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(71) Applicant: **Aguilar Alvarez, Francisco**
08020 Barcelona (ES)

(72) Inventor: **Aguilar Alvarez, Francisco**
08020 Barcelona (ES)

(74) Representative: **Sugrañes Patentes y Marcas**
Calle Provenza 304
08008 Barcelona (ES)

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(54) **Protective sock**

(57) The invention relates to a protective sock (1) intended to be used in swimming pools, spas and the like. The protective sock is formed by two materials differentiated in the sole (2) and the vamp (3), the sole being formed by a textile material the composition of which comprises polyamide between 60 and 75% and polyurethane between 40 and 25%, which confers water-proofness to it, allowing at the same time the transpiration

of the sole of the foot. This allows the sole to act as a protective barrier against fungi and other pathogenic agents of the type found in wet and crowded areas around swimming pools and the like, and at the same time allows the transpiration of the sole of the foot, thereby achieving a correct ventilation of the latter and, consequently, greater comfort for the user, in addition to preventing skin diseases caused by the lack of transpiration.

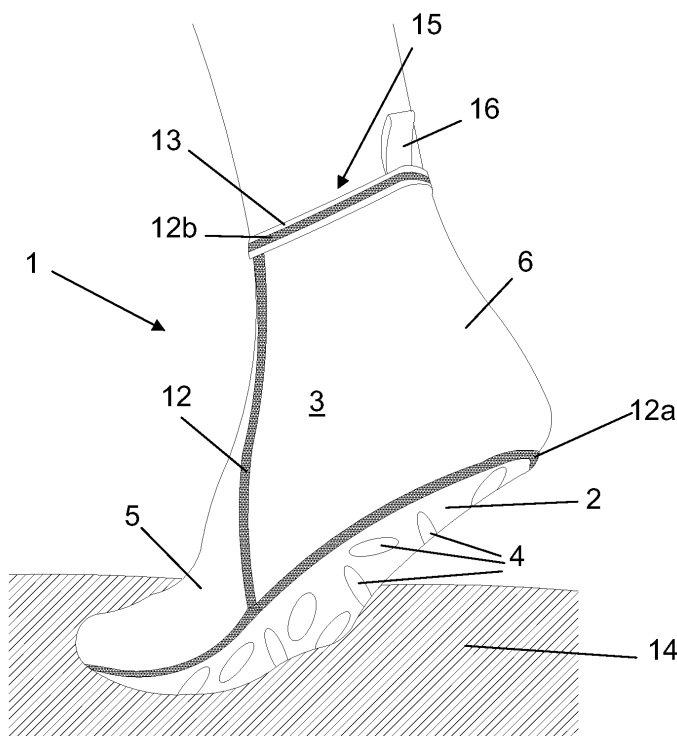


Fig. 2

Description

Technical Field of the Invention

[0001] The invention relates to a protective sock intended to be used in swimming pools, spas and the like.

Background of the Invention

[0002] Walking barefoot over wet and highly crowded places such as swimming pools, spas and the like can entail the transmission and contagion of infections caused by fungi, bacteria or other pathogenic agents. The use of footwear compatible with the regulations of said places is therefore highly recommendable in order to prevent contagions.

[0003] To solve this drawback, tubular textile socks coated with a waterproof material, such as latex or silicone for example, are known, however, such socks do not have an ergonomic configuration and therefore cannot adapt to the user's foot, creating clearances and ridges between the sock and the user's foot, whereby in addition to being uncomfortable, they can cause slips, especially if there is water therein.

[0004] Protective socks made by a single piece of latex are also known, however such socks have the drawback that since they are made of a plastic material they do not allow the foot to transpire, in addition to being difficult to take off and put on, especially since they are wet after their use.

[0005] Another drawback of known socks is that since they are coated with a waterproof material, they do not allow the water which is accumulated therein to be removed, causing the prolonged contact of the skin with the water and, consequently, with the chemical products commonly used for water maintenance and cleaning, which can cause irritations and allergies.

[0006] Textile materials based on polyurethane and polyamide, due to their simultaneous waterproof behavior and allowing the transpiration of the skin for making garments such as jackets, are also known.

Disclosure of the Invention

[0007] The protective sock of the present invention overcomes the drawbacks of the known protective socks for swimming pools, allowing a high adaptability and protection for the user's foot, allowing at the same time its transpiration.

[0008] Said sock is of the type which are formed by two materials differentiated in the sole and the vamp.

[0009] The sock is essentially characterized in that the sole is made of a waterproof textile material the composition of which comprises polyamide between 60 and 75% and polyurethane between 40 and 25%.

[0010] According to another feature of the invention, the composition of the sole comprises polyamide between 65 and 70% and polyurethane between 35 and

30%.

[0011] In a variant of the invention, the composition of the sole consists of polyamide by approximately 67% and polyurethane by approximately 33%.

[0012] According to another feature of the invention, the orientation of the weft of the sole is such that said sole is elastic in the longitudinal direction and essentially inelastic in the transverse direction.

[0013] In a variant of interest, the sole is provided on its outer surface with PVC resin designs.

[0014] According to another variant of the invention, the vamp comprises teflonized lycra and is elastic in any direction, which allows the vamp to be able to adapt perfectly to the user's foot.

[0015] In a preferred variant of the invention, the vamp is formed by two textile cuts, arranged like an upper and like a heel, of which the textile cut arranged like an upper has an essentially rectangular end with a protrusion ending in a parabola which is attached to the base by means of respective curved-convex sides and the textile cut arranged like a heel is essentially trapezoidal the base of which is slightly curved and the sides of which are slightly concave-convex.

[0016] In an embodiment of interest, the pieces forming the vamp are attached by means of elastic seams extending from the upper part of the sock to the sole.

[0017] According to another aspect of the invention, the vamp is finished by an elastic border.

Brief Description of the Drawings

[0018] The attached drawings show, by way of a non-limiting example, the protective sock according to the invention. Specifically;

Figure 1a is a depiction of the textile cut of the sole;

Figure 1b is a depiction of the textile cut of the upper;

Figure 1c is a depiction of the textile cut of the heel; and

Figure 2 is a perspective depiction of the sock in an operative position.

Detailed Description of the Drawings

[0019] Figures 1a, 1b and 1c show the different textile cuts used to assemble a variant of the present invention, Figure 1 a corresponding to the sole 2, Figure 1 b to the upper 5 and Figure 1 c to the heel 6.

[0020] The shape of the sole 2 is configured to adapt to the contour of the foot, as can be observed in Figure 1a, and is made up of a flexible fabric of polyamide and polyurethane which confers waterproofness to it, allowing at the same time the transpiration of the sole of the foot. This allows the sole 2 to act as a protective barrier against fungi and other pathogenic agents of the type

found in wet and crowded areas around swimming pools and the like, and at the same time allows the transpiration of the sole of the foot, thereby achieving a correct ventilation of the latter and, consequently, greater comfort for the user, in addition to preventing skin diseases caused by the lack of transpiration.

[0021] The fabric forming the sole 2 is furthermore woven such that it is elastic in the longitudinal direction of the foot, therefore it can adapt perfectly to feet of different lengths, and is essentially inelastic in the transverse direction of the foot, conferring certain rigidity to the sock 1.

[0022] Since the sock 1 is essentially intended to be used in wet and slippery areas, the sole 2 is advantageously provided on its outer face with essentially elliptical PVC designs 4 which improve the grip of the sock 1 on the floor 14 although the latter is wet, thus improving the safety of the user in the event of slips.

[0023] Figures 1b and 1c show the textile cuts for forming the upper 5 and the heel 6 of the sock 1 respectively, which once attached will form the vamp 3, i.e., the part of the sock 1 located above the sole 2 intended to cover the user's foot.

[0024] The textile cuts forming the upper 5 and the heel 6 are made from a fabric which is flexible and elastic in all the directions of teflonized lycra which allow the sock 1 to adapt perfectly to the user's foot. Furthermore, the fabric of teflonized lycra is permeable and water-repellent and therefore favors a quick drying of the sock 1 and of the foot, whereby water is prevented from being accumulated inside the sock 1. Thus, the prolonged contact of the skin with the water and, consequently, with the chemical products which it can have dissolved therein and which are commonly used for water maintenance and cleaning and which can cause irritations and allergies, is prevented.

[0025] The textile cut of the upper 5 has an essentially rectangular end 7 finished in a protrusion 8 ending in a parabola and which is attached to the essentially rectangular end 7 by means of respective curved-convex sides 9. The textile cut of the heel 6 is essentially trapezoidal with a slightly curved base 10 and respective concave-convex sides 11.

[0026] The textile cuts of the upper 5 and of the heel 6 are sewn by means of an elastic seam 12 forming the vamp 3. Subsequently, the sole 2 is sewn to the lower part of the vamp 3, and the latter is finished with an elastic border 13, coated with the same material forming the vamp 3 and sewn to the opening 15 of the sock 1. The opening 15 through which the user's foot will be introduced is thus reinforced. Furthermore, to facilitate the introduction and extraction of the user's foot in the sock 1, the latter is advantageously provided with an upper strip 16 to be able to pull and push with the hand as necessary.

[0027] Figure 2 shows the sock 1 object of the invention in an operative position, in which the user's foot has been introduced with the aid of the upper strip, and in which one of the seams 12 of the vamp 3 can be seen, which

seams 12, once the sock 1 has been made, is located in one of its sides describing a slightly curved path, starting from the seam of the border 12a and ending in the seam of the sole 12b. Naturally, the opposite side of the sock 1, not visible in Figure 2, also has a similar curved seam. As observed in Figure 2, the PVC designs 4 of the sole 2 are in contact with the floor 14 when the sock 1 rests on it, favoring the grip of the sock 1 and preventing slips.

[0028] The different seams 12, 12a and 12b of the sock 1 are made by means of elastic seaming in the already known manner, cooperating with the different fabrics without hindering their elasticity. Furthermore, given the nature of the fabrics, the sock 1 is reusable and washable and since it is made of highly flexible materials, it can be easily folded and thus occupy a reduced volume for its transport and storage.

Claims

1. A protective sock (1) for swimming pools and the like, formed by two materials differentiated in the sole (2) and the vamp (3), **characterized in that** the sole is of a textile material the composition of which comprises polyamide between 60 and 75% and polyurethane between 40 and 25%.
2. The sock (1) according to claim 1, **characterized in that** the composition of the sole (2) comprises polyamide between 65 and 70% and polyurethane between 35 and 30%.
3. The sock (1) according to claim 2, **characterized in that** the composition of the sole (2) consists of polyamide by approximately 67% and polyurethane by approximately 33%.
4. The sock (1) according to any one of the previous claims, **characterized in that** the orientation of the weft of the sole (2) is such that said sole is elastic in the longitudinal direction and essentially inelastic in the transverse direction.
5. The sock (1) according to any one of the previous claims, **characterized in that** the sole (2) is provided in its outer surface with PVC resin designs (4).
6. The sock (1) according to any one of the previous claims, **characterized in that** the vamp (3) comprises teflonized lycra and is elastic in any direction.
7. The sock (1) according to any one of the previous claims, **characterized in that** the vamp (3) is formed by two pieces, arranged like an upper (5) and like a heel (6).
8. The sock (1) according to claim 7, **characterized in that** the textile cut arranged like an upper (5) has an

essentially rectangular end (7) with a protrusion (8) ending in a parabola which is attached to the essentially rectangular end by means of respective curved-convex sides (9).

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9. The sock (1) according to claim 7, **characterized in that** the textile cut arranged like a heel (6) is essentially trapezoidal the base (10) of which is slightly curved and the sides (11) of which are concave-convex.

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10. The sock (1) according to claims 7, 8 or 9, **characterized in that** the textile cuts forming the vamp (3) are attached by means of elastic seams (12) extending from the opening (15) of the sock to the sole (2).

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11. The sock (1) according to any one of the previous claims, **characterized in that** the vamp (3) is finished by an elastic border (13).

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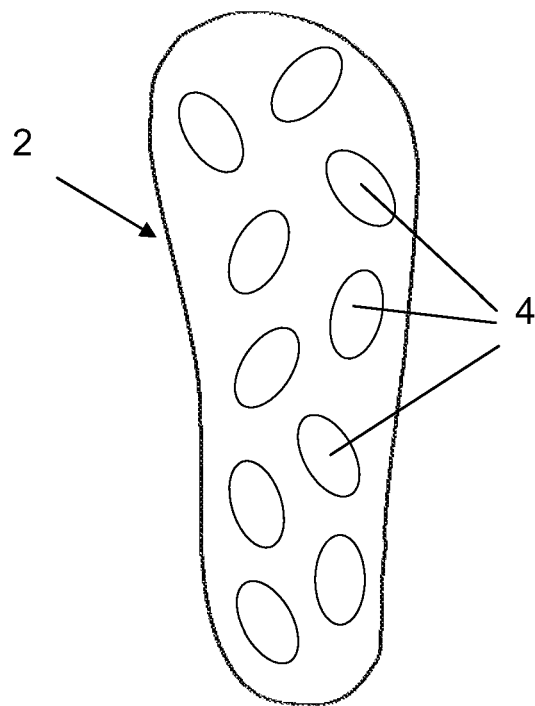


Fig. 1a

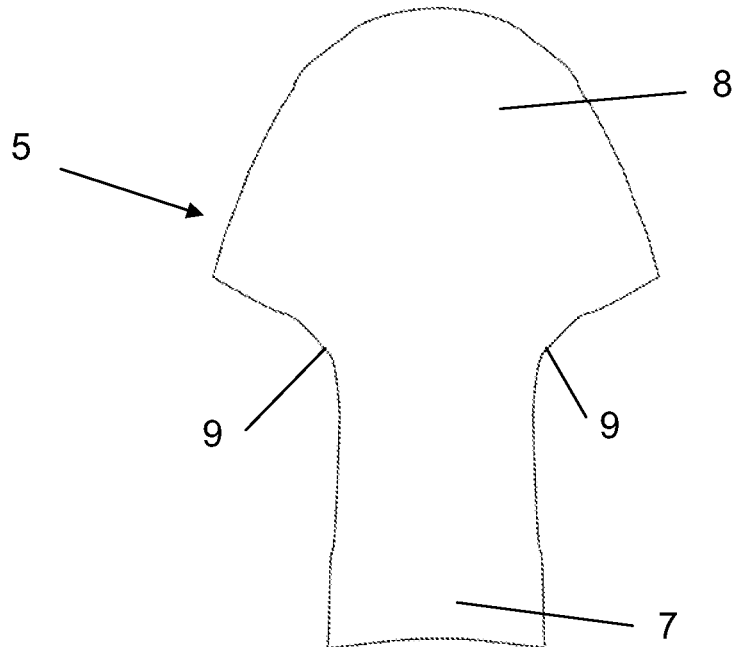


Fig. 1b

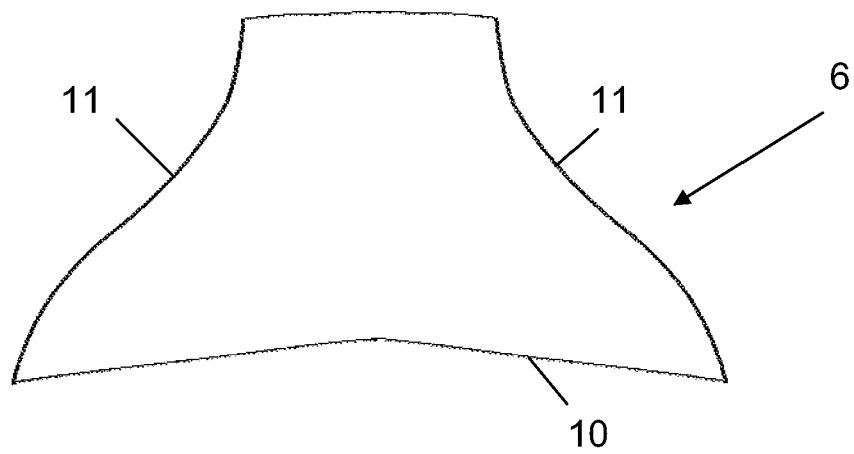


Fig. 1c

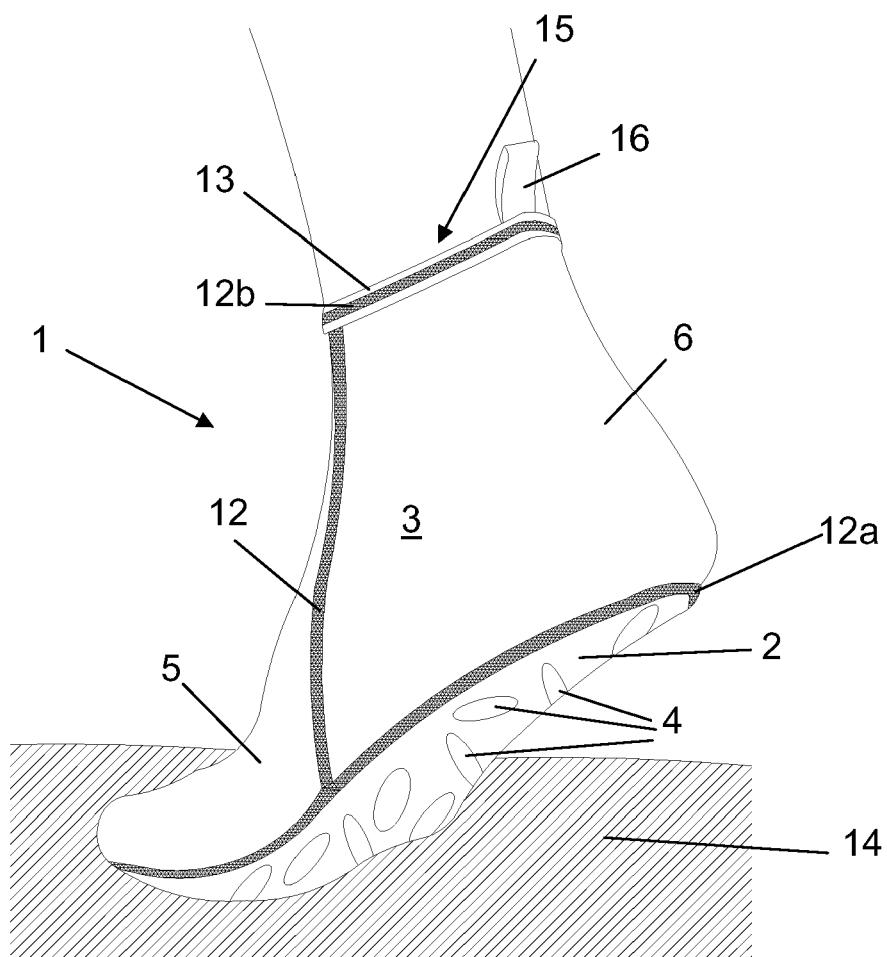


Fig. 2