



US 20040107603A1

(19) **United States**
(12) **Patent Application Publication** (10) **Pub. No.: US 2004/0107603 A1**
Wei (43) **Pub. Date: Jun. 10, 2004**

(54) **KIND OF INDOOR CLOTH WRAP SOLE**

Publication Classification

(76) Inventor: **Xu Wei, Suzhou (CN)**

(51) **Int. Cl.⁷ A43C 15/00**

(52) **U.S. Cl. 36/59 R; 36/30 R**

Correspondence Address:

The Law Firm of Rouz Tabaddor, Esq.
#1817

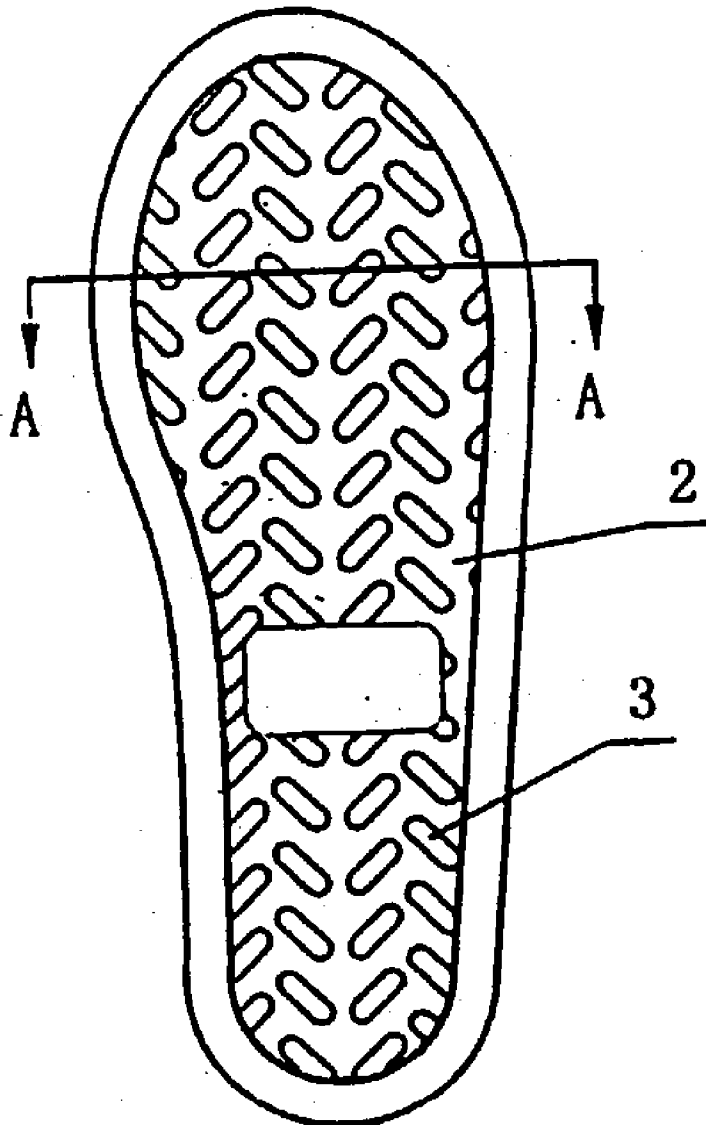
900N.Randolph St.
Arlington, VA 22203 (US)

(57) **ABSTRACT**

The present invention provides an improved indoor cloth wrap sole by providing a bottom layer of cloth and an upper layer of rubber or plastic; the upper layer and the bottom layer are heat-pressed together to form a compound structure; the bottom layer includes thick and compact knitting fabrics, with a slight embossing structure; and the surrounding structure is turned up in whole to form a boat rim shape.

(21) Appl. No.: **10/315,076**

(22) Filed: **Dec. 10, 2002**



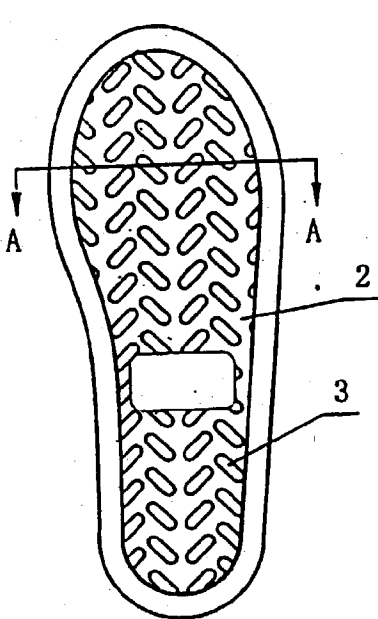


Fig. 1

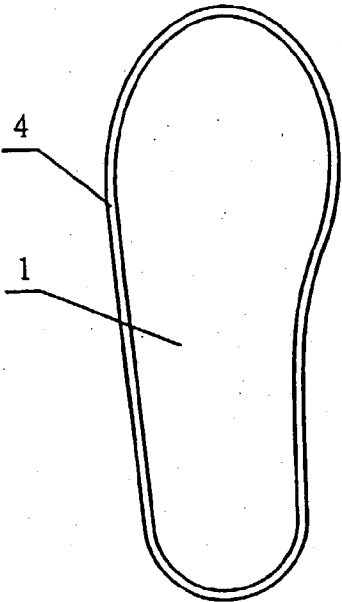


Fig. 2

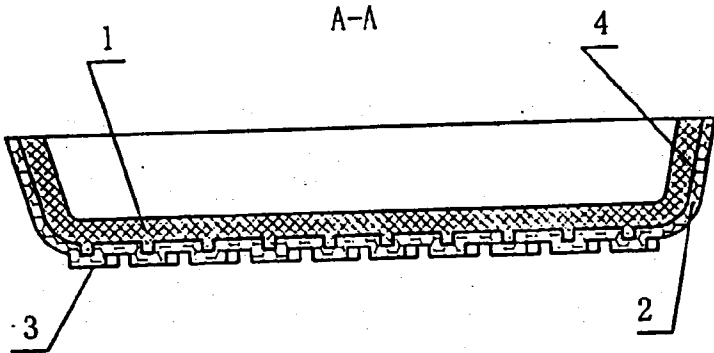


Fig. 3

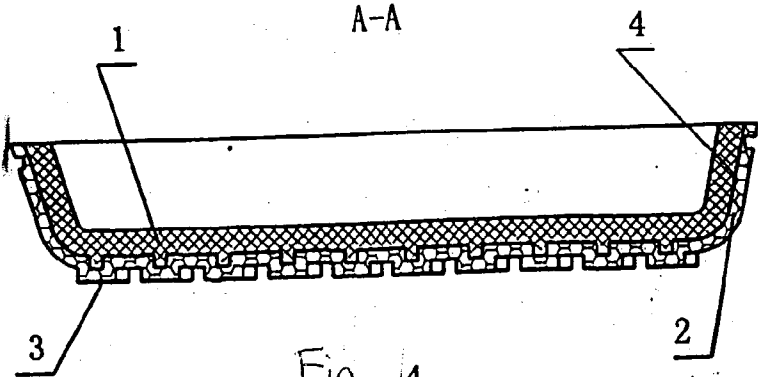


Fig. 4

KIND OF INDOOR CLOTH WRAP SOLE

BACKGROUND OF THE INVENTION

[0001] This invention relates to a particular kind of indoor cloth wrap sole structure.

[0002] Indoor sole usually take the form of a thin-sole, and more often than not, they are made of rubber or plastic materials. However, since the sole is very thin, rubber or plastic is prone to aging, stiffening, change of color and becoming slippery when wet. Therefore, these types of soles have many drawbacks for users.

[0003] On Nov. 15, 2000, a Chinese patent application was published number 00216007.2 titled "A Kind of Cloth Sole". This reference discloses an indoor shoe having a cloth sole. The reference discloses that a layer of fabric is added to the rubber or plastic layer of the shoe bottom to overcome the problems associated with rubber/plastic-cloth double layer compound shoe sole. This design does improve the strength of thin shoe soles, as well as increase in the anti-slippery properties of the sole. However, this disclosed design has several drawbacks which include: (1) serious glue exposure; (2) the layers of the compound sole are not clearly defined; (3) because of the serious glue exposure, the performance of the anti-slippery properties was minimal (3) the fabric effect of close wrap sole is not as strong as necessary; and (4) there is a lack of suitable sewing structure, etc.

[0004] Thus in order to improve the practical application of the indoor sole disclosed in the '007 reference', it is necessary that modifications be made to the above design.

SUMMARY OF THE INVENTION

[0005] The present invention provides an improved type of indoor cloth wrap sole that has improved ant-slippery properties and a higher structural strength.

[0006] The present invention provides an improved indoor cloth wrap sole by providing a bottom layer of cloth and an upper layer of rubber or plastic. The upper layer and the bottom layer are heat-pressed together to form a compound structure. The bottom layer includes thick and compact fabrics, with a slight embossing structure. The surrounding structure is turned up in whole to form a boat rim shape.

BRIEF DESCRIPTION OF THE DRAWINGS

[0007] FIG. 1 is a bottom view of the indoor cloth wrap sole according to the present invention;

[0008] FIG. 2 is a top view of the indoor cloth wrap sole according to the present invention;

[0009] FIG. 3 is a A-A section view of the present invention; and

[0010] FIG. 4 is a A-A section and includes a sewing track along the boat rim.

DETAILED DESCRIPTION OF THE INVENTION

[0011] The present invention relates a novel sole shoe. More specifically, the present invention relates to a novel new sole shoe, which includes a cloth wrap sole.

[0012] FIG. 1 illustrates the bottom view of an exemplary embodiment of an indoor cloth wrap sole, which comprises

a bottom layer 1 which in the exemplary embodiment is composed of a cloth substance. Furthermore, an upper layer 2 is located above the bottom layer, and in an exemplary embodiment is composed of plastic or other like materials. The upper layer 2 comprises thick and compact fabrics, whereas, the bottom layer 1 is comprised of TPR plastics. In the exemplary embodiment the fabrics comprise of knitting fabrics but other type of fabrics known to one skilled in the art may be used. The bottom layer 1 and the upper layer 2 are heat-pressed together by way of jet molding, which binds the TPR plastics and the fabrics to form a compound structure.

[0013] In an exemplary embodiment as shown in FIGS. 3 and 4 the indoor shoe includes embossing structures. Furthermore, the surrounding rim is turned up in or bent to form an outer boat-rim configurations along the outer portions of the compound structure. The embossing structure is composed of bar-shaped protrusions, which are lined on the bottom in a V-shaped formation. In order to facilitate the connection of the shoe sole to the upper layer, the boat rim 4 may bear sewing tracks as shown in FIG. 4.

[0014] In the above design, the slight embossing structure is composed of lines of protrusions and cave-ins of geometric figures. The geometric figures may be round, oval, rectangular, square, in-bars, rhombic or triangular. Other possible designs include, but are not limited to, crescent, curve-shaped, cross-shaped, wave shaped, line-shaped or V-shaped, or they may take any other irregular shapes.

[0015] The lining or layout of the geometric figures may include the following designs:

[0016] 1. Embossing structure is formed of protrusions of the same geometric figure.

[0017] a. all protrusions are lined up on the bottom with regularity.

[0018] b. all protrusions are scattered around the parts of the sole and heel on the bottom

[0019] 2. Embossing structure is formed of protrusions of a group of different geometric figures.

[0020] a. protrusions of a group of different geometric figures are lined up on the bottom with regularity.

[0021] b. Protrusions of a group of different geometric figures are scattered around the parts of the sole and heel on the bottom.

[0022] 3. Embossing structure is formed by cave-ins of the same geometric figure.

[0023] a. all the cave-ins are lined on the bottom with regularity.

[0024] b. All the cave-ins are scattered around the parts of the sole and heel on the bottom.

[0025] 4. Embossing structure is formed of cave-ins of a group of different geometric figures.

[0026] a. cave-ins of a group of different geometric figures are lined on the bottom with regularity.

[0027] b. Cave-ins of a group of different geometric figures are scattered around the parts of the sole and heel on the bottom.

[0028] In one exemplary embodiment according to the present invention, there is no sewing track along the boat rim 4 in the above disclosed design.

[0029] Due to the merits of the new design, there are many advantages compared to the existing design. First, because the sole according to the present invention adopts a layer of thick and compact fabrics, and the rubber or plastic upper layer is heat-pressed to the bottom layer to form a compound structure, the whole bottom does have problems with the glue being exposed. Furthermore, the sole has a clear layer structure with fast cohesion. The bottom takes on a good fabric effect, and is not easily color-faded, and attains its cloth-bottom appearance. Because the shoe bottom uses a layer of thick and compact fabrics, the bottom layer has excellent flexibility. While heat-pressing, the two layers are bound seamlessly with each other in fast cohesion. Another advantage is that due to the fact that the bottom layer does not include glue, the bottom layer does not lose its anti-slippery characteristics, but improves its anti-slippery characteristics and wearability of the shoe bottom. Yet another advantage of the present invention is that due to the boat rim portion of the shoe, i.e. completely wrapped structure, it greatly reinforces the strength of the sewed positions, thus overcoming the defect of the bottom portion which breaks when the thin shoe bottoms are being sewed up.

We claim:

1. An indoor cloth shoe wrap, comprising:
 - a top layer comprising rubber or rubber upper plastic;
 - a lower layer, which is heat-pressed to the top layer, comprises a fabric material which is composed of thick and compact fabrics;
 - an embossing structure located on a bottom of the lower layer; and
 - wherein the top layer and lower layer form a compound structure which is turned in an upward direction along the outer rim of the shoe to form a boat-rim shape.
2. The indoor cloth shoe of claim 1, wherein said embossing structure is formed of protrusions of the same geometric configuration.
3. The indoor cloth shoe of claim 2, wherein said protrusions are lined on the bottom with regularity.

4. The indoor cloth shoe of claim 2, wherein said protrusions are lined on the bottom with irregularity.

5. The indoor cloth shoe of claim 3, wherein said embossing structure is formed of protrusions of different geometric configuration.

6. The indoor cloth shoe of claim 4, wherein said protrusions are scattered at various parts of the sole and heel portion of the shoe.

7. The indoor cloth shoe of claim 1, wherein the embossing structure comprises cave-ins of the same geometric configuration.

8. The indoor cloth shoe of claim 1, wherein said embossing structure comprises of cave-ins of a group of different geometric configurations.

9. The indoor cloth shoe of claim 1, wherein the boat-rim portion is free of any sewing tracks.

10. An indoor cloth show wrap, comprising:

- an upper layer comprising rubber or plastic material;
- a lower layer which is heat-pressed to the upper layer to form a compound structure;
- the lower layer includes thick and compact fabrics;
- embossing structures located on the bottom of said lower layer which comprises protrusions of different geometric configurations; and

wherein the outer portions of said compound structure is turned in an upward direction to form a boat rim shape.

11. A method or making a indoor cloth wrap shoe, comprising:

- providing an upper layer comprising rubber or plastic;
- providing a lower layer comprising a cloth like material;
- heat-pressing said upper and lower layers to form a compound structure;
- providing a plurality of embossing structures on the bottom of said lower layer; and
- bending the outer rim portions of the compound structure to for a boat rim configuration.

12. The indoor cloth shoe of claim 1, wherein the fabric comprises knitting fabric.

* * * * *