



US 20070163150A1

(19) **United States**

(12) **Patent Application Publication**
Yang

(10) **Pub. No.: US 2007/0163150 A1**

(43) **Pub. Date: Jul. 19, 2007**

(54) **INSOLE BOARD FOR HIGH-HEEL SHOE**

Publication Classification

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(51) **Int. Cl.**

A43B 21/06 (2006.01)

A43B 23/00 (2006.01)

(52) **U.S. Cl.** **36/108**; 36/35 R; 36/107

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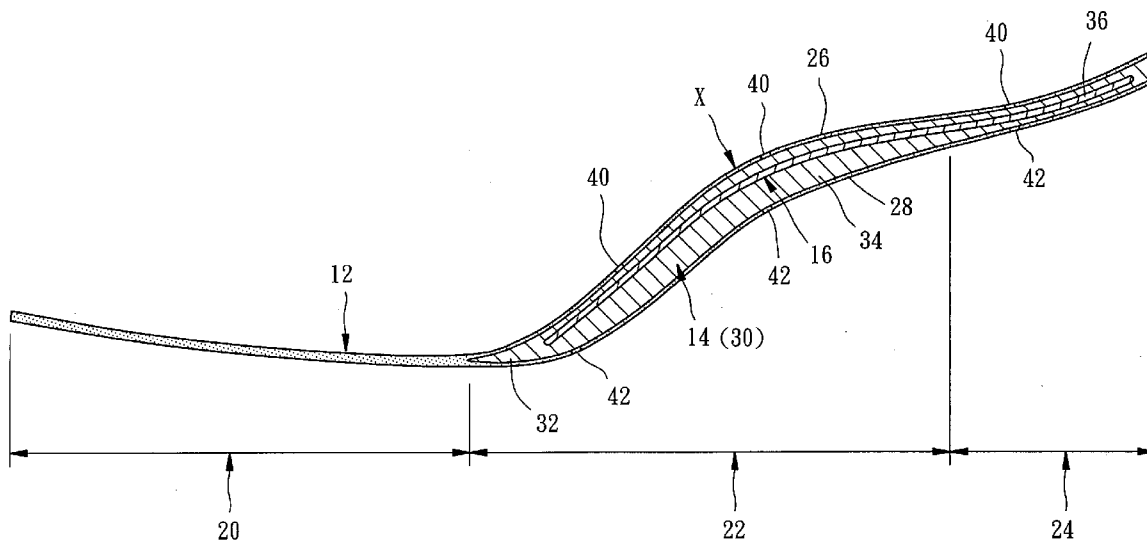
ABSTRACT

An insole board for high-heel shoe includes a board member, a plastic molded member and a rigid supporting member embedded in the plastic molded member. The board member has a forefoot portion, a midfoot portion and a heel portion. The midfoot portion and said heel portion of the board member are split into an upper layer and a lower layer to form a space to enclose the plastic molded member and the rigid supporting member. The plastic molded member is shaped in such a way that a flexline and an arched surface are formed on the surface of the board member. The rigid supporting member and the plastic molded member are formed and enclosed in the space of the board member by one step molding process.

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(21) Appl. No.: **11/331,282**

(22) Filed: **Jan. 13, 2006**



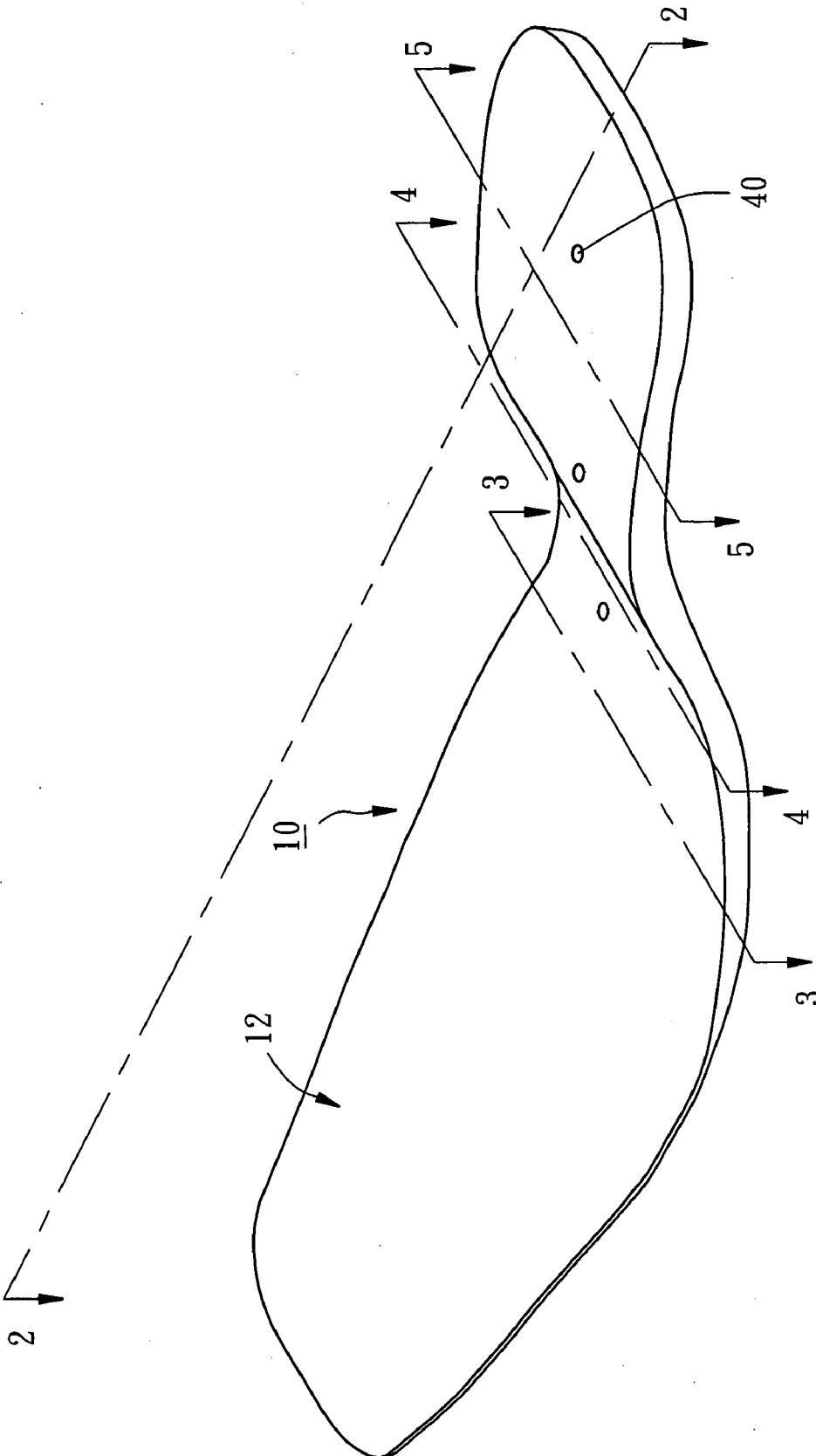


FIG. 1

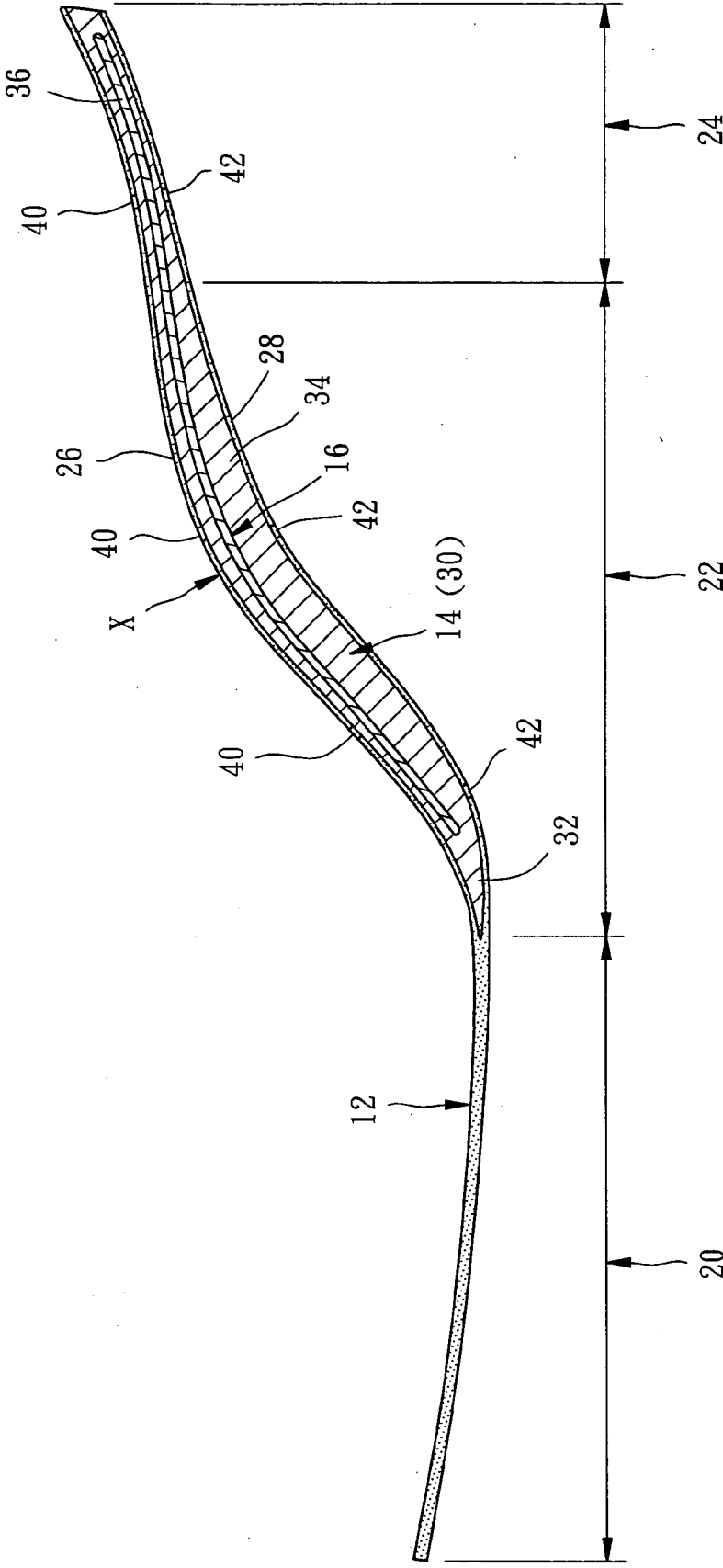


FIG. 2

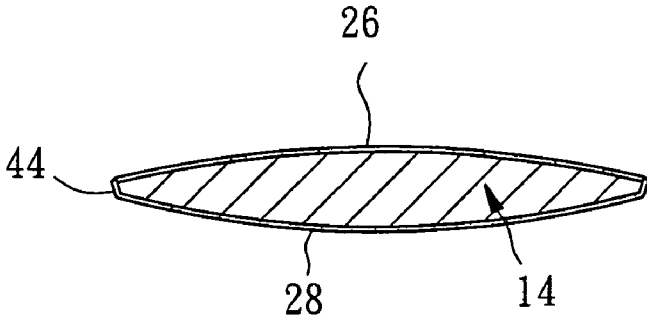


FIG. 3

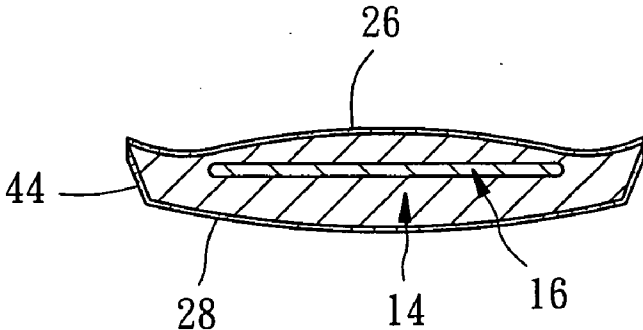


FIG. 4

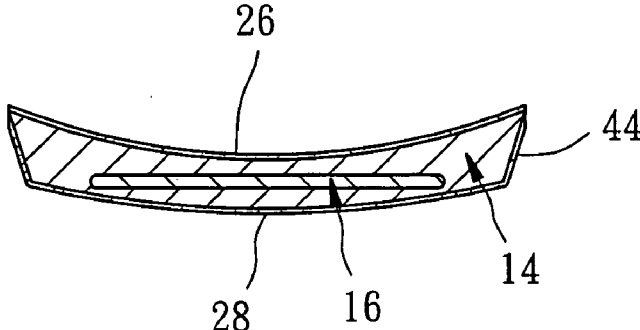


FIG. 5

INSOLE BOARD FOR HIGH-HEEL SHOE

BACKGROUND OF THE INVENTION

[0001] 1. Field of the Invention

[0002] This invention relates generally to high-heel shoes and, more particularly, to an improved insole board for high-heel shoe.

[0003] 2. Description of the Related Art

[0004] In U.S. Pat. No. 4,835,884, a prior art insole board assembly for a high-heel shoe is disclosed to provide the high-heel shoe having a smooth transition from the midfoot area to the forefoot area. The prior art insole board assembly has an insole board with a midportion divided into an upper layer and a lower layer. A shank member has a midfoot portion and a heel portion. The midfoot portion of the shank member is enclosed between the upper layer and the lower layer of the insole board.

[0005] The prior art insole board assembly suffers from a disadvantage that in constructing the assembly there need two step mold processes. The first mold process is to form the shank member. The second mold process is to let the shank member closely conform to the insole board when it is enclosed therein. Such two step mold processes would increase the producing time and cost of the shoes.

[0006] In addition, the prior art insole board assembly has another disadvantage that for having the heel portion outside the insole board, the shank member is often snapped on the join of the midfoot portion and the heel portion due to the stress formed thereon.

SUMMARY OF THE INVENTION

[0007] In view of this and other disadvantages of the prior art, it is thus one object of the present invention to provide an improved insole board for high-heel shoe which can decrease the producing time and cost of the shoes.

[0008] Another object of the invention is to provide an improved insole board for high-heel which has no snapping area due to the stress formed thereon.

[0009] Thus, an insole board for high-heel shoe, according to the idea of the present invention, comprises a board member having a forefoot portion, a midfoot portion and a heel portion to provide the shape and contour of the high-heel shoe. The midfoot portion and the heel portion of the board member are split into an upper layer and a lower layer to form a space therebetween.

[0010] The insole board further comprises a plastic molded member and a rigid supporting member. The plastic molded member is enclosed in the space of the board member. The rigid supporting member is embedded in the plastic molded member. The upper layer and the lower layer of the board member are respectively provided at least an injecting hole for injecting plastic materials to form the plastic molded member.

[0011] The plastic molded member includes a tapered fore-portion, an arched mid-portion and a recessed heel-portion. The arched mid-portion is shaped in such a way that a flexline is formed on the upper surface of the board

member to match the underline of the foot of the wearer when the plastic molded member is enclosed in the space of the board member.

[0012] The recessed heel-portion is shaped in such a way that an arch surface is formed on the heel portion of the board member to match the heel of the foot of the wearer.

[0013] These and other more detailed and specific objectives, features, functions, and advantages of the present invention will be better understood by reference to the following drawings and detailed description which illustrate, by way of example, but a few of the various forms of the invention within the scope of the appended claims.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] FIG. 1 is a perspective view of an insole board for high-heel shoe according to the present invention;

[0015] FIG. 2 is a cross-sectional view taken along line 2-2 of FIG. 1;

[0016] FIG. 3 is a cross-sectional view taken along line 3-3 of FIG. 1;

[0017] FIG. 4 is a cross-sectional view taken along line 4-4 of FIG. 1; and

[0018] FIG. 5 is a cross-sectional view taken along line 5-5 of FIG. 1.

DETAILED DESCRIPTION OF THE INVENTION

[0019] Referring to the drawings, an insole board for high-heel shoe **10**, according to a preferred embodiment of the present invention, includes a board member **12**, a plastic molded member **14**, and a rigid supporting member **16**.

[0020] The board member **12** has a forefoot portion **20**, a midfoot portion **22** and a heel portion **24**. The midfoot portion **22** and the heel portion **24** are split into an upper layer **26** and a lower layer **28** to form a space **30** to enclose the plastic molded member **14**.

[0021] The plastic molded member **14** has a tapered fore-portion **32**, an arched mid-portion **34** and a recessed heel-portion **36**. The arched mid-portion **34** has a thickness which is gradual decreased respectively from a top point X thereof to each end thereof to connect the tapered fore-portion **32** and the recessed heel-portion **36**.

[0022] The contour of the plastic molded member **14** is designed to have a downward curve extended from the top point X to the tapered fore-portion **32** and a second downward curve extended from the top point X to the recessed heel-portion **36** so that when the plastic molded member **12** is enclosed in the space **30**, a flexline is formed on the upper surface of the midfoot portion **22** of the board member **12** to match the underline of the foot of the wearer.

[0023] The recessed heel-portion **36** is shaped in such a way that when the plastic molded member **14** is enclosed in the space **30**, an arched surface is formed on the heel portion **24** of the board member **12** to match the heel of the foot of the wearer.

[0024] For providing the basis for the necessary structural rigidity of the insole board **10**, the rigid supporting member **16** is embedded in the plastic molded member **14**. In

producing, the board member 12 with the rigid supporting member 16 placed in the space 30 thereof is firstly placed in a mold, and then injecting plastic materials into the mold to form the plastic molded member 14 with the rigid supporting member 16 embedded therein. This provides for a secure and permanent attachment of the plastic molded member 14 and the rigid supporting member 16 to the space 30 of the board member 12.

[0025] The rigid supporting member 16 is generally made of metal, or any other materials, such as high strength plastics and fiber composite materials, are contemplated for use as a rigid supporting member. In the preferred embodiment, the rigid supporting member 16 is narrower measured transversely than the plastic molded member 14 and extends longitudinally along the central portion of the plastic molded member 14.

[0026] For injecting plastic materials to form the plastic molded member 14, the upper layer 26 and the lower layer 28 of the board member 12 are provided respectively a plurality of injecting holes 40 and 42. In this preferred embodiment, as shown in FIG. 3-5, the edge of the lower layer 28 of the board member is turned upside to form a side wall 44 so that the plastic molded member 14 is certainly enclosed in the space 30.

[0027] As above described and illustrated, it should be readily appreciated that because the plastic molded member 14 with the rigid supporting member 16 embedded therein is produced by only one step molding process, the object of the present invention that the producing time and cost of the shoes can be decreased is achieved. In addition, for being wholly enclosed in the space of the board member, the plastic molded member does not have any snapping area due to the stress formed thereon.

What is claimed is:

- 1. An insole board for high-heel shoe comprising:
 - a board member having a forefoot portion, a midfoot portion and a heel portion;
 - said midfoot portion and said heel portion of the board member split into an upper layer and a lower layer to

form a space therebetween, said upper layer of said board member provided at least a first injecting hole for injecting plastic materials to form said plastic molded member, said lower layer of said board member provided at least a second injecting hole for injecting plastic materials to form said plastic molded member;

a plastic molded member received in said space, said plastic molded member provided with a tapered fore-portion, an arched mid-portion and a recessed heel-portion, said arched mid-portion shaped in such a way that a flexline is formed on the upper surface of said board member to match the underline of the foot of the wearer, said recessed heel-portion shaped in such a way that an arched surface is form on the heel portion of said board member to match the heel of the foot of the wearer; and

a rigid supporting member embedded in said plastic molded member.

2. The insole board for high-heel shoe of claim 1, wherein said arched mid-portion of said plastic molded member has a thickness which is gradual decreased respectively from a top point of said arched mid-portion to each end thereof to join said tapered fore-portion and said recessed heel-portion.

3. The insole board for high-heel shoe of claim 2, wherein said arched mid-portion of said plastic molded member has a first downward curve formed from said top point to said forefoot portion.

4. The insole board for high-heel shoe of claim 3, wherein arched mid-portion of said plastic molded member a second downward curve formed from said top point to said heel portion.

5. The insole board for high-heel shoe of claim 1, wherein the edge of said lower layer of said board member is turned upside to form a side wall to enclose said plastic molded member.

6. The insole board for high-heel shoe of claim 1, wherein said rigid supporting member and said plastic molded member are formed and enclosed in said space of said board member by one step molding process.

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