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(54) **SPORTS SHOE**

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(75) Inventor: **Matthias Knoll**, Bindlach (DE)

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SPORTARTIKELVERTRIEBS
GMBH**, Bindlach (DE)

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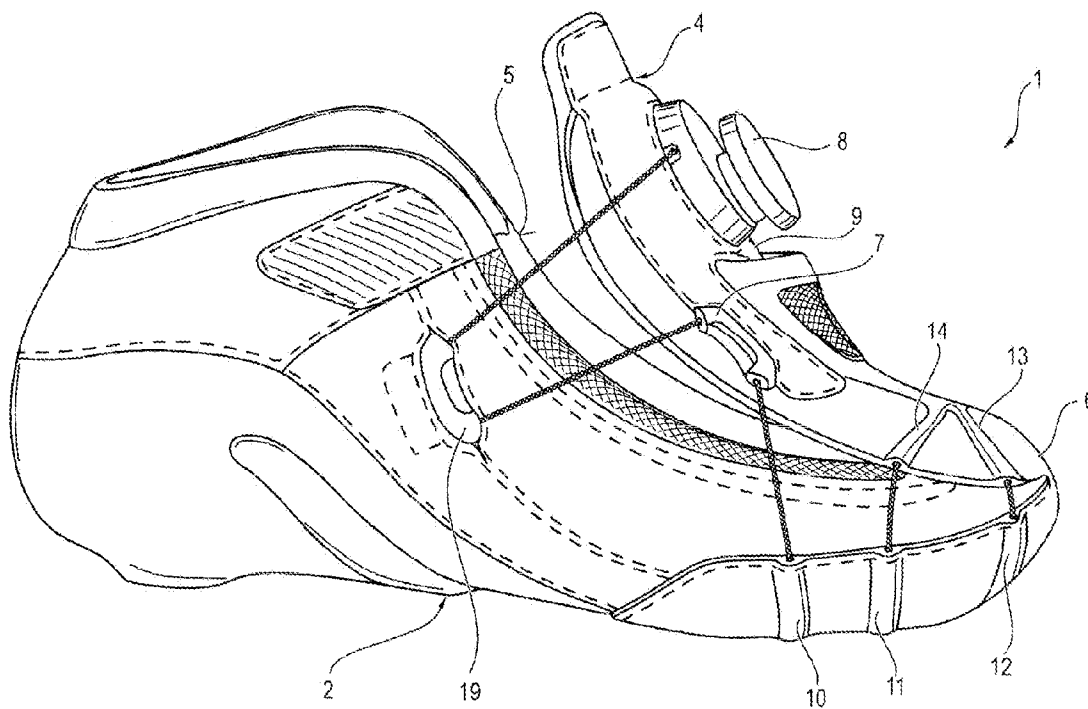
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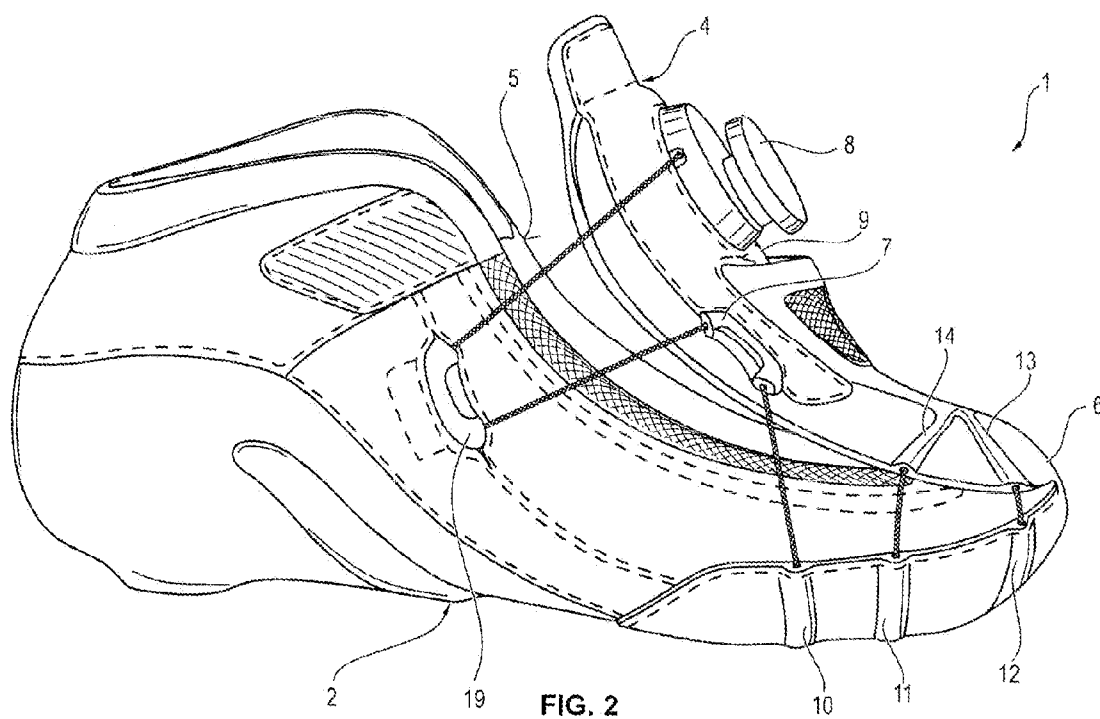
(57) **ABSTRACT**

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This invention relates to a sports shoe (1) having a shell (2) and a lacing system (3), with a cover (4) connected to the lacing system (3) being arranged on the upper side (5) of the shell (2).

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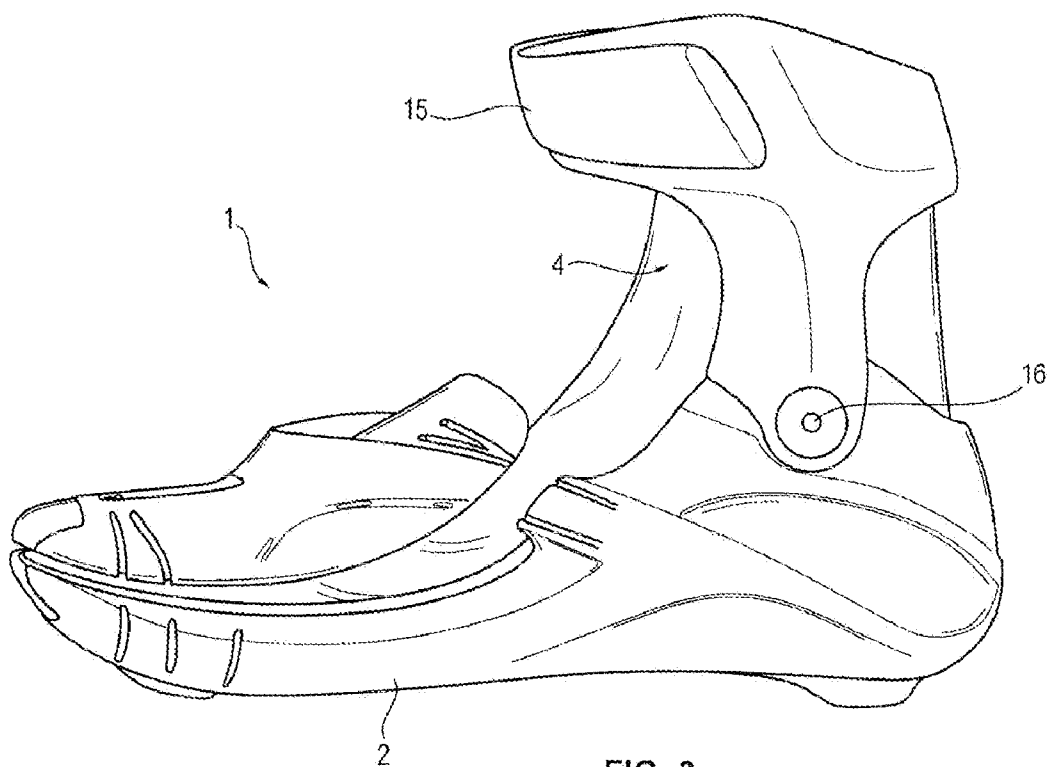


FIG. 3

SPORTS SHOE

BACKGROUND OF THE INVENTION

[0001] Sports shoes, especially when used with other components, for example inline skate rails, ice skate blades or clip-type bicycle pedals, are subject to particularly strict requirements in respect of their stability. This is, for example in the case of inline skate rails, due to the fitting clearance between the rail and the shoe, which is increasing due to the tendency of wheels to become larger than is the case in conventional inline skating sports shoes.

SUMMARY OF THE INVENTION

[0002] The present invention provides, in one aspect, a sports shoe including a shell, a lacing system, and a cover that is arranged on an upper side of the shell and that is connected to the lacing system.

[0003] Other features and aspects of the invention will become apparent by consideration of the following detailed description and accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

[0004] FIG. 1 shows a first embodiment of a sports shoe in accordance with the present invention.

[0005] FIG. 2 shows the embodiment of FIG. 1 with a cover of the sports shoe in an opened position.

[0006] FIG. 3 shows a second embodiment of a sports shoe in accordance with the present invention.

[0007] Before any embodiments of the invention are explained in detail, it is to be understood that the invention is not limited in its application to the details of construction and the arrangement of components set forth in the following description or illustrated in the following drawings. The invention is capable of other embodiments and of being practiced or of being carried out in various ways. Also, it is to be understood that the phraseology and terminology used herein is for the purpose of description and should not be regarded as limiting.

DETAILED DESCRIPTION

[0008] In accordance with FIGS. 1 and 2, the following describes a first embodiment of a sports shoe 1 in accordance with the invention.

[0009] The sports shoe 1 has a shell 2 provided with a lacing system 3.

[0010] The shell 2 can be provided with a removable inner shoe, with an inner padding or with a fixed inner shoe, not however shown in detail in the figures. The padding here is preferably glued firmly to the shell 2.

[0011] Possible materials for the shell 2 are carbon, fiberglass, plastics, metals (for example aluminum, magnesium etc.) and metal alloys.

[0012] A cover 4 is arranged on the upper side 5 of the shell 2 and is connected to the lacing system 3 (FIG. 2). FIG. 1 shows the closed position of the sports shoe 1 while FIG. 2 shows the opened position.

[0013] The lacing system 3 has guiding elements 10, 11 and 12 which in the embodiment shown are arranged in the lower portion 17 of the shell 2 (FIG. 1). These guiding elements 10, 11 and 12 can be designed as guide tubes or as guide slots and pass around the entire underside of the shell 2. Alternatively, the guide slots can be provided on the side of the shell 2, or it is also possible to combine circumferential guide slots with

laterally provided guide slots. The lacing system 3 furthermore includes other guiding elements 13 and 14 into which the lace 18 or a cord or a strap of the lacing system 3 is introduced, resulting in a circuit of the lace 18 of 360 degrees around the shell 2 and hence considerably improving foot control inside the sports shoe 1.

[0014] The lacing system 3 furthermore has lace guides 7 on the cover 4, which in the exemplary embodiment shown in FIGS. 1 and 2 are arranged on an attachment 9 which can for example be made of leather, synthetic leather, linen or other microfiber materials and can be connected to the cover 4 by gluing or also by a hole/rivet combination. It is however also possible for the lace guides 7 to run directly over or through the cover 4, which preferably comprises carbon, plastics or light metals and their alloys. On the basis of the illustrations selected in FIGS. 1 and 2, only one of the usual two lace guides 7 is visible; the other lace guide is arranged diametrically opposite on the other side of the attachment 9 or the cover 4. The other lace guide can however also be arranged asymmetrically.

[0015] The lacing system 3 furthermore has other lace guides arranged on the shell 2, of which only the lace guide 19 is visible in the illustrations selected in FIGS. 1 and 2. In this case too, two such lace guides are preferably provided, with the lace guide not visible in FIGS. 1 and 2 being arranged on the diametrically opposite side of the shell 2 so that a symmetrical arrangement of the lace guides 19 is obtained. The arrangement of the lace guides 19 can however also be asymmetrical if necessary.

[0016] Finally, the lacing system 3 has a fastener 8 which for example can be designed as a so-called disk fastener and with which the lace 18 of the lacing system 3 can be tightened to close the sports shoe 1. However, other lace, strap or cord fixing means are also possible in principle.

[0017] In the embodiment shown in FIGS. 1 and 2, the fastener 8 is arranged on the cover 4. The fastener 8 could however in principle also be attached to the side of the shoe or at the back in the heel area.

[0018] The cover 4 can in particular be attached loosely on the upper side 5 of the shell 2 or it can be linked to the shell 2 at its cap area 6 or fixed at the side. Since the shell 2 in the example shown in FIGS. 1 and 2 has an underside 17 (FIG. 1), the link in this embodiment is provided at this underside 17. For linking it is possible to provide a hinge, for example a film hinge. As alternative embodiments for linking, joints made of leather, synthetic leather, linen or other microfiber materials are also possible and can be glued, riveted or screwed onto the cover 4 and the lower shell 17.

[0019] In addition to their function of guiding the lace 18, the guiding elements 10 to 14 furthermore form reinforcing elements for the shell 2 and the cover 4. The lace, cord or strap guides 7 are also used for airing in addition to their guidance function.

[0020] FIG. 3 shows a second embodiment of the sports shoe 1 in accordance with the invention, which in turn has a shell 2 and a cover 4 arranged on the upper side of the shell 2. Furthermore, the design of the lacing system 3 corresponds to that of FIGS. 1 and 2, such that reference can be made to the previous statements on FIGS. 1 and 2 in this respect and also in respect of all further elements.

[0021] The embodiment in accordance with FIG. 3 is distinguished by a shaft 15 attached to the shell 2 by a joint 16.

[0022] The following features are conceivable as options or alternatives for the previously described guiding elements:

(a) tubes made of various materials (for example carbon or plastics) and inserted into the shell; (b) cords placed into the shell during the production process and then removed to create a cavity; (c) cut-out grooves into which can be inserted tubes which are fixed either positively by an appropriately matching shape of the grooves or by adhesives or riveted connections or the like; (d) prefabricated parts, for example of carbon, plastics, composite materials, which are placed into the shells during production and then fixed; (e) cords running freely inside grooves and recesses and guided by these; and (f) additional lace, cord or strap guides fitted on the inside or outside of the lower shell, the shaft or the cover.

[0023] Various features of the invention are set forth in the following claims.

1. A sports shoe (1) comprising:
a shell (2);
a lacing system (3); and
a cover (4) that is arranged on an upper side (5) of the shell (2) and that is connected to the lacing system (3).
2. The sports shoe in accordance with claim 1, wherein the cover (4) is attached loosely on the upper side (5) of the shell (2).
3. The sports shoe in accordance with claim 1, wherein the cover (4) is linked to the shell (2) at a cap area (6) or at a side of the shell.
4. The sports shoe in accordance with claims 1, wherein the cover (4) is provided with lace guides (7).
5. The sports shoe in accordance with claims 1, wherein a fastener (8) of the lacing system (3) is arranged on the cover (4) or on a side of the shoe or in a heel area of the shell.
6. The sports shoe in accordance with claims 1, wherein an attachment (9) is arranged on the cover (4).
7. The sports shoe in accordance with claim 1, wherein the cover is made of at least one of a carbon, plastic, fiberglass, light metal, and composite material.
8. The sports shoe in accordance with claims 1, wherein the lacing system (3) has guiding elements (10 to 14) in the shell (2) and the cover (4), with the guiding elements (10 to 14) being variable in respect of their stiffness.

9. The sports shoe in accordance with claim 1, wherein a shaft (15) is arranged on the shell (2).

10. The sports shoe in accordance with claim 9, wherein the shaft (15) is attached to the shell (2) by a joint (16).

11. The sports shoe in accordance with claims 1, wherein the shell (2) is made of at least one of a carbon, fiberglass, plastic, metal, or metal alloy material.

12. The sports shoe in accordance with claim 1, wherein the lacing system (3) includes a single lace (18) spanning 360 degrees around the shell (2) and the cover (4).

13. The sports shoe in accordance with claim 8, wherein the lacing system (3) includes a single lace (18) passing through the guiding elements (10 to 14) in the shell (2) and the cover (4).

14. The sports shoe in accordance with claim 13, wherein the cover (4) includes a plurality of lace guides (7), and wherein the single lace (18) passes through the lace guides (7).

15. The sports shoe in accordance with claim 14, further comprising a disk fastener (8) to which the single lace (18) is attached, wherein the disk fastener (8) is operable to tighten the single lace (18) to close the sports shoe.

16. The sports shoe in accordance with claim 15, wherein the disk fastener (8) is attached to the cover (4).

17. The sports shoe in accordance with claim 16, wherein the cover (4) is attached loosely to the upper side (5) of the shell (2).

18. The sports shoe in accordance with claim 17, wherein the shell (2) includes a cap area (6) at a front of the sports shoe, and wherein the cover (4) is attached to the cap area (6) of the shell (2).

19. The sports shoe in accordance with claim 18, wherein at least two of the guiding elements (12, 13) are positioned adjacent the cap area (6).

20. The sports shoe in accordance with claim 19, wherein the guiding elements (10, 11, 12) are arranged in a lower portion (17) of the shell (2) passing around an entire underside of the shell (2).

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