SHOCK ABSORBING OUTSOLE

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Appl. No.: 12/801,733
Filed: Jun. 23, 2010

Publication Classification
Int. Cl.
A43B 13/28 (2006.01)
A43B 13/18 (2006.01)

ABSTRACT
An outsole for shoes includes a top part and a bottom part, the top toe portion of the top part and the bottom toe portion are glued to each other and a chamber is defined between the top and bottom heel portions of the top and bottom part. The top heel portion has multiple top protrusions extending from underside thereof and the bottom heel portion has multiple bottom protrusions extending from a top surface thereof. The top and bottom protrusions are located in the chamber. The respective distal ends of the top and bottom protrusions are glued to each other. The deformation of the top and bottom protrusions absorbs shocks from the ground.
Fig. 4
(PRIOR ART)
SHOCK ABSORBING OUTSOLE

BACKGROUND OF THE INVENTION

[001] (1) Field of the Invention
The present invention intends to provide a shock absorbing outsole which has ideal shock absorbing feature and can be made at low cost.

[002] (2) Description of the Prior Art
A conventional shoe 30 with shock absorbing feature is shown in FIG. 4 and generally includes an outsole 32 with a vamp 33 connected on a top of the outsole 32 so as to form the shoe 30. A soft and transparent cell 31 is embedded in the heel portion of the outsole 32 so as to absorb shocks from the ground. The cell 31 is made of PVC and the outsole is made by way of blow molding. However, there are several shortcomings for the conventional outsole 32.

[003] The connection of the vamp 33, the cell 31 and the outsole 32 is made by using laminating machine and the shoe last to set the desired shape of the vamp 33. After the cell 31 is positioned, the material for the outsole 32 can be poured into the molds to form the outsole 32. Nevertheless, the cell 31 is too soft to keep its shape under the pressure during the machining and so that the cell 31 is deformed when being combined with the outsole 32. The deformed cell 31 affects the shape of the outsole 32.

[004] Besides, when the cell 31 is combined with the outsole 32, because the cell 31 is too soft, it cannot bounce back immediately after the wearer applies a load to the cell 31 and this causes uncomfortable wearing experience to the wearers.

SUMMARY OF THE INVENTION

[005] The present invention relates to an outsole for shoes and comprises a top part and a bottom part, wherein the top part has a top toe portion and a top heel portion. The top heel portion has multiple top protrusions extending from underside thereof. The bottom part has a bottom toe portion and a bottom heel portion, wherein the bottom heel portion has multiple bottom protrusions extending from a top surface thereof. The top and bottom parts are connected to each other and a chamber is defined between the top and bottom heel portions. The top and bottom protrusions are located in the chamber. The top and bottom toe portions are glued to each other and respective distal ends of the top and bottom protrusions are glued to each other.

[006] The outsole has the following advantages:
1. The material required for the outsole is reduced, this is because the top and bottom heel portions of the top part and the bottom part include curved and recessed top surface and underside.
2. The top part and bottom part are connected to each other by glue so that assembling processes are simplified and the manufacturing cost is reduced.
3. Because the top part and the bottom part can be made in mass production by using way of molding, the outsoles can be easily formed simply by gluing the top parts and the bottom parts. The cost of laboring can be reduced.
4. The connection of the top portions and bottom protrusions effectively absorb the force and shocks to reduce injury to the ankles of the wearers.
5. The present invention will become more obvious from the following description when taken in connection with the accompanying drawings which show, for purposes of illustration only, a preferred embodiment in accordance with the present invention.

BRIEF DESCRIPTION OF THE DRAWINGS

[007] FIG. 1 is a side view to show a shoe having the outsole of the present invention.
[008] FIG. 2 is an exploded view to show the top part and the bottom part of the outsole of the present invention.
[009] FIG. 3 is a cross sectional view taken along line 3-3 in FIG. 1, and
[010] FIG. 4 shows a shoe with a conventional outsole in which a cell is embedded.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[011] Referring to FIGS. 1 to 3, the outsole 100 of the present invention comprises a top part 10, a bottom part 20 which is connected to the top part 10. A vamp 102 is connected to the top part 10 to form the shoe.

[012] The top part 10 includes a top toe portion 11 and a top heel portion 12. The top heel portion 12 has multiple top protrusions 13 extending from underside thereof. The bottom part 20 includes a bottom toe portion 21 and a bottom heel portion 22. The bottom heel portion 22 has multiple bottom protrusions 23 extending from a top surface thereof. The thickness of the top and bottom heel portions 12, 22 is smaller than that of the top and bottom toe portions 11, 21. The top and bottom toe portions 11, 21 are glued to each other. A part of the top and bottom heel portions 12, 22 are glued to each other. A chamber 101 is defined between the top and bottom heel portions 12, 22. The top and bottom protrusions 13, 23 are located in the chamber 101.

[013] The top heel portion 12 has a curved and recessed underside and the bottom heel portion 22 has a curved and recessed top surface, such that the chamber 101 is defined by the two respective curved and recessed underside of the top heel portion 12 and the curved and recessed top surface of the bottom heel portion 22. The chamber 101 is defined transversely through the outsole 100.

[014] A diameter of each of the top and bottom protrusions 13, 23 is gradually reduced from a root portion toward the distal end thereof. The distal end of each of the top and bottom protrusions 13, 23 includes a connection surface 131/231. It is noted that the connection surfaces 131, 231 can be inclined surfaces or horizontal surfaces so as to form the desired curvature of the heel portion of the outsole 100. The respective connection surfaces 131, 231 on the distal ends of the top and bottom protrusions 13, 23 are glued to each other.

[015] When the wearer applies a force to the heel portion of the shoe, the force compress the top and bottom protrusions 13, 23, the top and bottom protrusions 13, 23 are made by flexible material so that the top and bottom protrusions 13, 23 are deformed to absorb the shocks and force, the size of the chamber 101 is narrowed. When the force is shifted to the toe portion of the shoe, the top and bottom protrusions 13, 23 bounce back to their initial shapes. By the deformation, the outsole 100 of the shoe provides shock absorbing feature.

[016] The shape of the top part 10 and the bottom part 20 reduces the material required for the outsole 100 and the shapes of the top and bottom parts 10, 20 are fixed so that the vamp 20 can be made precisely. It is easy to glue the vamp 20,
the top part 10 and the bottom part 20 so that the cost for making the shoe can be reduced.

[0024] While we have shown and described the embodiment in accordance with the present invention, it should be clear to those skilled in the art that further embodiments may be made without departing from the scope of the present invention.

What is claimed is:

1. An outsole for shoes, comprising:
   a top part having a top toe portion and a top heel portion, the top heel portion having multiple top protrusions extending from underside thereof, and a bottom part having a bottom toe portion and a bottom heel portion, the bottom heel portion having multiple bottom protrusions extending from a top surface thereof, the top and bottom parts connected to each other and a chamber defined between the top and bottom heel portions, the top and bottom protrusions located in the chamber, the top and bottom toe portions glued to each other and respective distal ends of the top and bottom protrusions being glued to each other.

2. The outsole as claimed in claim 1, wherein the top heel portion has a curved and recessed underside and the bottom heel portion has a curved and recessed top surface.

3. The outsole as claimed in claim 1, wherein a diameter of each of the top and bottom protrusions is gradually reduced from a root portion toward the distal end thereof.

4. The outsole as claimed in claim 1, wherein the distal end of each of the top and bottom protrusions includes a connection surface.

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