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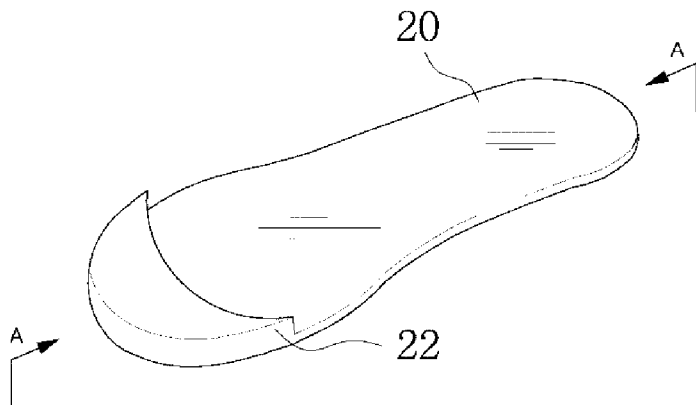
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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: A FUNCTIONAL FOOTWEAR



(57) Abstract: The present invention relates to a functional footwear which comprises an insole having a toe-seating portion, whose height is higher than that of the remaining portion thereof other than the toe-seating portion, for allowing a user's toe to be seated thereon. The toe-seating portion of the insole of the functional footwear is formed higher than the remaining portion of the insole other than the toe-seating portion, so that toes of a walker are placed higher than the other portions of the sole of the feet of the walker, thereby obtaining an effect of the backward walking even when the walker walks forwardly.

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Description

A FUNCTIONAL FOOTWEAR

Technical Field

- [1] The present invention relates to a functional footwear, in more particular, to a functional footwear which comprises an insole having a toe-seating portion, whose height is higher than that of the remaining portion thereof other than the toe-seating portion, for allowing a user's toe to be seated thereon.

Background Art

- [2] As an interest in human health has been increased along with a gradual improvement in the social life and economical development, a simple exercise easily performed in a daily life has been settled. In particular, a safe walking has been generalized which is available for everyone regardless of age or sex and is enjoyable without any special equipment or cost.
- [3] In such walking, forward walking as well as backward walking is popular. The backward walking has several advantages in that it stimulates muscles which are not normally used in the forward walking, and also has less impact than the forward walking when a user's feet come into contact with the ground. Further, when the user walks backwardly at the same velocity as that in forward walking, the backward walking has a greater calorie consumption than that in the forward walking.
- [4] Nevertheless, since a person who walks backwardly has a danger of collision or stumbling against another walker, the backward walking is relatively not widely performed as compared to the forward walking.
- [5] Since a footwear is indispensable for such walking exercise and absolutely influences an exercise effect, various kinds of footwear have been currently suggested in order to increase an exercise effect at the time of walking.
- [6] FIG. 1 is a cross-sectional view showing the use state of a conventional functional footwear. The functional footwear 100 of FIG. 1 has an identical insole 110 to a functional insole disclosed in Korean Utility Model Registration No.341399. The insole 110 is formed in a streamline shape as a whole, which comprises a front portion 112 for placing a user's toe thereon, a rear portion 114 for placing a user's heel thereon, and a curved portion for connecting the front and rear portions with each other therethrough so as to allow an arch portion of the sole of a foot to abut thereagainst. In the insole 110, the front and rear portions 112 and 114 have a predetermined thickness (t_1 , t_2), respectively. At this time, the thickness t_1 of the front portion 112 is formed thicker than the thickness t_2 of the rear portion 114. The insole 110 permits a user efficiently consume as much energy as required for making an ascent only by amount of

exercise of usual walking level in a daily life when using the insole 110 inserted into a footwear 100. However, since the thickness of the insole 110 becomes smaller as it goes from the front portion 112 to the rear portion 114, muscles of an ankle 120 and a front portion 130 of the calf of a user are readily fatigued when walking for a long time, as well as the knee joint of a user is overstrained, thereby having a reverse effect on the walking.

Disclosure of Invention

Technical Problem

- [7] Accordingly, the present invention has been made in an effort to solve the above-mentioned problems occurring in the prior art, and it is an object of the present invention to provide a functional footwear which comprises an insole having a toe-seating portion formed at the front portion thereof for allowing a user's toe to be seated thereon so as to remove dangers occurring when backward walking, so that an effect of the backward walking can be obtained while forward walking.

Technical Solution

- [8] In order to accomplish the above objects, according to the present invention, there is provided a functional footwear comprising an upper, an outsole, and an insole, the insole being adapted to be replaceably used as needed, wherein the insole comprises a toe-seating portion formed at the front portion thereof for placing a user's toe thereon, the height of the toe-seating portion being higher than that of the remaining portion thereof other than the toe-seating portion, and the inner end of the toe-seating portion being concavely curved so as to allow a user's toes to be comfortably seated thereon.
- [9] Preferably, the toe-seating portion of the insole has a height of 0.5 to 1 cm.
- [10] Preferably, the height of the front portion of the upper is set in proportional to that of the toe-seating portion.
- [11]

Brief Description of the Drawings

- [12] Further objects and advantages of the invention can be more fully understood from the following detailed description taken in conjunction with the accompanying drawings, in which:
- [13] FIG. 1 is a cross-sectional view showing the use state of a conventional functional footwear;
- [14] FIG. 2 is an exploded perspective view of a functional footwear according to a preferred embodiment of the present invention;
- [15] FIG. 3 is a cross-sectional view taken along the line A-A of FIG. 2; and
- [16] FIG. 4 is a cross-sectional view showing the use state of a functional footwear according to a preferred embodiment of the present invention.

[17]

Best Mode for Carrying Out the Invention

[18] Hereinafter, a preferred embodiment of the invention will be explained in detail with reference to the appended drawings. FIG. 1 is a cross-sectional view showing the use state of a conventional functional footwear, FIG. 2 is an exploded perspective view of a functional footwear according to a preferred embodiment of the present invention, FIG. 3 is a cross-sectional view taken along the line A-A of FIG. 2, and FIG. 4 is a cross-sectional view showing the use state of a functional footwear according to a preferred embodiment of the present invention.

[19] As shown in FIG. 2, a functional footwear 10 of the present invention mainly comprises an outsole 14 for supporting the sole of a user's foot, an upper 12 for covering a user's foot, and an insole 20 inserted into the inside of the footwear 10. Preferably, the insole 20 is separated and washed when being dirty, and separately mounted from the footwear so as to be replaceably used, whenever needed.

[20] The insole 20 according to the present invention has a toe-seating portion 22 formed on the front portion thereof for allowing a user's toe to be seated thereon, whose height(h) is higher than that of the remaining portion other than the toe-seating portion thereof. At this time, the remaining portion of the insole has an identical configuration to that of a typical insole 20.

[21] Typically, when backward walking on shoe, the toe of a walker is elevated and movement of muscles is different from the movement of muscles when forward walking.

[22] When backward walking on the functional footwear 10 of the present invention, the toe of a walker is maintained in a state where it is elevated even when forward walking. Thus, an exercise effect of the backward waling can be obtained even when forward walking.

[23] The height(h)of the toe-seating portion 22 is preferably formed to have a height of 0.5 to 1cm. When wearing the functional footwear 10 having the toe-seating portion 22 with a height smaller than 0.5cm, a walker hardly has a sufficient exercise effect obtained when the toe of the walker is sufficiently elevated. Further, when wearing the functional footwear 10 having the toe-seating portion 22 with a height higher than 1cm, the toe of the walker is overstrained. Therefore, the height of 0.5 to 1cm is most suitable for the toe-seating portion 22.

[24] Besides, the inner end of the toe-seating portion 22 is concavely curved so as to allow the toes of the walker to be comfortably seated thereon, because the toes of the human body is shaped to be concavely curved.

[25] Further, as shown in FIG. 4, since the toe-seating portion 22 is formed at the front

portion of the insole 20 in such a manner that the height(h) of the toe-seating portion 22 is higher than the remaining portion of the insole 20 other than the toe-seating portion 22, the height(h) of the front portion of the upper 12 is preferably set in proportional to that of the toe-seating portion 22.

[26] In addition, as shown in FIGs. 2 through 4 according to a preferred embodiment of the invention, the toe-seating portion 22 is perpendicularly extended upwardly from the top surface of the front portion of the insole 20, however, it can be perpendicularly extended downwardly from the underside surface of the front portion of the insole 20.

[27] In accordance with the functional footwear constructed as described above, since the toes of a walker is relatively highly placed unlikely the other typical footwear, muscles which are not normally used in a daily life are used to promote uniform development of muscles of the human body, thereby strengthening muscles of the femoral region and the waist of the human body.

[28] If a walker wishes an effect of the forward walking while wearing the insole 20 of the invention, the walker can replace the insole 20 of the invention with a typical insole of conventional invention. That is, these diverse effects can be achieved by one functional footwear of the invention.

[29]

Industrial Applicability

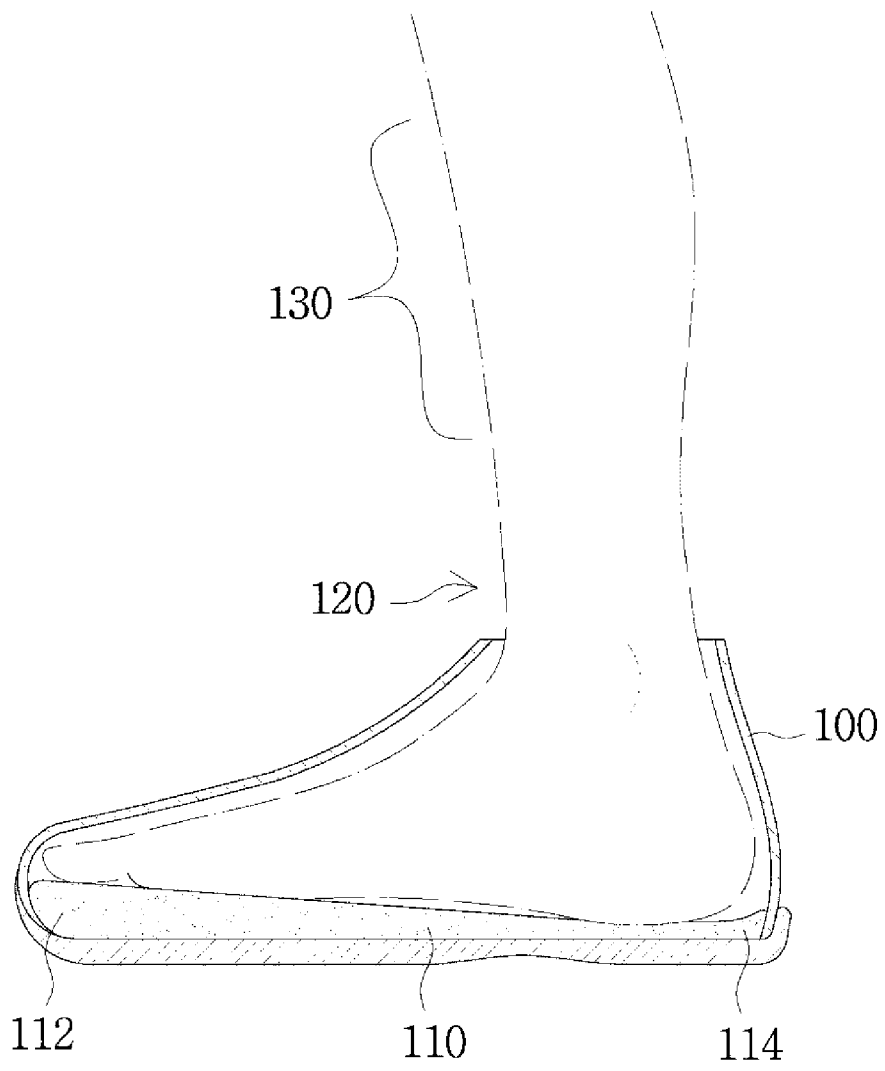
[30] As described above, according to the present invention, the toe-seating portion of the insole of the functional footwear is formed higher than the remaining portion of the insole other than the toe-seating portion, so that toes of a walker are placed higher than the other portions of the sole of the feet of the walker, thereby obtaining an effect of the backward walking even when the walker walks forwardly.

[31] While the present invention has been described with reference to the particular illustrative embodiments, it is not to be restricted by the embodiments but only by the appended claims. It is to be appreciated that those skilled in the art can change or modify the embodiments without departing from the scope and spirit of the present invention.

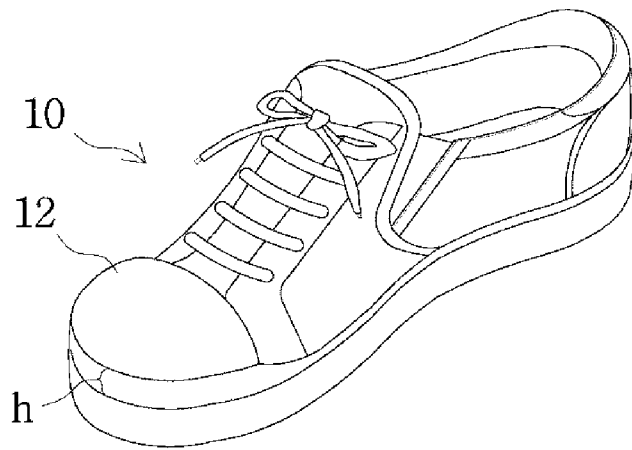
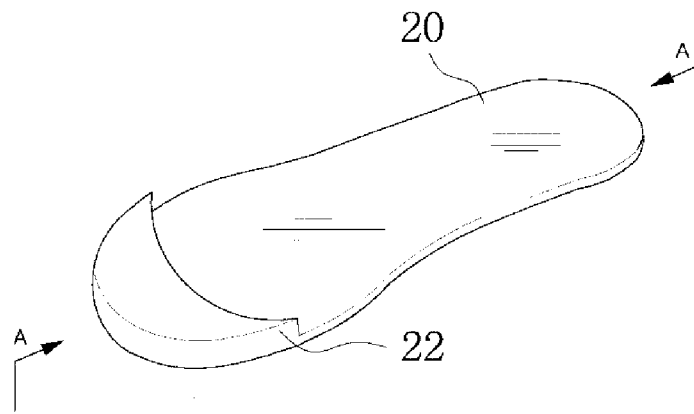
Claims

- [1] A functional footwear comprising an upper, an outsole, and an insole, the insole being adapted to be replaceably used as needed, wherein the insole comprises a toe-seating portion formed at the front portion thereof for allowing a user's toe to be seated thereon, the height of the toe-seating portion being higher than that of the remaining portion thereof other than the toe-seating portion, and the inner end of the toe-seating portion being concavely curved so as to allow a user's toes to be comfortably seated thereon.
- [2] The functional footwear according to claim 1, wherein the height of the toe-seating portion has a height of 0.5 to 1 cm.
- [3] The functional footwear according to claim 1 or 2, wherein the height of the front portion of the upper is set in proportional to that of the toe-seating portion.

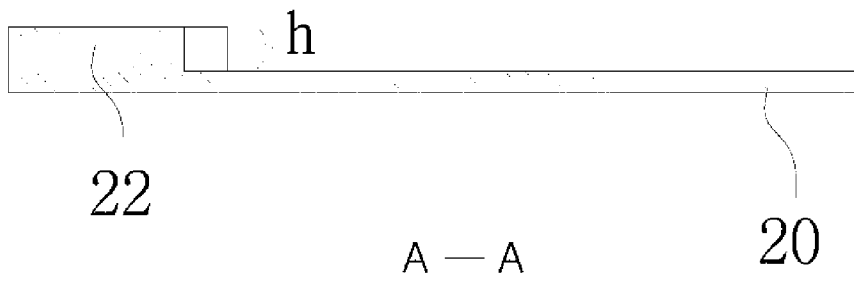
[Fig. 1]



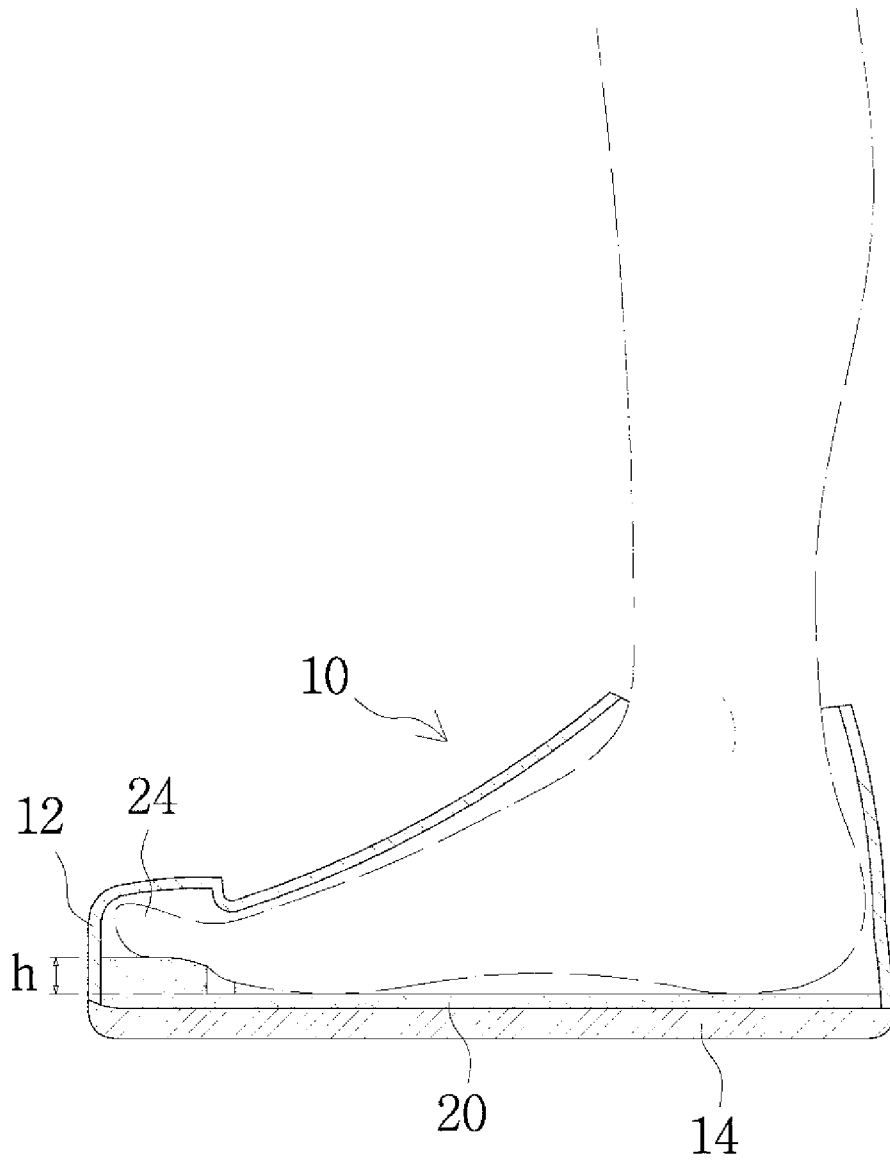
[Fig. 2]



[Fig. 3]



[Fig. 4]



A. CLASSIFICATION OF SUBJECT MATTER*A43B 7/38(2006.01)i*

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 8 : A43B 7/38

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

KOREAN UTILITY MODELS AND APPLICATIONS FOR UTILITY MODELS SINCE 1975

JAPANESE UTILITY MODELS AND APPLICATIONS FOR UTILITY MODELS SINCE 1975

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

eKIPASS, PAJ "Keyword : toe, upper and similar terms"

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	JP 03011183 U (SATO KENROU) 16 May 1995 See Abstract and figures	1 - 3
A	JP 62-064305 U (YAMAKUCHI MASAHUSA) 21 April 1987 See Claim and figures	1 - 3
A	KR 20-1999-007033 U (LEE, S.J.) 25 February 1999 See Claims and figures	1 - 3
A	KR 20-1987-0001546 U (SEWON Co., Ltd.) 12 March 1987 See Figures	1 - 3
A	KR 20-2000-0007284 U (LEE N.S.) 25 April 2000 See Figures	1 - 3
A	KR 20-0362908 Y1 (LIM K.O.) 22 September 2004 See Figures	1 - 3

 Further documents are listed in the continuation of Box C. See patent family annex.

* Special categories of cited documents:

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

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Patent document cited in search report	Publication date	Patent family member(s)	Publication date
JP 03011183 U	16.05.1995	None	
JP 62-064305 U	21.04.1987	None	
KR 20-1999-007033 U	25.02.1999	None	
KR 20-1987-0001546 U	12.03.1987	None	
KR 20-2000-0007284 U	25.04.2000	None	
KR 20-0362908 Y1	22.09.2004	None	