



Retractable Type Lining Foot Wears



G00002

Field of Invention

This invention generally relates to footwear. In particular, it relates to easily wearable and removable footwear that allows for adaptable visual expressions.

Background

Footwear is generally for protecting our feet from rough surfaces and elements and as time goes by, footwear evolved. Newer and better technologies have been incorporated to protect the user wearing the footwear. Modern footwear provides better support for runners while running, allows a soccer player to better kick a soccer ball, and even allows a basketball player to jump higher.

These days, footwear has become an integral part of our daily lives, be it when going out for a party or when walking within indoor premises. Footwear has even evolved into a fashion accessory. It is important that our outfit or attire, for example shirt and pants, match before any fashion conscious individual steps out of the house.

However, our fast pace lifestyle does not allow most of us the time to consider whether a shirt or a pair of pants matches the footwear. Most people try to slip into their footwear as fast as possible by forcing their feet into their footwear. However, this usually causes damage to the top of the shoe by creating creases and wear marks. Therefore, new ways for facilitating the wearing of footwear needs to be re-examined.

Japanese Patent no. 2004236860 (Suminosuke) describes a footwear having a movable heel portion which is movable between opened and closed positions. The movable heel portion further couples the footwear to a bottom plate such that when a foot is inserted into the footwear, the heel of the foot engages the footwear bottom plate to position the heel portion in a closed position. However, the user is required to constantly and consciously interact with the footwear bottom plate to prevent accidental disengagement

of the heel of the foot away from the footwear bottom plate which will result in the footwear bottom plate being positioned away from the closed position.

From the foregoing, this clearly affirms the need for a footwear to allow ease of wearing while ensuring the footwear is secured to the user has been clearly affirmed.

Summary

In accordance with an aspect of the invention, a footwear comprises a base for supporting a foot thereon and a retainer being coupled to the base for forming a cavity and an opening thereto. The cavity receives a foot therein through the opening. The footwear further comprises a heel counter being coupled to at least one of the base and the retainer. The heel counter is biased in an up position and is positionable between the up position and a down position. When a foot interacts with the heel counter, the heel counter is positioned away from the up position towards the down position to facilitate access of a foot to the opening. Subsequently, when the foot is fully inserted into the cavity, the heel counter returns to the up position to engage the heel of the foot for substantially preventing dislodgement of the foot from the cavity.

Brief Description of the Drawings

Embodiments of the invention are described hereinafter with reference to the drawings, in which:

Fig. 1 is a perspective view of a footwear with a movable heel counter according to a basic embodiment of the invention;

Fig. 2 illustrates the movement of the heel counter according to the footwear in Fig. 1;

Fig. 3a is an exploded elevation of a display layer being removable from a main layer of the vamp according to the footwear in Fig. 1;

Fig. 3b is a side elevation of the footwear having an extended vamp for forming a boot according to the footwear in Fig. 1;

Fig. 3c illustrates the use of a coupling material to secure the extended vamp according to the footwear in Fig. 3b.

Fig. 4a is a cross-sectional back view of the heel counter according to the footwear in Fig. 1;

Fig. 4b illustrates the heel counter being pushed to a down position according to the footwear in Fig. 4a;

Fig. 5a is a side elevation of a footwear with a strap according to a second embodiment of the invention;

Fig. 5b illustrates the strap being pushed down while pulling a control mechanism to a second position according to the footwear in Fig. 5a; and

Fig. 5c illustrates the control mechanism being a rotary type spring for moving the heel counter according to the footwear in Fig. 5a.

Detailed Description

With reference to the drawings, the invention, a footwear, is described hereinafter for ease of wear, which allows a user to slip on the footwear without using the hand or shoehorn.

Footwear generally protects the feet of a user from different types of walking surface conditions. However, footwear is also slowly evolving into a fashion accessory. Designers want more room for design creativity on footwear while preserving the original function of the footwear. Footwear without shoelaces is one of many ideas.

While this idea provides more space for designers to develop their designs, the construction of the shoe introduces some difficulties for a user to slip on the footwear. In addition, the footwear is not as secured without the laces when the eyelets for the laces are removed or incapacitated for improving the appearance for the footwear.

A footwear, according to embodiments of the invention, therefore allows a user to wear the footwear with minimum or no assistance from our hands while ensuring the footwear is secured to the user's feet. The footwear further allows for more creative design possibilities on the footwear.

For purposes of brevity and clarity, the description of the invention is limited hereinafter to applications related to footwear. This however does not preclude the invention from other areas of application that requires similar operating function and performance for wearing personal apparel.

The invention is described in greater detail in relation to a footwear therefore for easy wearing. In the detailed description provided hereinafter and illustrations provided in Figs. 1 to 5 of the drawings, like elements are identified with like reference numerals.

Fig 1. shows a basic embodiment of the invention, a footwear 100 having a movable heel counter 102, for providing ease of wearing the footwear for the user while introducing a larger bare vamp area for displaying aesthetic designs on the footwear 100. The footwear 100 comprises the movable heel counter 102, a holding section 103 which includes a vamp 104, and a base 105 for supporting the user's foot. The heel counter 102 is movable between an up position 106 and a down position 108, as shown in Fig. 2, for allowing the user's foot to slip into the footwear 100 without assistance of hands.

An opening 110, as shown in Fig. 1, is formed by means of adhering the base 105 to the holding section 103. This opening 110 provides an entrance for a foot of the user to slip into the footwear 100. When the user's foot engages the heel counter 102 at the opening

110 of the footwear 100, the heel counter 102 gradually moves from the up position 106 towards the down position 108. This results in an enlarged opening 112 which provides easy access for the user's foot to slip into the footwear 100 as shown in Fig. 2. Once the user's foot slips into the footwear 100 and disengages from the heel counter 102, the heel counter 102 moves back to the up position 106. With the heel counter 102 back in the up position 106, the footwear 100 is substantially secured onto the user's foot. Through the use of the heel counter 102, the footwear 100 would not necessitate shoelaces and therefore the time needed for wearing the footwear 100 is substantially reduced.

By dispensing with the shoelaces, a larger bare vamp 104 area is provided for designers to improve on the aesthetics of the footwear 100. Further applying this idea, the vamp 104 area of the footwear 100 allows for an additional display layer 302 overlapping a main layer 304 of the vamp 104 and quarter 305 of the footwear 100 as shown in Fig. 3a. The addition of the display layer 302 provides a way for varying the aesthetic outlook of the footwear through allowing and facilitating interchanging of different display layers 302 for attachment onto the main layer 304. The display layer 302 is adherable to the main layer 304 using a coupling system 306 such as Velcro fasteners. By applying Velcro fasteners along the boundaries of the main layer 304, the display layer 302 is able to overlap and be coupled to the main layer 304. Velcro fasteners also allow the user to easily remove, interchange and replace the display layer 302 with another display layer 302 containing different designs.

The vamp 104 can further be extended to transform the footwear 100 into a boot 308, as shown in Fig. 3b, by extending the vamp 104 from the opening of the footwear 100 and up towards the knees of the user. However, the boot 308 can also have an extended vamp 310 that extends above the knees of the user. The extended vamp 310 from the opening of the footwear 100 is able to wrap around the calf of the user's leg to form the shape of the boot 308. Together with the use of the coupling system 306, the extended vamp 310 is secured around the thigh of the user as shown in Fig. 3c. This enables the boot 308 to be easily worn while retaining its protective nature.

Fig. 4a shows a back view of the footwear 100 illustrating a control mechanism 400 within the heel counter 102. The control mechanism 400 comprises at least a spring actuator 402 or a hydraulic actuator (not shown in Fig. 4a). Preferably, the heel counter 102 contains preferably at least three spring actuators 402 therein for biasing the heel counter 102 at the up position 106. However, this does not preclude the use of one spring actuator 402 in this invention. This enables the heel counter 102 to be properly positioned from the down position 108 to the up position 106. The distance between the up position and the down position is at least 20mm. The three spring actuators 402 are located along the circumference of the opening of the footwear 100.

When the user's foot engages the heel counter 102 at the opening of the footwear 100, the force from the user's foot depresses the three spring actuators 402. As the three spring actuators 402 are being depressed, the opening on the footwear 100 gradually enlarges. The enlarged opening of the footwear 100, as shown in Fig. 4b, allows the user's foot to easily enter into the footwear 100. Once the user's foot is disengaged from the heel counter 102, the three spring actuators 402 gradually return the heel counter 102 to the up position 106. Thereinafter, the heel counter 102 secures the footwear 100 to the user's foot and protects the user from injuring the user's heel.

In a second embodiment of the invention, the control mechanism 400 is located at a quarter 305 of the footwear 500 as shown in Fig. 5a. The footwear 500 in Fig. 5a is a pair of sandals wherein the heel counter 502 of each sandal is a strap for strapping over the Achilles' heel of a foot. The strap secures the user's foot to the footwear 500. In order for the heel counter 502 to move between the up position 106 and the down position 108, a substantially rigid cable 504 is incorporated within the strap and operatively coupled to the control mechanism 400. The control mechanism 400 comprises at least the spring actuator 402 and the hydraulic actuator at each of the quarter 305 of the footwear. The distance between the first position 506 and the second position 508 is at least 20mm

When the user engages the heel counter 502, the heel counter 502 moves towards the down position 108 from the up position 106 as shown in Fig. 5b. As a result, the cable 504 pulls the control mechanism 400 from a first position 506 to a second position 508. A locking mechanism 510 locks the heel counter 502 for creating an enlarged opening for the user's foot to slip into the footwear 500. Once the heel counter 502 is released from the locking mechanism (not shown), the control mechanism 400 moves back to the first position 506 from the second position 508 to thereby interact with the cable 504 to move the heel counter 502 from the down position 108 to the up position 106. This secures the strap to the heel of the user and prevents the footwear 500 from coming off.

With reference to Fig. 5c, an alternative control mechanism 400a is used to move the heel counter 502. The alternative control mechanism 400a uses a pair of rotary type springs, for example spiral-shaped springs and c-shaped springs, which is located at each side of the quarter 305. In addition, a display layer 302 is attachable to the footwear 500. The display layer 302 covers the footwear 500 partially or fully to protect the user's foot from environmental elements and provides space for improving the aesthetic of the footwear 500.

In the foregoing manner, a footwear which has a movable heel counter and facilitates creative expressions of designs thereon is disclosed. Although only a number of embodiments of the invention are disclosed, it becomes apparent to one skilled in the art in view of this disclosure that numerous changes and/or modification can be made without departing from the scope and spirit of the invention.

Claims

1. Footwear for comfort wear comprising:

a base for supporting a foot thereon;

a retainer being coupled to the base for forming a cavity and an opening thereto, the cavity for receiving a foot therein through the opening; and

a heel counter being coupled to at least one of the base and the retainer, the heel counter being biased in an up position and being positionable between the up position and a down position,

wherein when a foot interacts with the heel counter, the heel counter is positioned away from the up position towards the down position to facilitate access of a foot to the opening, and wherein when the foot is fully inserted into the cavity, the heel counter returns to the up position to engage the heel of the foot for substantially preventing dislodgement of the foot from the cavity.

2. The footwear as claimed in claim 1, the retainer further comprising:

a vamp having a main layer and a display layer, the display layer being removable and couplable to the main layer; and

a quarter.

3. The footwear as claimed in claim 2, wherein the vamp comprising:

a protection layer being formed between the main layer and the display layer for providing a physical barrier therebetween, the protection layer being detachable from the main layer and the display layer.

4. The footwear as claimed in claim 2, the vamp extending substantially away from the opening wherein the extended vamp is wrapable around the calf of a user.

5. The footwear as claimed in claim 2, further comprising:

a control mechanism being shaped and dimensioned for positioning the heel counter between the up position and the down position.

6. The footwear as claimed in claim 1, further comprising:

a locking mechanism for locking the heel counter at the down position.

7. The footwear as claimed in claim 6, wherein the control mechanism is at least one of spring actuator and hydraulic actuator for biasing the heel counter at the up position.

8. The footwear as claimed in claim 6, wherein the control mechanism is incorporated in at least one of the heel counter and the quarter.

9. The footwear as claimed in claim 1, wherein distance separating the up position and the down position is at least 20mm.

10. The footwear as claimed in claim 1, further comprising:

a control mechanism being shaped and dimensioned for positioning the heel counter between the up position and the down position.