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(54) Titre: New sole for footwear.

(57) Abrégé:

The new sole for footwear proposed by the invention is constituted by two textile base sheets 1-2 joined by a binder 3 that form a compound unit with double or triple binding points and constituted by a weft 3 with cotton warp 6.

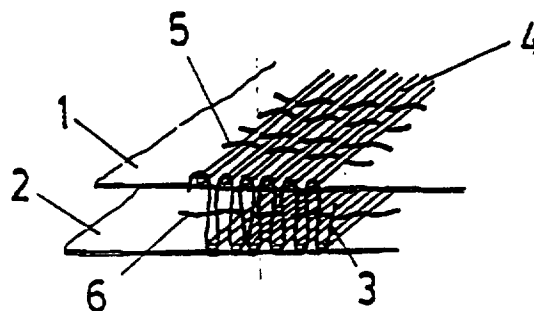


FIG. 1

NEW SOLE FOR FOOTWEAR**DESCRIPTION****OBJECT OF THE INVENTION**

The invention refers to a sole for footwear made of vegetable fibre and of textile constitution, which constitutes a comfortable and hygienic foothold base, since it absorbs and eliminates the perspiration and favours the movement of the muscles and articulations, giving the foot freedom of movement and acting as a cushion.

BACKGROUND OF THE INVENTION

The soles for footwear used at present are chosen depending on the rigidity, flexibility and look required for their future use. These characteristics determine the material and design of these soles.

The soles made of vegetable fibre, as the rope-soled sandal, for example, are characterized by an easy perspiration due to the properties of the fibre.

A sole of this kind is made out of trusses of fibres plaited to form a flat surface. Then they are winded until they adapt the shape of the soil, so that the plait forms a soil, reinforced on the sides by a sewing that confers rigidity to the resulting unit.

By this procedure we obtain a soil that can be symmetrical and therefore used indistinctly by both feet, or it can be adapted to the anatomical shape of the right or left foot.

The manufacturing process of this kind of sole can be made by hand or with the aid of machinery to carry out the operations described.

The structure obtained by the usual procedure has a very low resistance to deformation as a consequence of the low consistency of the winding; the continuous use produces a deterioration and weakening of the soil.

The manufacturing of the soil takes a lot of time because it is necessary to go through several phases until the final product is obtained, and a result of this there are high costs of realization and physical limitations, as the increasing fatigue, that reduce the production capacity

1 as the day goes on.

It also has to be taken into account that it is very difficult to wind the plaits in order to obtain the different sizes.

5 JUSTIFICATION OF THE INVENTION

One of the oldest kinds of footwear is the rope-soiled sandal, the most humble and yet the most expensive, due to the difficulties to find the materials to make the soil.

10 These materials go from the jute, more expensive, to the *esparto*, the cheapest one; they are cultivated in poor soils and require a great amount of labour, because they are harvested and shredded by hand.

The jute is obtained mainly in India and is used to make cords, ropes, thread to weave clothes for sacks and as a base for sheets made out of
15 synthetic materials and which require a cheap reinforcement.

The present invention uses this kind of vegetable fibres, providing a new market for these materials apart from the exiting ones, that are not able to absorb the production capacity of this sector. This greater demand will have a repercussion in those zones where these fibres are produced,
20 generating more wealth and improving the working conditions.

The sole proposed by the invention uses vegetable fibres like the jute, which has some advantageous characteristics as flexibility, cushioning capacity and easy perspiration, properties that provide comfort and freedom of movement to muscles and articulations of the foot as well as a
25 better circulation of the blood, improving the psychophysical conditions of the user.

DESCRIPTION OF THE INVENTION

30 The invention consists of a sole for footwear formed by two base textile sheets joined by a binder, forming a compact and resistant unit, so that the sole deteriorates less with the continuous use.

Each sheet is formed by a weft, made out of a material like jute or a vegetable fibre similar in cost and properties, and by a warp of a material
35 with a great consistency and tensile strength, like cotton staple together or

1 not with jute, hemp, flax, etc.

The binder of the two sheets contains the material with tensile strength along the sole. The vegetable fibre joins the upper and lower sheets with double or triple binding points, forming a cotton warp like a
5 "JACCARD" as if it were an uncut carpet.

The sole obtained has a great consistency that prevents the displacement of the sheets and keeps them together.

The quantity of each material used can vary, although a greater amount of jute is required in the sheets and in the binder.

10 The shape given to the sole can be symmetrical, and therefore valid for both feet indistinctly, or it can be adapted to the shape of each foot. The size and shape of the sole are obtained by means of a die-cut, carried out mechanically with a cutting punch with the same shape than the sole. This is very advantageous when we want to obtain soles of different sizes,
15 since we only have to change the cutting punch.

In order to obtain the soles for both feet, only one cutting punch is needed, since just by rotating it we can obtain right and left soles.

20 DESCRIPTION OF THE DRAWINGS

In order to complete the description of the invention and to provide a better understanding of its characteristics, there is a set of drawings attached to this document, which represent with an illustrative and not
25 limitative character the following:

Figure 1: A general perspective of the compound unit obtained with the different elements that constitute it.

30 Figure 2: A general perspective of the sole obtained by means of a die-cut.

PREFERABLE WAY OF REALIZATION

35 As we can see in Figure 1, the sole for footwear is constituted by two woven base sheets 1-2, joined by a binder 3, each one formed by a weft 4 and

1 a warp 5.

The warp 5 is made of cotton yarns in groups of three separated by the yarns of binder 3.

5 Each cotton yarn 5 passes under the jute yarns 4 and then over two of these yarns 4, repeating this sequence all along the weft. In each of these groups of three yarns, the two yarns that are in the extremes have the same run, but the one in the middle has a different run, passing under the jute yarns 4 when the extreme yarns of the group of three pass over them and vice versa.

10 The binder of this two sheets is constituted by a jute weft 3, forming binding points and a cotton warp 6 that runs along the sole, with a quantity of cotton staple of 3 to 20% with respect to the jute. The binder obtained is like an uncut carpet between two parallel clothes.

15 The realization of the two sheets constituted as described before is made by mechanical means, that is, conventional looms, and it only requires a knowledge of the textile techniques.

Once these sheets have been obtained, they are cut with a cutting punch, obtaining a sole as represented in Figure 2.

20 The sole can be deformed with a press in order to obtain anatomical shapes. This sole can be integrated in different kinds of footwear, constituting the base for inner soles and/or rubber soles for example.

Although the part in contact with the ground can have any kind of reinforcement to improve the resistance, the sole does not lose the capacity of perspiration and absorption.

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CLAIMS

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5 1. Sole for footwear designed to serve as a foothold base, characterized because it is constituted by two textile base sheets 1-2 joined by a binder, forming a compound unit, each sheet formed by a weft 4 and a warp 5, the weft made of a vegetable fibre and the warp made of a fibre with a high tensile strength; the binder between the two sheets is also made of these materials.

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2. Sole for footwear according to the first claim characterized because the binder 3 between the two textile base sheets 1-2 has double or triple binding points forming a weft 3 with cotton warp 6 or high tensile strength fibres.

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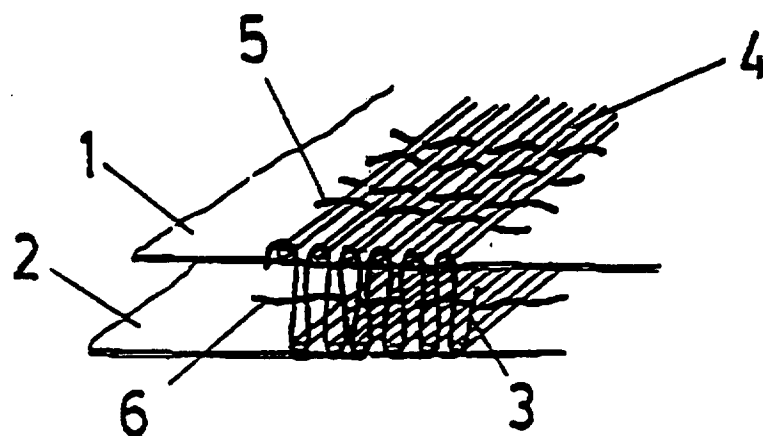


FIG. 1