wing-shaped curved line having a medial side portion extending forward from at least the upper medial metatarsal region to the upper toe region and a central portion extending rearward from the upper toe region, the lateral boundary line comprising a wing-shaped curved line having a lateral side portion extending forward from at least the upper lateral metatarsal region to the upper toe region and a central portion extending rearward from the upper toe region, the rearwardly extending central portion of the medial boundary line converging toward the rearwardly extending central portion of the lateral boundary line.

16. A shoe as set forth in claim **15** wherein the first type of knit structure is a jersey stitch knit and the second type of knit structure is a pointelle stitch knit.

17. A shoe comprising:

a knit upper;

a sole secured to the upper;

the knit upper having a knitted element, the knitted element being formed of a unitary one-piece construction during a knitting process on a knitting machine, the knitted element comprising a knitted upper heel region, a knitted upper lateral midfoot region, a knitted upper medial midfoot region, a knitted upper metatarsal region, a knitted upper lateral ball region, a knitted upper medial ball region, and a knitted upper toe region, the upper metatarsal region including a knitted upper lateral metatarsal region and a knitted upper medial metatarsal region, the upper having a knitted upper lateral side region and a knitted upper medial side region, the upper lateral side region including the upper lateral midfoot region, the upper lateral metatarsal region and the upper lateral ball region, the upper medial side region including the upper medial midfoot region, the upper medial metatarsal region and the upper medial ball region, the upper toe region being seamlessly knitted with the upper medial and lateral ball regions during the knitting process, the upper medial and lateral ball regions being seamlessly knitted with the upper metatarsal region during the knitting process, the upper metatarsal region being seamlessly knitted with the upper lateral and medial midfoot regions during the knitting process, the knitted element including a line of broguing, the upper toe region being knitted with the line of broguing during the knitting process, the line of broguing comprising a line of holes, the knitted element comprising a first area of a first type of knit structure and a second area of a second type of knit structure, the second type of knit structure being different from the first type of knit structure, the first area being at least in the upper toe region, the second area being at least in the upper lateral and medial metatarsal regions, the line of broguing being adjacent a rear boundary of the first area, the line of broguing being adjacent a forward boundary of the second area.

18. A shoe as set forth in claim **17** wherein the first type of knit structure is a jersey stitch knit and the second type of knit structure is a pointelle stitch knit.

19. A shoe as set forth in claim **18** wherein the first type of knit structure is more tightly knit than the second type of knit structure.

20. A method of manufacturing an upper for an article of footwear, the method comprising:

knitting with a knitting machine to form a knitted element of the upper such that the knitted element is of a unitary one-piece construction comprising a knitted upper heel region, a knitted upper lateral midfoot region, a knitted upper medial midfoot region, a knitted upper metatarsal region, a knitted upper lateral ball region, a knitted upper medial ball region, and a knitted upper toe region, the upper metatarsal region including an upper lateral metatarsal region and an upper medial metatarsal region, the knitted element having an upper lateral side region and an upper medial side region, the upper lateral side region including the upper lateral midfoot region, the upper lateral metatarsal region and the upper lateral ball region, the upper medial side region including the upper medial midfoot region, the upper medial metatarsal region and the upper medial ball region, the knitted element including a line of broguing, the line of broguing comprising a line of holes, the knitted element comprising a first area of a first type of knit structure and a second area of a second type of knit structure, the second type of knit structure being different from the first type of knit structure, the first area being at least in the upper toe region, the second area being at least in the upper lateral and medial metatarsal regions, the line of broguing being adjacent a rear boundary of the first area, the line of broguing being adjacent a forward boundary of the second area;

the upper toe region being seamlessly knitted with the upper medial and lateral ball regions during the knitting step;

the upper medial and lateral ball regions being seamlessly knitted with the upper metatarsal region during the knitting step;

the upper metatarsal region being seamlessly knitted with the upper lateral and medial midfoot regions during the knitting step;

the upper toe region being knitted with the line of broguing during the knitting step;

the first and second areas being knitted during the knitting step.

21. A method of manufacturing an article of footwear having a knitted upper and a sole, the method comprising:

knitting with a knitting machine to form a knitted element of the upper such that the knitted element is of a unitary one-piece construction comprising a knitted upper heel region, a knitted upper lateral midfoot region, a knitted upper medial midfoot region, a knitted upper metatarsal region, a knitted upper lateral ball region, a knitted upper medial ball region, and a knitted upper toe region, the upper metatarsal region including an upper lateral metatarsal region and an upper medial metatarsal region, the knitted element having an upper lateral side region and an upper medial side region, the upper lateral side region including the upper lateral midfoot

region, the upper lateral metatarsal region and the upper lateral ball region, the upper medial side region including the upper medial midfoot region, the upper medial metatarsal region and the upper medial ball region, the knitted element comprising a first area of a jersey stitch knit and a second area of a pointelle stitch knit, the first area being at least in the upper toe region, the second area being at least in the upper lateral and medial metatarsal regions;

attaching the sole to the upper;

the upper toe region being seamlessly knitted with the upper medial and lateral ball regions during the knitting step;

the upper medial and lateral ball regions being seamlessly knitted with the upper metatarsal region during the knitting step;

the upper metatarsal region being seamlessly knitted with the upper lateral and medial midfoot regions during the knitting step;

the first and second areas being knitted during the knitting step.

22. A method as set forth in claim **21** wherein the upper is knitted during the knitting step with at least first and second yarns, the first yarn being of a hot melt yarn, the second yarn being of a yarn other than a hot melt yarn.

23. A method as set forth in claim **22** further comprising:

placing the upper around a last;

applying heat to the upper while the upper is around the last to cause the hot melt yarn to affix to the second yarn.

* * * * *