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Farage

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(54) **FOOTWEAR HAVING PIVOTABLE HEEL**

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A43B 23/08 (2006.01)
A43B 23/02 (2006.01)

(52) **U.S. Cl.**
CPC ***A43B 11/00*** (2013.01); ***A43B 23/0245*** (2013.01); ***A43B 23/088*** (2013.01)

(58) **Field of Classification Search**
CPC A43B 11/00; A43B 11/02; A43B 23/08
USPC 36/138, 105
See application file for complete search history.

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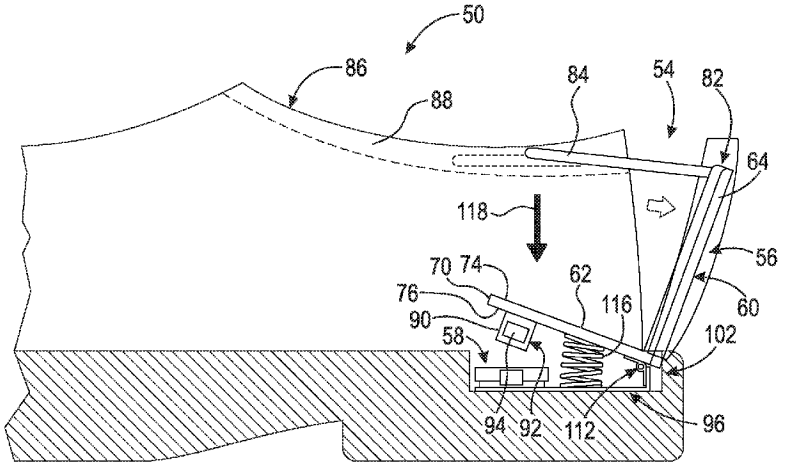
(57) **ABSTRACT**

A heel portion for a footwear including: a heel assembly having a brace member including a first support member and a second support member, a U-shaped guide fixedly secured to and extending generally perpendicularly from the second support member, and a key having a first engagement member fixedly secured to the first support member, a base member, a locking mechanism fixedly secured to the base member having an activation arm, a locking lug portion including a first lug portion opening, a second lug portion opening and a first engagement lug disposed within the first lug portion opening and adapted to releasably engage the first engagement member, the locking lug portion is connected to the activation arm, a spacer including a first spacer opening and a second spacer opening, the first spacer opening substantially aligned with the first lug portion opening and the second spacer opening substantially aligned with the second lug portion opening, and a spring disposed within the second lug portion opening and the second spacer opening; and, a hinge fixedly secured to the heel assembly and the base member adapted to permit pivotal movement therebetween.

21 Claims, 9 Drawing Sheets



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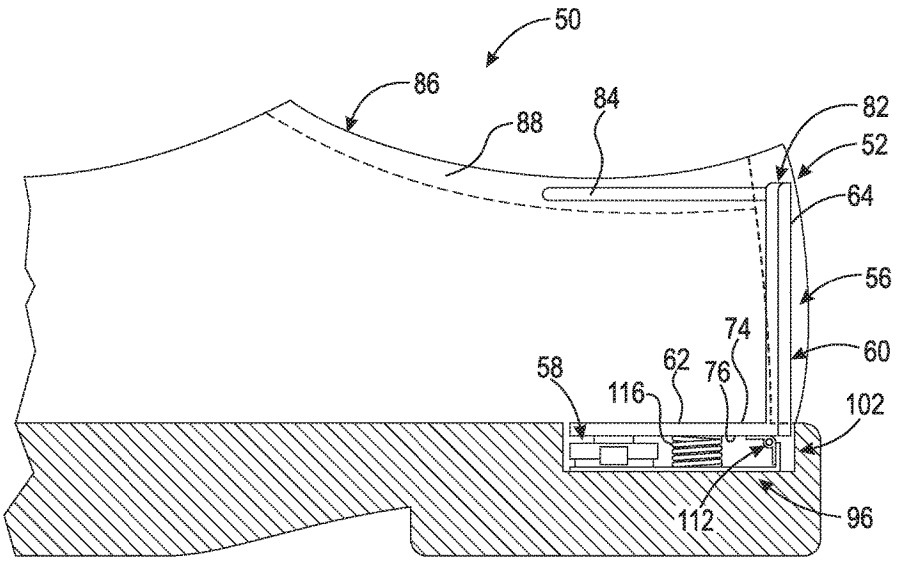
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Fig. 1

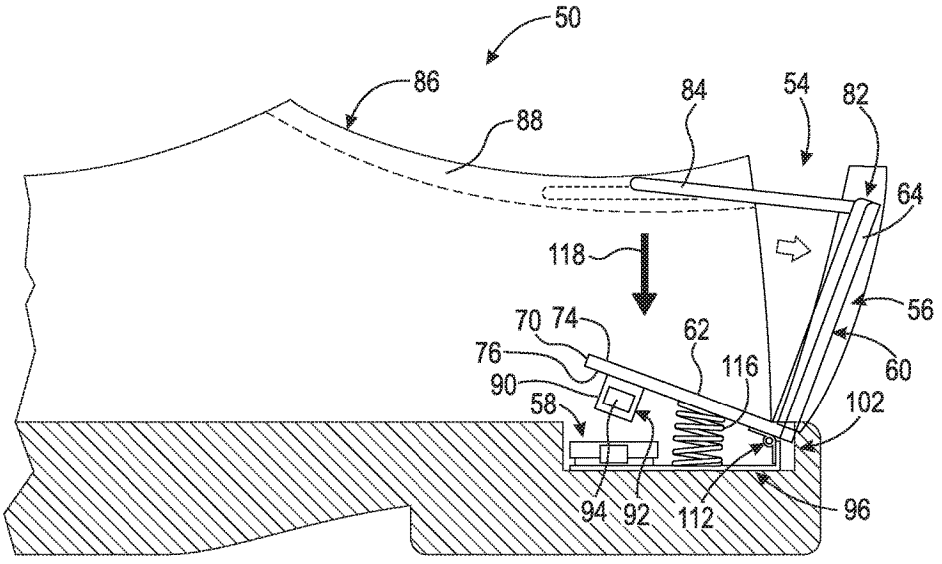
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Fig. 2

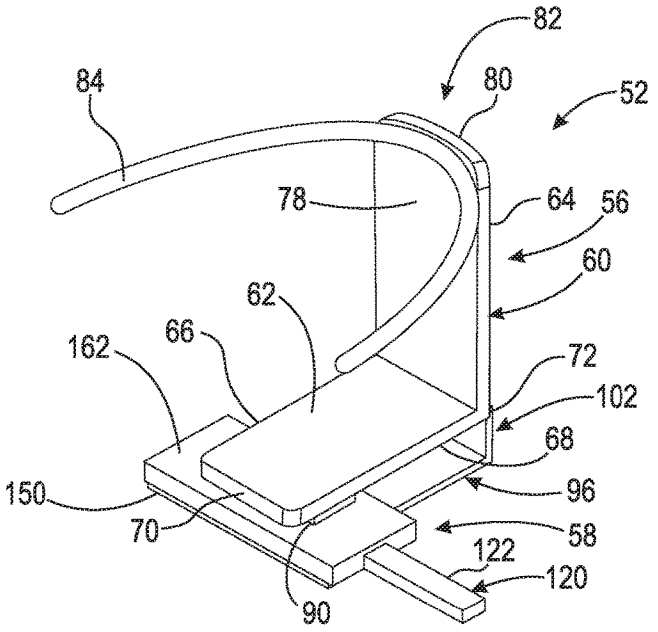
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Fig. 3

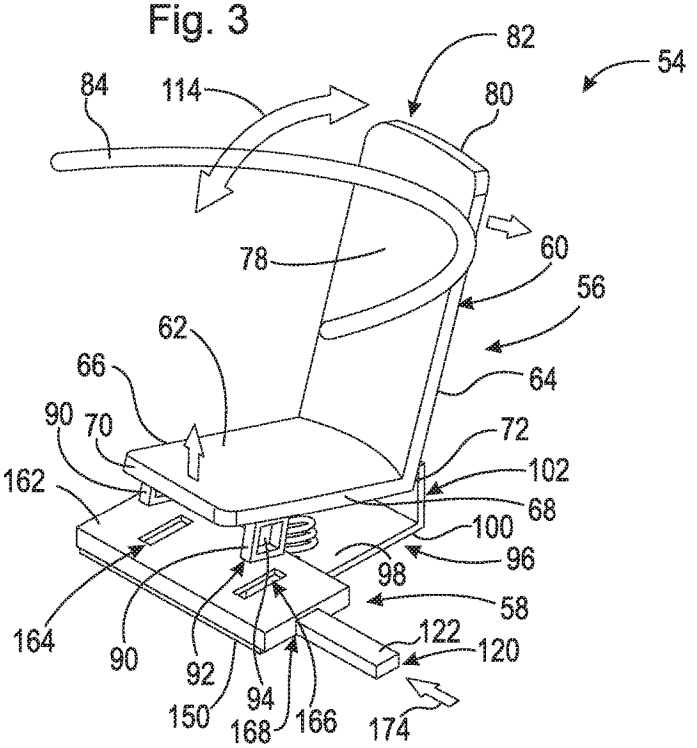
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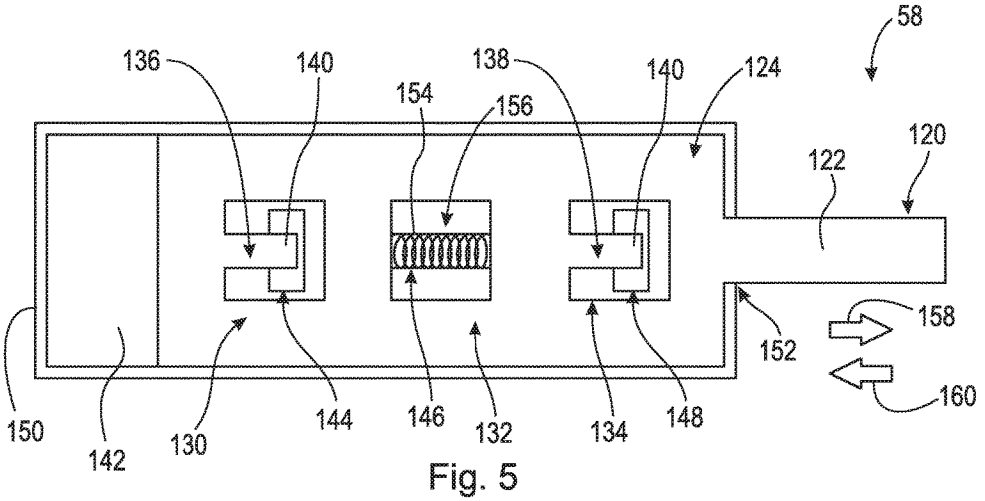
Fig. 4



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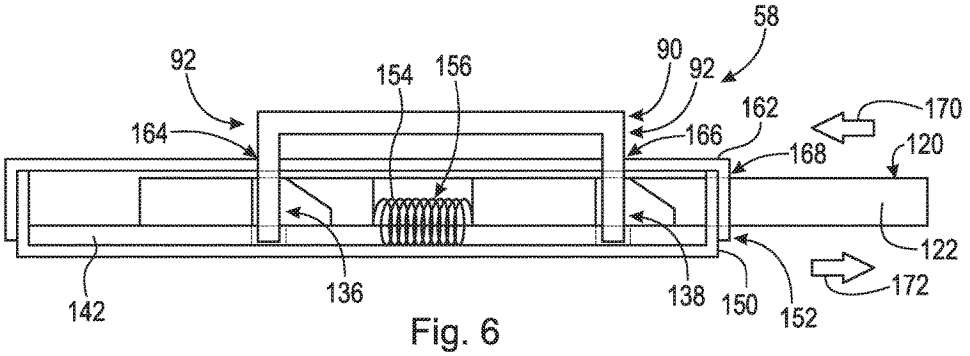

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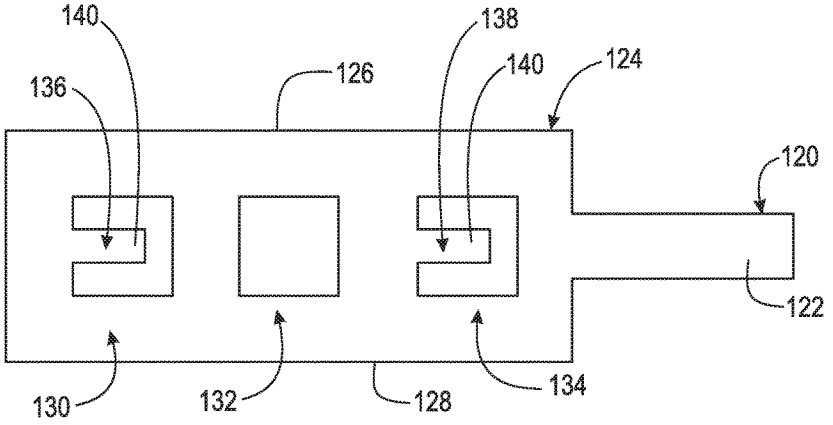
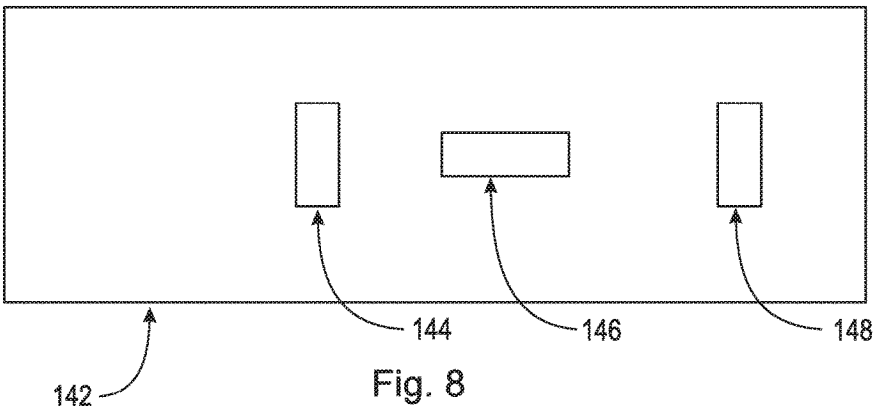


Fig. 7



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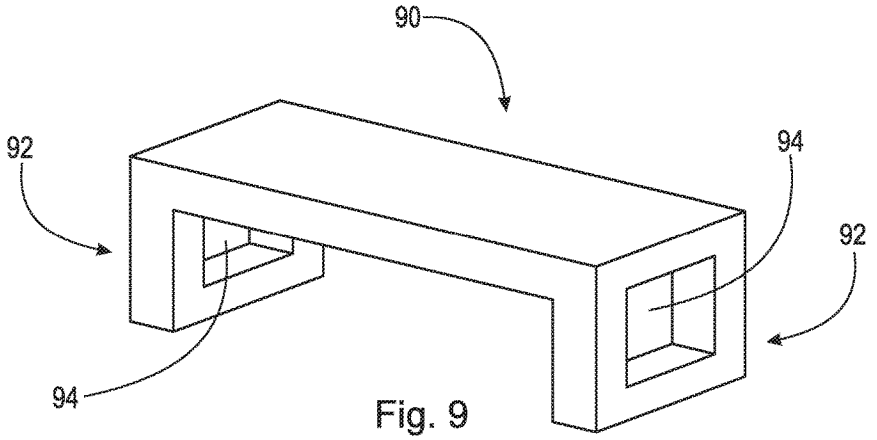

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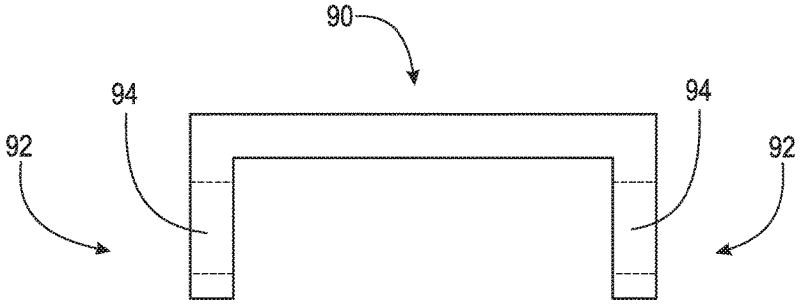

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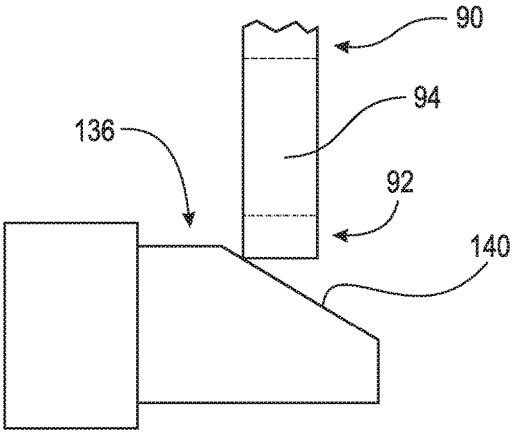
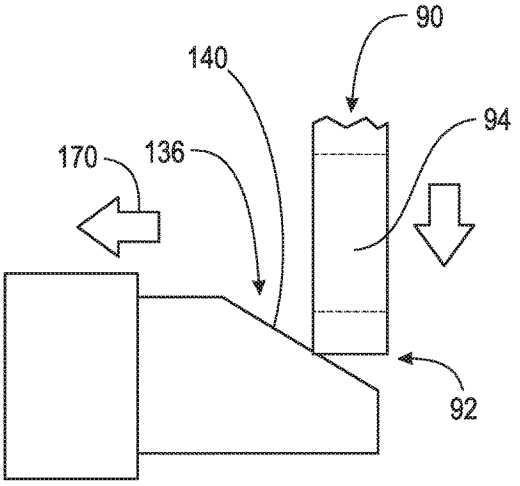


Fig. 11



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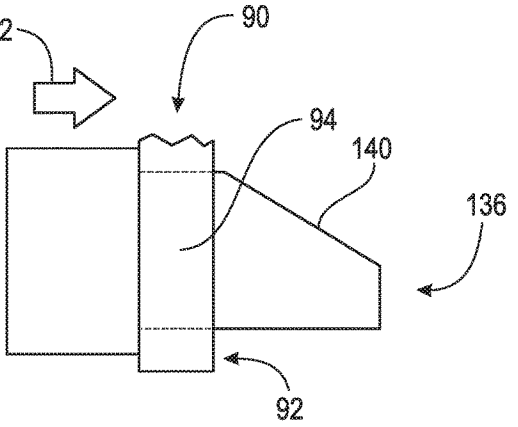

Fig. 13

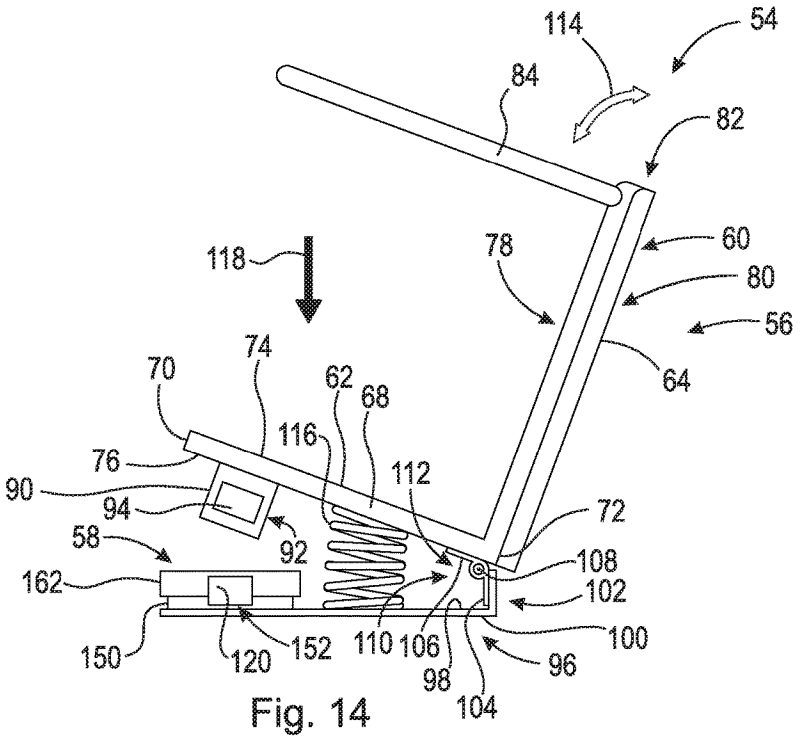
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Fig. 14

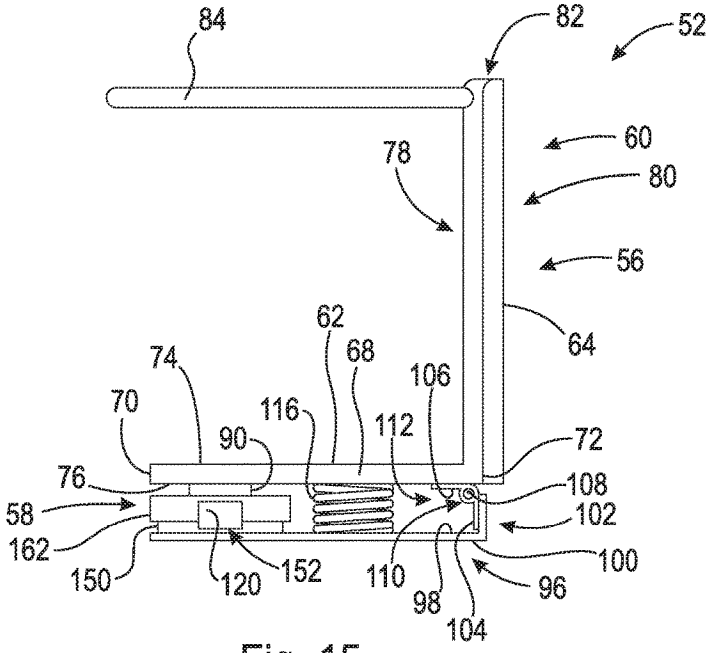
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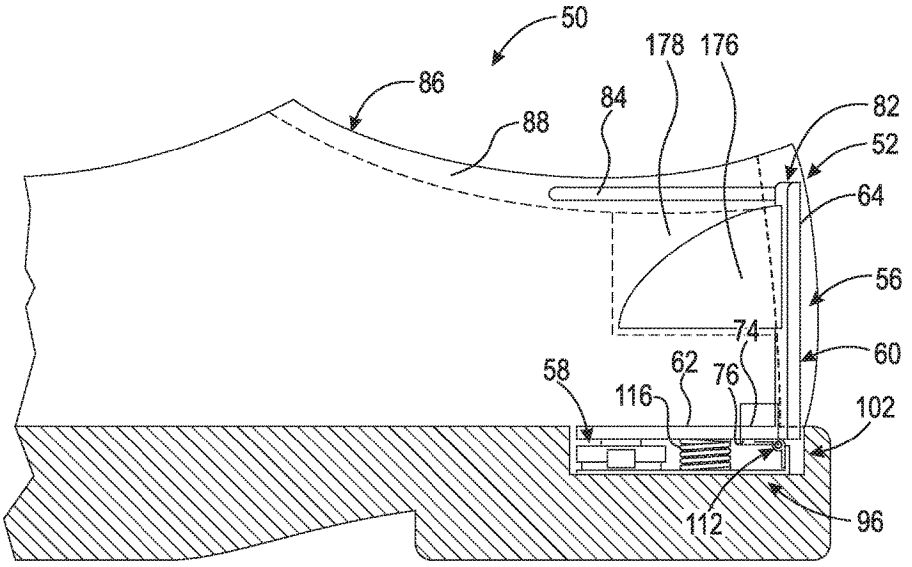
Fig. 15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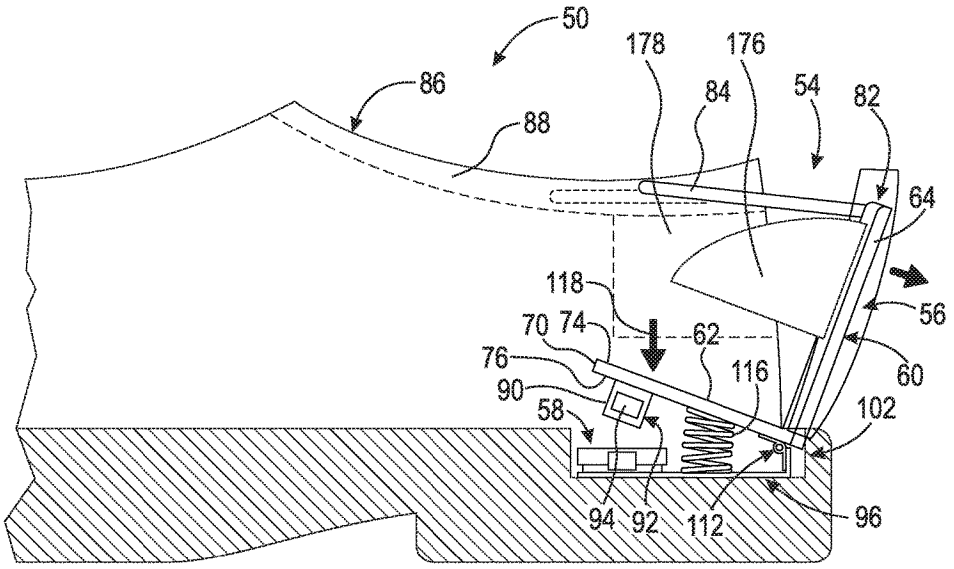
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Fig. 17

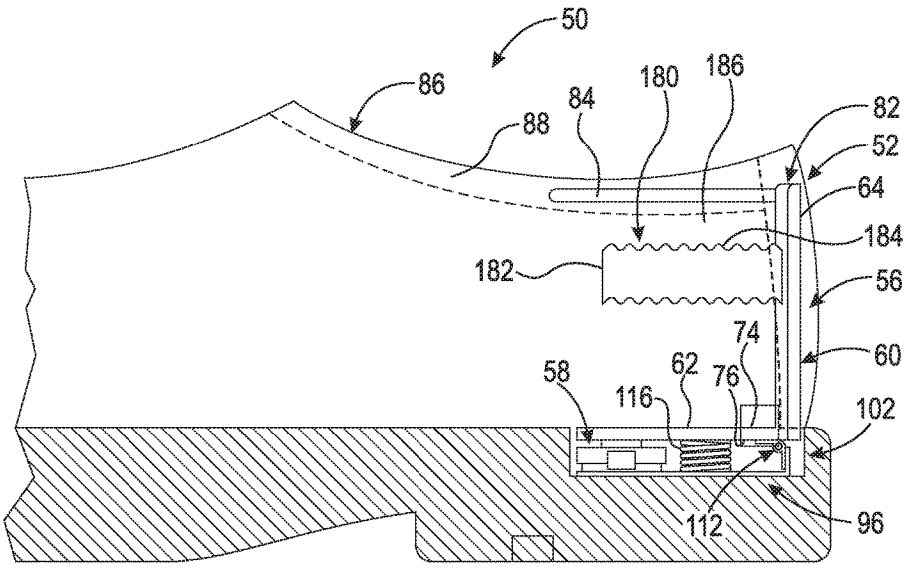
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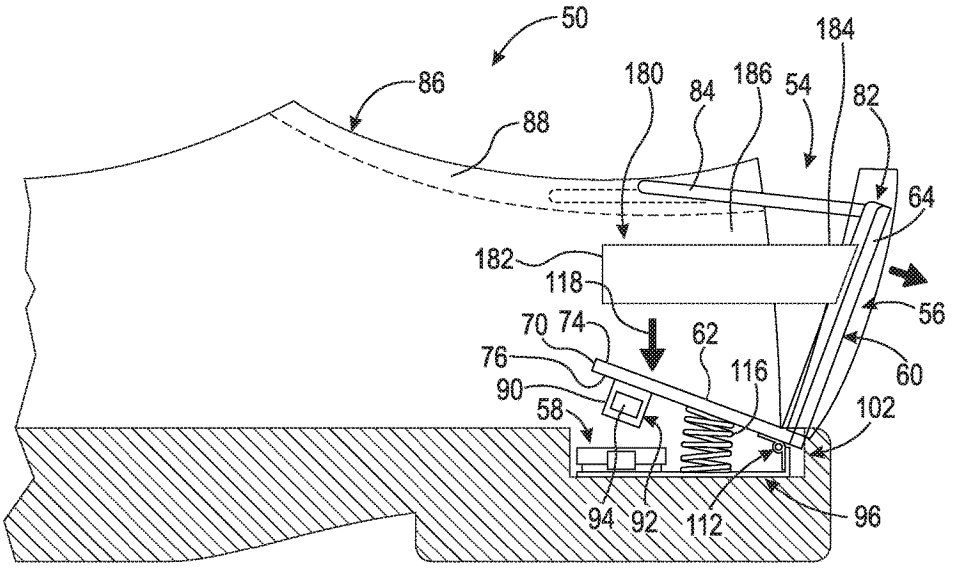
Fig. 18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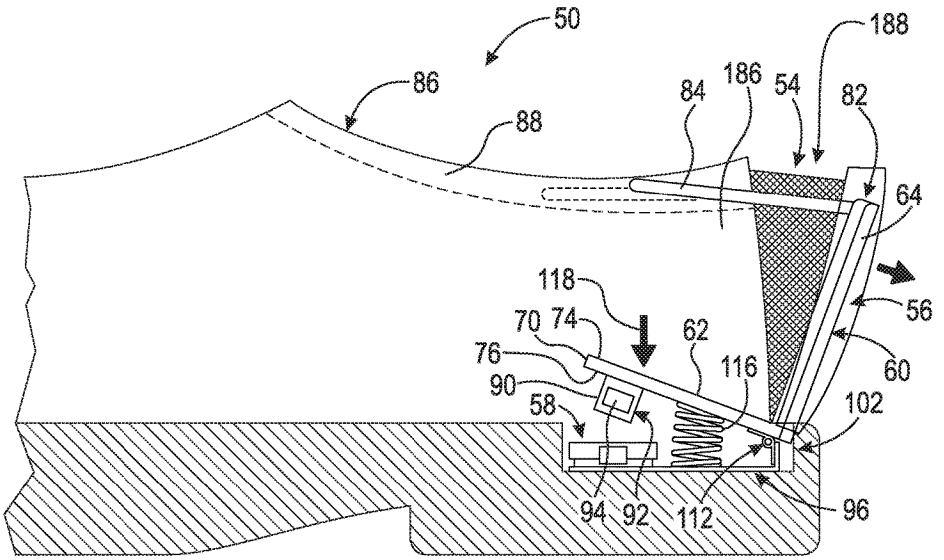
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Fig. 20

FOOTWEAR HAVING PIVOTABLE HEEL

FIELD OF THE INVENTION

The invention broadly relates to footwear, more specifically to footwear for people with reduced dexterity or mobility, and even more particularly to footwear for people with reduced dexterity or mobility having a releasably lockable heel portion.

BACKGROUND OF THE INVENTION

Footwear is donned and removed by most people many times per day. For example, people interact with their footwear while entering and exiting a home, a gym, etc. For most people, the acts of putting on and taking off their footwear is an effortless task which is often overlooked due to its considerable ease. The foregoing applies to a variety of footwear types, e.g., slippers, flip-flops, sneakers, dress shoes and boots. Moreover, a variety of securing means are utilized by the various types of shoes. For example, slippers generally do not require any securing means, while sneakers may include hook and loop fasteners and dress shoes may use conventional laces.

For some people, the acts of putting on and taking off their shoes presents difficulty and may be a source of embarrassment or anxiety. For example, some medical conditions, e.g., arthritis, make the acts a long and sometimes painful process. Other people, e.g., younger children, try to save time by simple slipping on already tied shoes or wedging one shoe against the other to assist with removing a shoe. Still other people are always looking for interesting or trending shoes or shoes styles to wear for pleasure or to attract attention. Such people want different and unique shoes so they stand out as unique.

As can be derived from the variety of devices and methods directed at securing footwear on a person, many means have been contemplated to accomplish the desired end, i.e., a secure, comfortable and convenient fit. Heretofore, tradeoffs between aesthetic appearance and ease of use were required. Thus, there is a need for a new footwear having a device that simplifies the acts of putting on and/or removing the footwear, and that can be used by all types of people. There is a further long-felt need for footwear satisfying the foregoing needs that is easy to manufacture and has a low cost of production. Furthermore, there is a long-felt need for the foregoing device that can be adapted for use in new footwear and that is desirable to people interested in wearing trendy and unique footwear for the attention it commands.

BRIEF SUMMARY OF THE INVENTION

Broadly, the present invention comprises a footwear having a flexible or pivotable heel assembly and a locking mechanism. The pivotable heel assembly is movable between a locked heel position and an unlocked heel position.

In some embodiments, the pivotable heel assembly includes a brace member having first and second support members. The first support member is connected to a base member via a hinge. The first support member includes a key extending therefrom, which key includes engagement members that define engagement member openings. A biasing member, e.g., a leaf or coil spring, is mounted on the base member between the first support member and the base.

In some embodiments, a U-shaped guide is connected to the second support member and is adapted to slide in and out of a recess defined in the top collar of a shoe.

In some embodiments, the key is adapted to be received in a locking mechanism which is connected to the base member. The locking mechanism includes a release arm and has engagement lugs. The locking mechanism includes a locking lug housing and a housing cover through which the release arm extends. The locking mechanism includes a biasing member, e.g., a spring, which forces the release arm to extend from the locking lug housing.

When the engagement members move into contact with the engagement lugs, the lugs move and compress the biasing member within the locking mechanism, until the engagement lugs are aligned with the engagement member openings in the engagement members. Subsequently, the engagement lugs move into the engagement member openings thereby locking the engagement members to the locking lugs. Applying a force in a linear direction to the release arm releases the engagement members from the locking mechanism, thereby releasing the locking mechanism and thus the pivotable heel.

It should be appreciated that the present pivotable heel assembly and locking mechanism may be installed in existing footwear designs at the point of manufacture.

The present invention broadly comprises a heel portion for a footwear including a heel assembly, a base member, a locking mechanism and a hinge. The heel assembly includes a brace member having a first support member and a second support member, a U-shaped guide fixedly secured to and extending generally perpendicularly from the second support member, and a key having a first engagement member fixedly secured to the first support member. The locking mechanism is fixedly secured to the base member and includes an activation arm, a locking lug portion having a first lug portion opening, a second lug portion opening and a first engagement lug disposed within the first lug portion opening and adapted to releasably engage the first engagement member, the locking lug portion is connected to the activation arm, a spacer having a first spacer opening and a second spacer opening, the first spacer opening substantially aligned with the first lug portion opening and the second spacer opening substantially aligned with the second lug portion opening, and a spring disposed within the second lug portion opening and the second spacer opening. The hinge is fixedly secured to the heel assembly and the base member and is adapted to permit pivotal movement therebetween.

Moreover, the present invention also broadly comprises a footwear including a heel assembly, a base member, a locking mechanism, a hinge and a top collar. The heel assembly includes a brace member having a first support member and a second support member, a U-shaped guide fixedly secured to and extending generally perpendicularly from the second support member, and a key having a first engagement member fixedly secured to the first support member. The locking mechanism is fixedly secured to the base member and includes an activation arm, a locking lug portion having a first lug portion opening, a second lug portion opening and a first engagement lug disposed within the first lug portion opening and adapted to releasably engage the first engagement member, the locking lug portion is connected to the activation arm, a spacer having a first spacer opening and a second spacer opening, the first spacer opening substantially aligned with the first lug portion opening and the second spacer opening substantially aligned with the second lug portion opening, and a spring disposed within the second lug portion opening and the second spacer

opening. The hinge is fixedly secured to the heel assembly and the base member and is adapted to permit pivotal movement therebetween. The top collar includes a top collar recess adapted to receive the U-shaped guide.

These and other objects and advantages of the present invention will be readily appreciable from the following description of preferred embodiments of the invention and from the accompanying drawings and claims.

BRIEF DESCRIPTION OF THE DRAWINGS

The nature and mode of operation of the present invention will now be more fully described in the following detailed description of the invention taken with the accompanying drawing figures, in which:

FIG. **1** is a cross sectional view of an embodiment of a present footwear including a pivotable heel assembly in a locked position;

FIG. **2** is a cross sectional view of an embodiment of a present footwear including a pivotable heel assembly in an unlocked position;

FIG. **3** is a perspective view of an embodiment of a present pivotable heel assembly and locking mechanism arranged in a locked heel position;

FIG. **4** is a perspective view of an embodiment of a present pivotable heel assembly and locking mechanism arranged in an unlocked heel position;

FIG. **5** is a top plan view of an embodiment of a present locking mechanism having the housing cover removed;

FIG. **6** is a cross sectional view of an embodiment of a present locking mechanism;

FIG. **7** is a top plan view of an embodiment of a release arm and locking lug portion of a present locking mechanism;

FIG. **8** is a top plan view of an embodiment of a spacer for a present locking mechanism;

FIG. **9** is a perspective view of an embodiment of a key for a present locking mechanism;

FIG. **10** is a side elevational view of the key of FIG. **9**;

FIG. **11** is a side elevational view of an embodiment of a locking lug and key for a present locking mechanism depicted in an unlocked position;

FIG. **12** is side elevational view of an embodiment of a locking lug and key for a present locking mechanism depicted in a partially engaged position;

FIG. **13** is side elevational view of an embodiment of a locking lug and key for a present locking mechanism depicted in a locked position;

FIG. **14** is a side elevational view of an embodiment of a present pivotable heel assembly and locking mechanism in an unlocked position;

FIG. **15** is a side elevational view of an embodiment of a present pivotable heel assembly and locking mechanism in a locked position;

FIG. **16** is a cross sectional view of an embodiment of a present footwear including a pivotable heel assembly in a locked position;

FIG. **17** is a cross sectional view of an embodiment of a present footwear including a pivotable heel assembly in an unlocked position;

FIG. **18** is a cross sectional view of an embodiment of a present footwear including a pivotable heel assembly in a locked position;

FIG. **19** is a cross sectional view of an embodiment of a present footwear including a pivotable heel assembly in an unlocked position; and,

FIG. **20** is a cross sectional view of an embodiment of a present footwear including a pivotable heel assembly in an unlocked position.

DETAILED DESCRIPTION OF THE INVENTION

At the outset, it should be appreciated that like drawing numbers on different drawing views identify identical, or functionally similar, structural elements of the invention. While the present invention is described with respect to what is presently considered to be the preferred aspects, it is to be understood that the invention as claimed is not limited to the disclosed aspects.

Furthermore, it is understood that this invention is not limited to the particular methodology, materials and modifications described and as such may, of course, vary. It is also understood that the terminology used herein is for the purpose of describing particular aspects only, and is not intended to limit the scope of the present invention, which is limited only by the appended claims.

Unless defined otherwise, all technical and scientific terms used herein have the same meaning as commonly understood to one of ordinary skill in the art to which this invention belongs. It should be appreciated that the term "footwear" is to be broadly construed to include "shoes", "slippers", "sandals" and "boots", and such terms may be used interchangeably as appearing in the specification and claims. Moreover, as used herein, the phrases "comprises at least one of" and "comprising at least one of" in combination with a system or element is intended to mean that the system or element includes one or more of the elements listed after the phrase. For example, a device comprising at least one of: a first element; a second element; and, a third element, is intended to be construed as any one of the following structural arrangements: a device comprising a first element; a device comprising a second element; a device comprising a third element; a device comprising a first element and a second element; a device comprising a first element and a third element; a device comprising a first element, a second element and a third element; or, a device comprising a second element and a third element. A similar interpretation is intended when the phrase "used in at least one of:" is used herein. Furthermore, as used herein, "and/or" is intended to mean a grammatical conjunction used to indicate that one or more of the elements or conditions recited may be included or occur. For example, a device comprising a first element, a second element and/or a third element, is intended to be construed as any one of the following structural arrangements: a device comprising a first element; a device comprising a second element; a device comprising a third element; a device comprising a first element and a second element; a device comprising a first element and a third element; a device comprising a first element, a second element and a third element; or, a device comprising a second element and a third element.

Although any methods, devices or materials similar or equivalent to those described herein can be used in the practice or testing of the invention, the preferred methods, devices, and materials are now described.

Adverting now to the figures, the following is best understood in view of FIGS. **1** through **4**. Shoe **50** is depicted in locked heel position **52** in FIG. **1**, and depicted in unlocked heel position **54** in FIG. **2**. Shoe **50** comprises pivotable heel assembly **56** and locking mechanism **58**. Pivotable heel assembly **56** is described in greater detail herebelow.

In some embodiments, pivotable heel assembly **56** comprises brace member **60**. Brace member **60** comprises first and second support members **62** and **64**, respectively. First and second support members **62** and **64**, respectively, are joined together, for example via a weld or adhesive, or alternatively, first and second support members **62** and **64**, respectively, can be formed as a single component, e.g., a molded plastic, formed metal, molded/formed semi-rigid or rigid fabric, and combinations thereof.

First support member **62** of brace member **60** has opposed first and second side edges **66** and **68**, respectively, joined by opposed third and fourth edges **70** and **72**, respectively. First support member **62** further comprises opposed first support member top and bottom surfaces **74** and **76**, respectively. In some embodiments, fourth edge **72** is convex so as to mimic the curvature of a heel of a foot (not shown) so that the present shoe **50** is comfortable when worn, or may be customized based on an user's foot and heel shape and size. Second support member **64** of brace **60** extends from fourth edge **72**. Second support member **64** comprises opposed concave and convex surfaces **78** and **80**, respectively, and further comprises distal end portion **82**.

U-shaped guide **84** is fixedly secured to concave surface **78** of second support member **64**. It should be appreciated that U-shaped guide **84** may also be attached to convex surface **80** of second support member **64**, and in such embodiments, U-shaped guide **84** will extend from second support member **64** in the same direction as depicted in the figures. U-shaped guide **84** is adapted to be received in and removed from top collar **86** of shoe **50**. Stitching at the upper rim of shoe **50** forms top collar **86**. In some embodiments, top collar **86** is formed from the rim of shoe **50** folded in upon itself and stitched. Top collar **86** defines top collar recess **88** in shoe **50**. Collar recess **88** is adapted to receive U-shaped guide **84**, such that U-shaped guide **84** is capable of being slid into and out of top collar **86** upon movement of pivotable heel assembly **56** between locked heel position **52** and unlocked heel position **54**. In order to facilitate ease of use, in some embodiments, U-shaped guide **84** remains at least partially within top collar **86** throughout its range of motion when moving between locked heel position **52** and unlocked heel position **54**.

First support member **62** has opposed first support member top and bottom surfaces **74** and **76**, respectively. Key **90** is fixedly secured to and extends from first support member bottom surface **76** of first member **62**. Engagement members **92** extend from key **90**, and each engagement member **92** comprises an engagement member opening, i.e., opening **94**. It should be appreciated that in some embodiments, only a single engagement member **92** is included. Moreover, in some embodiments, key **90** and first support member **62** are formed as a single, contiguous unit. For example, the foregoing components may be formed from plastic or metal as a single unit. Key **90** is adapted for use with locking mechanism **58** as described herebelow.

In some embodiments, pivotable heel assembly **56** further comprises base member **96** having opposed base member top and bottom surfaces **98** and **100**, respectively. Base member end wall **102** extends from base member top surface **98**. First hinge plate **104** is connected to base member end wall **102**, while second hinge plate **106** is connected to first support member bottom surface **76** of support member **62**. Hinge pivot **108** extends through barrel **110** formed by first and second hinge plates **104** and **106**, respectively. First and second hinge plates **104** and **106**, respectively, and hinge pivot **108** collectively form hinge **112** such that brace member **60** is pivotable or movable relative to base member **96**, as indicated by bi-directional arrow **114**. In some embodiments, hinge **112** is a spring-loaded hinge such that it applies a force to brace member **60** to cause brace member **60** to move in the direction of bi-directional arrow **114**.

In some embodiments, pivotable heel assembly **56** further comprises coil spring **116** mounted on first support member bottom surface **76** of first support member **62**. Thus, when a load or force, as indicated by unidirectional arrow **118**, is applied to support member **62**, for example when a person steps into shoe **50**, coil spring **116** is compressed.

Locking mechanism **58** is operatively associated with pivotable heel assembly **56**. Locking mechanism **58** is mounted on base member top surface **98**, such that coil spring **116** is disposed between locking mechanism **58** and hinge **112**.

Locking mechanism **58** is also operatively associated with key **90**. In some embodiments, locking mechanism **58** comprises release arm **120**. Release arm **120** comprises activation arm portion **122** extending to locking lug portion **124**, such that activation arm portion **122** extends from locking lug portion **124**. Locking lug portion **124** comprises a pair of opposed side members **126** and **128**, respectively, and defines first, second and third locking lug portion openings **130**, **132** and **134**, respectively. First and second engagement lugs **136** and **138**, respectively, extend into first and third locking lug openings **130** and **134**, respectively. First and second engagement lugs **136** and **138**, respectively, extend in a direction toward activation arm portion **122**. First and second engagement lugs **136** and **138**, respectively, may have a rectangular shaped, or alternatively, may comprise sloped engagement face **140**. It should be appreciated that the first and second engagement lugs may comprise other shapes so long as the shape is capable of engaging engagement members **92** of key **90**. Locking mechanism **58** also comprises spacer member **142** having first, second and third spacer openings **144**, **146** and **148**, respectively. Release arm **120** is supported on spacer member **142** such that the first, second and third locking lug portion openings **130**, **132** and **134**, respectively, are aligned with first, second and third spacer openings **144**, **146** and **148**, respectively. Locking mechanism **58** further comprises locking mechanism housing **150** that defines opening **152** through which release arm **120** extends. Spacer member **142** is disposed in locking arm housing **150** and release arm **120** is supported on spacer member **142**. Spacer member **142** is prevented from moving as it abuts locking mechanism housing **150**.

Additionally, first and third spacer openings **144** and **148**, respectively, in spacer member **142** provide clearance such that key **90** is capable of moving under first and second engagement lugs **136** and **138**, respectively. In some embodiments, locking mechanism **58** also comprises locking mechanism spring **154** positioned in second spacer opening **146** and in second locking lug portion opening **132**, such that locking mechanism spring **154** abuts against spacer member **142** and release arm **120**. Locking mechanism spring **154** is depicted in extended position **156** as indicated by unidirectional arrow **158**. When locking mechanism spring **154** is in extended position **156**, first and second engagement lugs **136** and **138**, respectively, extend over first and third spacer openings **144** and **148**, respectively. When a force is applied in the direction of arrow **160**, e.g., by applying a force to release arm **120** or by applying a downward force with key **90** (described in greater detail below), locking mechanism spring **154** compresses and first and second engagement lugs **136** and **138**, respectively, are moved in a direction away from first and third spacer openings **144** and **148**, respectively, such that first and third

spacer openings **144** and **148**, respectively, are not obstructed by first and second engagement lugs **136** and **138**, respectively. When locking mechanism spring **154** is compressed, key **90** may move into or out of first and third spacer openings **144** and **148**, respectively. When locking mechanism spring **154** is allowed to expand and key **90** is within first and third spacer openings **144** and **148**, respectively, first and second engagement lugs **136** and **138**, respectively, engage key **90**, thus securing key **90** within locking mechanism **58**. FIG. **6** is a cross sectional view of an embodiment of assembled locking mechanism **58** and key **90** held by locking mechanism **58** via first and second engagement lugs **136** and **138**, respectively. Application of a force on release arm **120** in the direction of arrow **160** will result in first and second engagement lugs **136** and **138**, respectively, moving, thereby releasing key **90**.

Housing cover **162** comprises and defines first and second housing cover openings **164** and **166**, respectively, and further comprises release arm recess **168**. Housing cover **162** is complementarily fits about and is fixedly secured to locking lug housing **150** such that activation arm portion **122** of release arm **120** extends through release arm recess **168**.

FIGS. **11-13** are side elevational views depicting the movement of first engagement lug **136** before, during and after engagement with engagement member **92** of key **90**. It should be appreciated that although first engagement lug **136** is depicted as including a linear sloped surface for sloped surface **140**, other shapes are also possible, e.g., arcuate, spherical, parabolic, hyperbolic, etc., and such alternate shapes fall within the scope of the claims below. Initially, as engagement member **92** approaches first engagement lug **136**, member **92** will contact sloped surface **140**. After contact and while member **92** slides along sloped surface **140**, locking member spring **154** is compressed, causing first engagement lug **136** and all of locking lug portion **124** to move in the direction of unidirectional arrow **170**. Subsequently, once engagement member **92** has cleared first locking lug **136**, engagement member opening **94** comes into alignment with first locking lug **136**. First locking lug **136** then moves into opening **94** via the force imparted by locking member spring **154** in the direction depicted by unidirectional arrow **172**. The foregoing action secures pivotable heel assembly **56** to locking mechanism **58** thereby placing shoe **50** in locked heel position **52**.

To release locking mechanism **58** and thus pivotable heel assembly **56**, a user applies a force to release arm **120** in the direction of arrow **174**, i.e., inwardly, with her free shoe or foot thereby compressing locking member spring **154**. As described above, this action releases engagement members **92**, and thereby key **90**, from locking mechanism **58**. Simultaneously, coil spring **116** expands and assists with lifting a user's foot out of shoe **50**, U-shaped guide **84** partially slides out of top collar **86**. It should be appreciated that a portion of U-shaped guide **84** remains within top collar **86** thereby facilitating the repeated change between locked heel position **52** and unlocked heel position **54**. The foregoing permits shoe **50** to retain the appearance of a conventional shoe in locked heel position **52**. Thus, most observers will not readily recognize that shoe **50** is different than a conventional shoe, thereby assisting a user of shoe **50** who wishes to conceal that the device is necessary.

When a user puts shoe **50** on, her foot applies a force to coil spring **116** and to engagement members **92** of key **90** thereby forcing members **90** along and past first and second engagement lugs **136** and **138**, respectively, causing them to move in the direction of unidirectional arrow **170**. After first and second engagement lugs **136** and **138**, respectively, are moved out of the way by engagement members **92**, first and second engagement lugs **136** and **138**, respectively, are immediately moved by locking mechanism spring **154** into engagement member openings **94**. Thus, locking mechanism **58** secures pivotable heel assembly **56** in shoe **50** in locked heel position **52**.

FIGS. **16-19** depict additional embodiments of a footwear including a presently disclosed pivotable heel assembly. In some embodiments, footwear **50** comprises a U-shaped guide, for example arcuate rod **84** and/or arcuate wall **176**. In embodiments including arcuate wall **176**, pocket **178** is included on both sides of footwear **50**. As pivotable heel assembly **56** moves from locked heel position **52** (See FIG. **16**) to unlocked heel position **54** (See FIG. **17**), arcuate wall **176** remains at least partially within pockets **178**. It should be appreciated that although depicted from a side elevational perspective, arcuate wall **176** comprises a U-shape similar to arcuate rod **84**. In other terms, arcuate wall **176** is arranged to fit about a user's heel region similarly as a rear portion of a common footwear. It should be appreciated that footwear **50** may include arcuate rod **84**, arcuate wall **176** or both arcuate rod **84** and arcuate wall **176**.

In some embodiments, footwear **50** includes a pivotable heel assembly comprising resilient member **180**. Resilient member **180** comprises first end **182**, a second end (not shown but located on the side of footwear **50** opposite first end **182**) and middle portion **184**. Middle portion **184** is fixedly secured to and extending from second support member **64**. Footwear **50** further comprises first side wall **186** and a second side wall (not shown but located on the side of footwear **50** opposite first side wall **186**). First side wall **186** is fixedly secured to first end **182** of resilient member **180**, while the second side wall is disposed opposite first side wall **186** and is fixedly secured to the second end of resilient member **180**. It should be appreciated that footwear **50** may include arcuate rod **84**, arcuate wall **176**, resilient member **180** or any combination of two or more of the foregoing structures.

It has been found that including arcuate rod **84**, arcuate wall **176** and/or resilient member **180** assists with the use of footwear **50**. Arcuate rod **84**, arcuate wall **176** and/or resilient member **180** maintain footwear **50** in an open orientation, i.e., a user can insert her foot within footwear **50** without the need to hold open the side walls of footwear **50**. In other terms, arcuate rod **84**, arcuate wall **176** and/or resilient member **180** maintain the separation of first side wall **186** and the second side wall.

FIG. **20** depicts another embodiment of a footwear including a presently disclosed pivotable heel assembly. In some embodiments, footwear **50** comprises webbing **188** arranged between footwear **50** and pivotable heel assembly **56**. In embodiments including webbing **188**, webbing **188** is included on both sides of footwear **50**. Webbing **188** may be formed from a resilient material, e.g., elastic fibers, or a flexible material, e.g., a canvas cloth. It should be appreciated that webbing **188** in combination with footwear **50** and pivotable heel assembly **56** form an enclosed space for a user's foot. Webbing **188** protects footwear **50** from unwanted entry by objects and debris thereby assisting with maintaining the integrity of footwear **50** and pivotable heel assembly **56**.

It should be appreciated that the presently disclosed embodiments of pivotable heel assembly **56** and locking mechanism **58** may be installed in a shoe during its original manufacture, or alternatively, a shoe may be retrofitted with the present device.

The present shoe having a pivotable and lockable heel assembly facilitates putting on and taking off shoes for people that cannot do so without assistance. The pivotable heel assembly may be locked in a closed position and then unlocked by simply pushing the user's feet together. The present shoe and pivotable heel assembly are hands free and provide a step-in and go option for all types of users of footwear.

Thus, it is seen that the objects of the present invention are efficiently obtained, although modifications and changes to the invention should be readily apparent to those having ordinary skill in the art, which modifications are intended to be within the spirit and scope of the invention as claimed. It also is understood that the foregoing description is illustrative of the present invention and should not be considered as limiting. Therefore, other embodiments of the present invention are possible without departing from the spirit and scope of the present invention.

What is claimed is:

1. A heel portion for a footwear comprising:
- a heel assembly comprising:
  - a brace member comprising a first support member and a second support member,
  - a U-shaped guide fixedly secured to and extending generally perpendicularly from the second support member; and,
  - a key comprising a first engagement member fixedly secured to the first support member;
- a base member;
- a locking mechanism fixedly secured to the base member comprising:
  - an activation arm;
  - a locking lug portion comprising a first lug portion opening, a second lug portion opening and a first engagement lug disposed within the first lug portion opening and adapted to releasably engage the first engagement member, the locking lug portion is connected to the activation arm;
  - a spacer comprising a first spacer opening and a second spacer opening, the first spacer opening substantially aligned with the first lug portion opening and the second spacer opening substantially aligned with the second lug portion opening; and,
  - a spring disposed within the second lug portion opening and the second spacer opening; and,
- a hinge fixedly secured to the heel assembly and the base member adapted to permit pivotal movement therebetween.

2. The heel portion for a footwear of claim **1** further comprising:
- a spring adapted to impart a force between the heel assembly and the base member biasing the heel assembly away from the base member.

3. The heel portion for a footwear of claim **1** wherein the second support member comprises a concave surface and the U-shaped guide is fixedly secured to the concave surface.

4. The heel portion for a footwear of claim **1** wherein the second support member comprises a convex surface and the U-shaped guide is fixedly secured to the convex surface.

5. The heel portion for a footwear of claim **1** wherein the key further comprises a second engagement member, the locking lug portion further comprises a third locking lug portion opening and a second engagement lug disposed within the second locking lug portion opening to adapted to releasably engage the second engagement member, and the spacer further comprises a third spacer opening substantially aligned with the third locking lug portion opening.

6. The heel portion for a footwear of claim **5** wherein at least one of the first engagement lug or the second engagement lug comprises a sloped engagement face, an arcuate engagement face, a spherical engagement face, a parabolic engagement face, a hyperbolic engagement face or combinations thereof.

7. The heel portion for a footwear of claim **1** wherein the first engagement lug comprises a sloped engagement face, an arcuate engagement face, a spherical engagement face, a parabolic engagement face, a hyperbolic engagement face or combinations thereof.

8. The heel portion for a footwear of claim **1** wherein the U-shaped guide comprises an arcuate rod and/or an arcuate wall.

9. A footwear comprising:
- a heel assembly comprising:
  - a brace member comprising a first support member and a second support member,
  - a U-shaped guide comprising a first arm and a second arm fixedly secured to and extending generally perpendicularly from the second support member; and,
  - a key comprising a first engagement member fixedly secured to the first support member;
- a base member;
- a locking mechanism fixedly secured to the base member comprising:
  - an activation arm;
  - a locking lug portion comprising a first lug portion opening, a second lug portion opening and a first engagement lug disposed within the first lug portion opening and adapted to releasably engage the first engagement member, the locking lug portion is connected to the activation arm;
  - a spacer comprising a first spacer opening and a second spacer opening, the first spacer opening substantially aligned with the first lug portion opening and the second spacer opening substantially aligned with the second lug portion opening; and,
  - a spring disposed within the second lug portion opening and the second spacer opening; and,
- a hinge fixedly secured to the heel assembly and the base member adapted to permit pivotal movement therebetween.

10. The footwear of claim **9** further comprising:
- a spring adapted to impart a force between the heel assembly and the base member biasing the heel assembly away from the base member.

11. The footwear of claim **9** wherein the second support member comprises a concave surface and the U-shaped guide is fixedly secured to the concave surface.

12. The footwear of claim **9** wherein the second support member comprises a convex surface and the U-shaped guide is fixedly secured to the convex surface.

13. The footwear of claim **9** wherein the key further comprises a second engagement member, the locking lug portion further comprises a third locking lug portion opening and a second engagement lug disposed within the second locking lug portion opening adapted to releasably engage the second engagement member, and the spacer further comprises a third spacer opening substantially aligned with the third locking lug portion opening.

14. The footwear of claim **12** wherein at least one of the first engagement lug or the second engagement lug comprises a sloped engagement face, an arcuate engagement face, a spherical engagement face, a parabolic engagement face, a hyperbolic engagement face or combinations thereof.

15. The footwear of claim 9 wherein the first engagement lug comprises a sloped in engagement face, an arcuate engagement face, a spherical engagement face, a parabolic engagement face, a hyperbolic engagement face or combinations thereof.

16. The footwear of claim 9 wherein the heel assembly is adapted to be positioned in a locked heel position or an unlocked heel position, and the U-shaped guide remains at least partially within the top collar recess when the heel assembly is in the locked heel position and the unlocked heel position.

17. The footwear of claim 9 wherein the U-shaped guide comprises an arcuate rod and/or an arcuate wall.

18. The footwear of claim 17 further comprising:

a top collar comprising a top collar recess adapted to receive the arcuate rod.

19. The footwear of claim 17 further comprising:

a side recess adapted to receive the arcuate wall.

20. The footwear of claim 9 further comprising:

a first side wall;

a second side wall opposite the first side wall; and,

a webbing secured between the first side wall and the heel assembly and between the heel assembly and the second side wall.

21. A footwear comprising:

a heel assembly comprising:

a brace member comprising a first support member and a second support member,

a resilient member comprising a first end, a second end and a middle portion, the middle portion fixedly secured to and extending from the second support member; and,

a key comprising a first engagement member fixedly secured to the first support member;

a base member;

a locking mechanism fixedly secured to the base member comprising:

an activation arm;

a locking lug portion comprising a first lug portion opening, a second lug portion opening and a first engagement lug disposed within the first lug portion opening and adapted to releasably engage the first engagement member, the locking lug portion is connected to the activation arm;

a spacer comprising a first spacer opening and a second spacer opening, the first spacer opening substantially aligned with the first lug portion opening and the second spacer opening substantially aligned with the second lug portion opening; and,

a spring disposed within the second lug portion opening and the second spacer opening;

a hinge fixedly secured to the heel assembly and the base member adapted to permit pivotal movement therebetween;

a first side wall fixedly secured to the first end of the resilient member, and,

a second side wall disposed opposite the first side wall and fixedly secured to the second end of the resilient member.

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