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(71) Demandeur/Applicant:
SKECHERS U.S.A., INC. II, US

(72) Inventeurs/Inventors:
WEITGASSER, ERWIN, AT;
MAGERER, DETLEV, AT

(74) Agent: DIMOCK STRATTON CLARIZIO LLP

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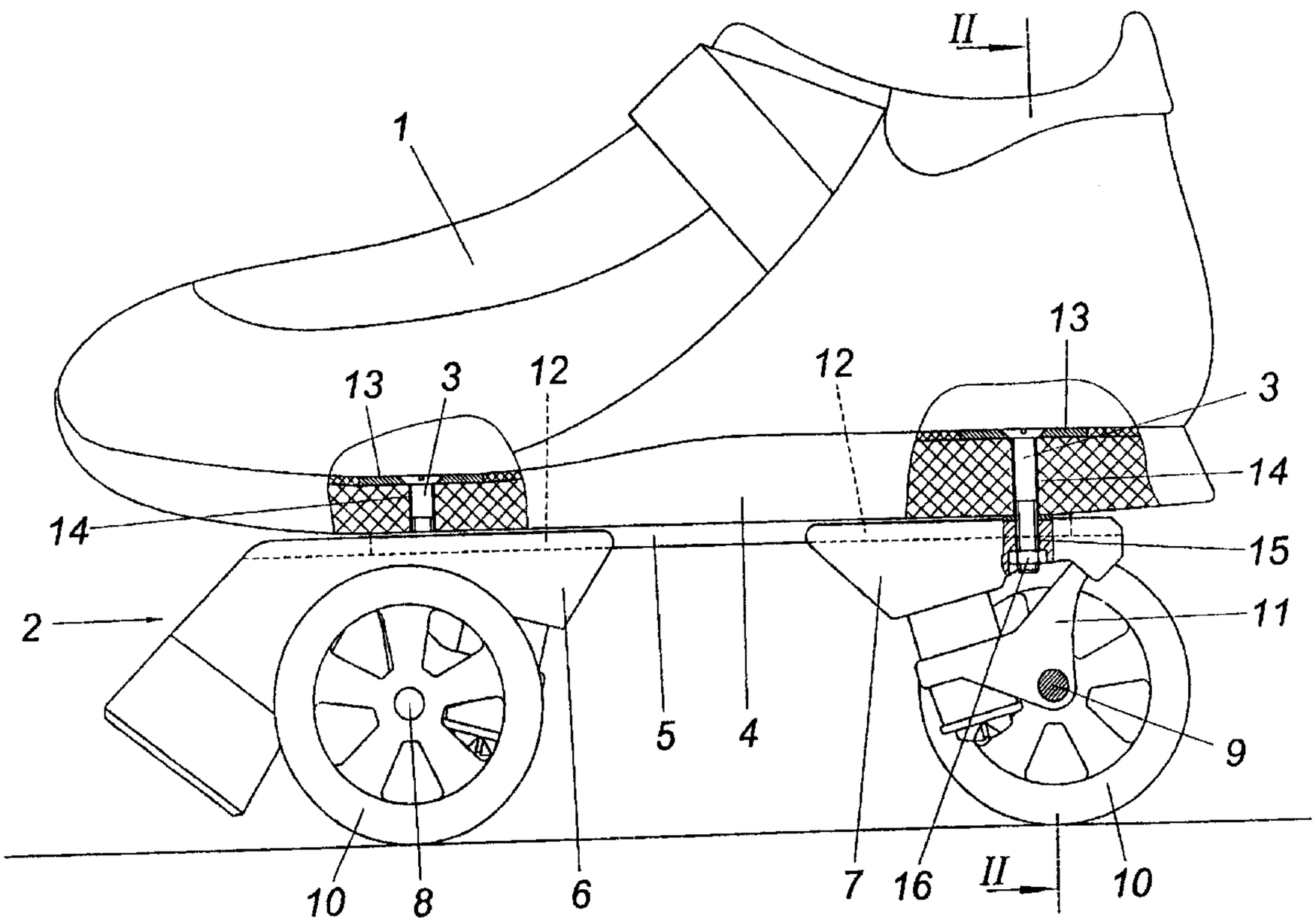

(57) Abrégé/Abstract:
A roller skate with a shoe (1) forming a sole (4) and with a wheel frame [undercarriage] (2) fastened to the sole by screws (3) is described which wheel frame comprises receptacles (6, 7) for a front and a rear roller axle (8, 9). In order to create advantageous construction conditions, it is suggested that the wheel frame (2) comprises a rail (5) on which the two receptacles (6, 7) for the roller axles (8, 9) are arranged in such a manner that they can shift longitudinally and that the screws (3) extending through the rail (5) connect the receptacles (6, 7) for the roller axles (8, 9) to the sole (4).

Docket No.: 14474

PCT International Application

Title of Invention: Roller Skate

U.S.P.S. Express Mail Label No.: EV 259 309 702 US

Date filed: _____

Abstract

A roller skate with a shoe (1) forming a sole (4) and with a wheel frame [undercarriage] (2) fastened to the sole by screws (3) is described which wheel frame comprises receptacles (6, 7) for a front and a rear roller axle (8, 9). In order to create advantageous construction conditions, it is suggested that the wheel frame (2) comprises a rail (5) on which the two receptacles (6, 7) for the roller axles (8, 9) are arranged in such a manner that they can shift longitudinally and that the screws (3) extending through the rail (5) connect the receptacles (6, 7) for the roller axles (8, 9) to the sole (4).

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Description

The invention is relative to a roller skate with a shoe forming a sole and with a wheel frame [undercarriage] fastened to the sole by screws, which wheel frame comprises receptacles for a front and a rear roller axle.

Roller skates with rollers arranged in pairs on a front and a rear roller axle generally comprise a wheel frame consisting of an impact [stop] plate that can be fastened to the shoe sole and comprises receptacles for the two roller axles, that are held with their support in the receptacles. These wheel frames must be adapted to the particular shoe size, which requires separate wheel frame sizes, at least for different ranges of shoe sizes. Different wheel frame sizes require different forming tools, so that not only a corresponding construction cost but also the maintaining of a rather expensive stock must be reckoned with.

The invention therefore has the problem of designing a roller skate of the initially described type in such a manner that the manufacturing and storage costs can be significantly reduced without having to eliminate an adaptation of the wheel frame to the particular shoe size.

The invention solves this problem in that the wheel frame comprises a rail on which the two receptacles for the roller axles are arranged in such a manner

that they can shift longitudinally and that the screws extending through the rail connect the receptacles for the roller axles to the sole.

Since as a consequence of these measures the two receptacles for the front and the rear roller axles form separate formed bodies that are connected to one another via a rail and are adjusted in their mutual interval along the rail, a wheel frame is created that can be adapted to the particular shoe size in a simple manner. The rail merely needs to be cut to the appropriate length and connected to the receptacles for the roller axles. Since the receptacles for the roller axles are fastened to the sole by screws extending through the rail, the receptacles with the rail are locally fixed relative to the shoe sole by the screws, which assures simple mounting conditions because the position of the receptacles for the roller axles relative to the shoe is obligatorily given with the screw holes in the sole of the shoe. In addition, due to the using of screws that connect the rail and the receptacles for the roller axles to a wheel frame and also fasten this wheel frame to the sole of a shoe, the mounting cost is hardly increased in comparison to one-part wheel frames. The rail of the wheel frame, which rail extends between the receptacles for the roller axles, assures a mutual, torsion-proof support of the receptacles for the roller axles so that a sufficient interval can be found with a fastening screw in the area of each of the two receptacles. [cf. 2nd par. on p. 5 below.]

The torsion-proof connection between the receptacles for the roller axles and the rail implies a positive sliding guidance between the receptacles and the rail. Especially simple constructional conditions result in this connection if the rail engaging in a positive manner in at least one longitudinal groove of the receptacles for the roller axles can be clamped fast between the sole and the receptacles by screws, because in this instance a play-free support of the receptacles on the rail is forced when the screws are tightened. Furthermore,

formed bodies that can be manufactured with relatively simple forming tools are created as a result of the longitudinal grooves for the receptacles.

The receptacles for the roller axles can be manufactured from plastic with advantage whereas the rail generally consists of a metal profile. Since the receptacles for the front and the rear roller axles can be designed in a corresponding manner, the costs for construction and storage are correspondingly reduced. The receptacles for the front and the rear roller axles, which receptacles are manufactured as separate formed bodies, also create favorable conditions for being able to selectively equip wheel frames with different roller axles because only suitable receptacles are to be connected to the rail of the wheel frame for this purpose. A three-point support for the roller skate can be achieved therewith via the roller pair of the front axle and the individual roller of the rear roller axle that entails a good travel [operating] behavior even in curves, especially if a front steering axle is used.

The drawings show the subject matter of the invention in an exemplary manner.

Figure 1 shows a roller skate in accordance with the invention in a partially exploded lateral view.

Figure 2 shows a section along line II-II in figure 1 on a larger scale.

Figure 3 shows a view in accordance with figure 1 of a modified embodiment of a roller skate in accordance with the invention.

According to figures 1, 2 the roller skate shown is built up from a shoe 1 and a wheel frame 2 fastened by screws 3 to sole 4 of shoe 1. Wheel frame 2 is composed of metallic rail 5 and a receptacle 6, 7 for front roller axle 8 and for rear roller axle 9. Two rollers 19 are supported on each of these roller axles 8, 9

via roller [ball] bearings. Roller axles 8,9 are set with their support fames 11 into receptacles 6, 7 and screwed to receptacles 6,7 in a traditional manner.

However, in contract to traditional wheel frames, recesses 6, 7 for front and rear roller axles 8, 9 form separate formed bodies consisting preferably of plastic that are provided with longitudinal grooves 12 for the positive insertion of correspondingly profiled rail 5. As can be gathered in particular from figure 2, grooves 12 are open toward sole 4 so that rail 5 merely needs to be placed into the longitudinal grooves before receptacles 6,7 with rail 5 connecting them are screwed fast to sole 4. To this end, screws 3, supported via washer 13 on the inside of the sole and run through passage bores 14 in sole 4, extend through rail 5 and engage through passage opening 15 of receptacles 6,7 into nut 16. Thus, when screws 3 are tightened, receptacles 6, 7 are pressed, clamping rail 5 against sole 4 resulting in a torsion-proof connection between rail 5 and receptacles 6, 7 for roller axles 8,9 because rail 5 is pressed into longitudinal grooves 12 of receptacles 6, 7 in a positive manner avoiding play. Therefore, two fastening screws 3 suffice for connecting not only wheel frame 2 to sole 4 but also receptacles 6,7 to rail 5 in a sufficiently stiff manner so that the loads occurring when skating can be reliably absorbed.

Since receptacles 6,7 constitute separate formed bodies that can shift longitudinally on rail 3 and are not fixed in a non-sliding manner relative to rail 5 until by screws 3, an independent adaptation of the interval of receptacles 6,7 of wheel frames 6,7 of wheel frame 7 to the particular shoe size results. The position of receptacles 6,7 relative to shoe 1 is unambiguously fixed with bores 14 for screws 3 in shoe sole 4. Rail 5 merely has to be cut to length in accordance with this interval.

The exemplary embodiment according to figure 3 differs from that according to figures 1 and 2 solely in that receptacle 7 for rear roller axle 9 carries support fork 17 for rear roller axle 9, on which individual roller 18 is mounted. This exemplary embodiment illustrates that simple conditions are also created with the wheel frame design of the invention for selectively equipping the wheel frame with different roller axles.

Of course, the invention is not limited to the exemplary embodiment shown, because the only matter involved is to connect receptacles 6, 7 for front and rear roller axles 8, 9 in a non-torsional manner to one another via rail 5 and to fasten them to the sole of a shoe with joint [common, shared] fastening screws. The design of receptacles 6, 7 the construction of roller axles 8, 9 and the profile form of rail 5 can be freely adapted to a great extent to the particular requirements.

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Claims

1. A roller skate with a shoe forming a sole and with a wheel frame [undercarriage] fastened to the sole by screws, which wheel frame comprises receptacles for a front and a rear roller axle, characterized in that the wheel frame (2) comprises a rail (5) on which the two receptacles (6, 7) for the roller axles (8, 9) are arranged in such a manner that they can shift longitudinally and that the screws (3) extending through the rail (5) connect the receptacles (6, 7) for the roller axles (8, 9) to the sole (4).

2. The roller skate according to claim 1, characterized in that the rail (5) engaging in a positive manner in at least one longitudinal groove (12) of the receptacles (6, 7) for the roller axles (8, 9) can be clamped fast between the sole (4) and the receptacles (6,7) by the screws (3).

3. The roller skate according to claim 1, characterized in that the rear receptacle of the two receptacles (6, 7) comprises a support fork (17) for the rear roller axle (9) carrying an individual roller (18).

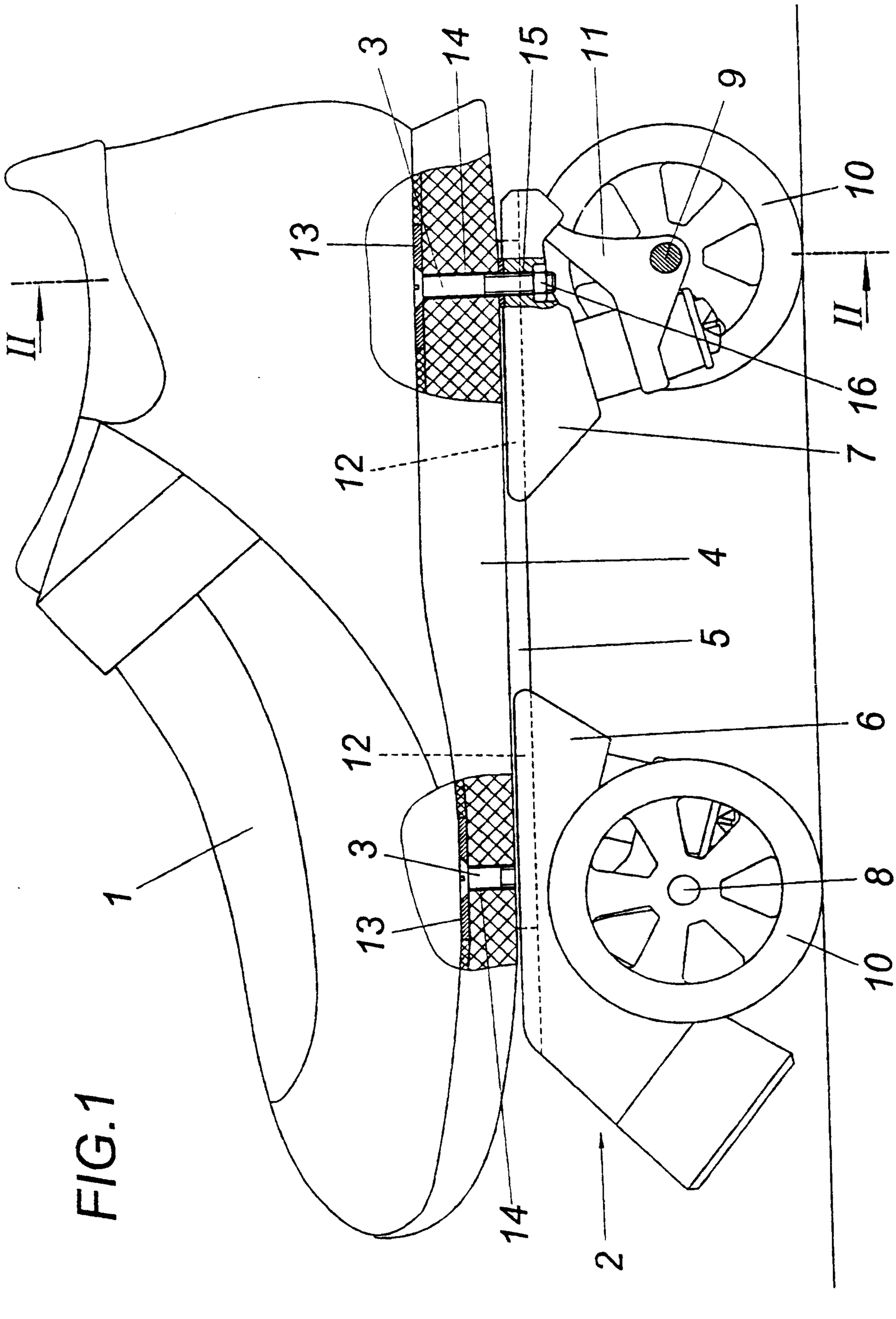
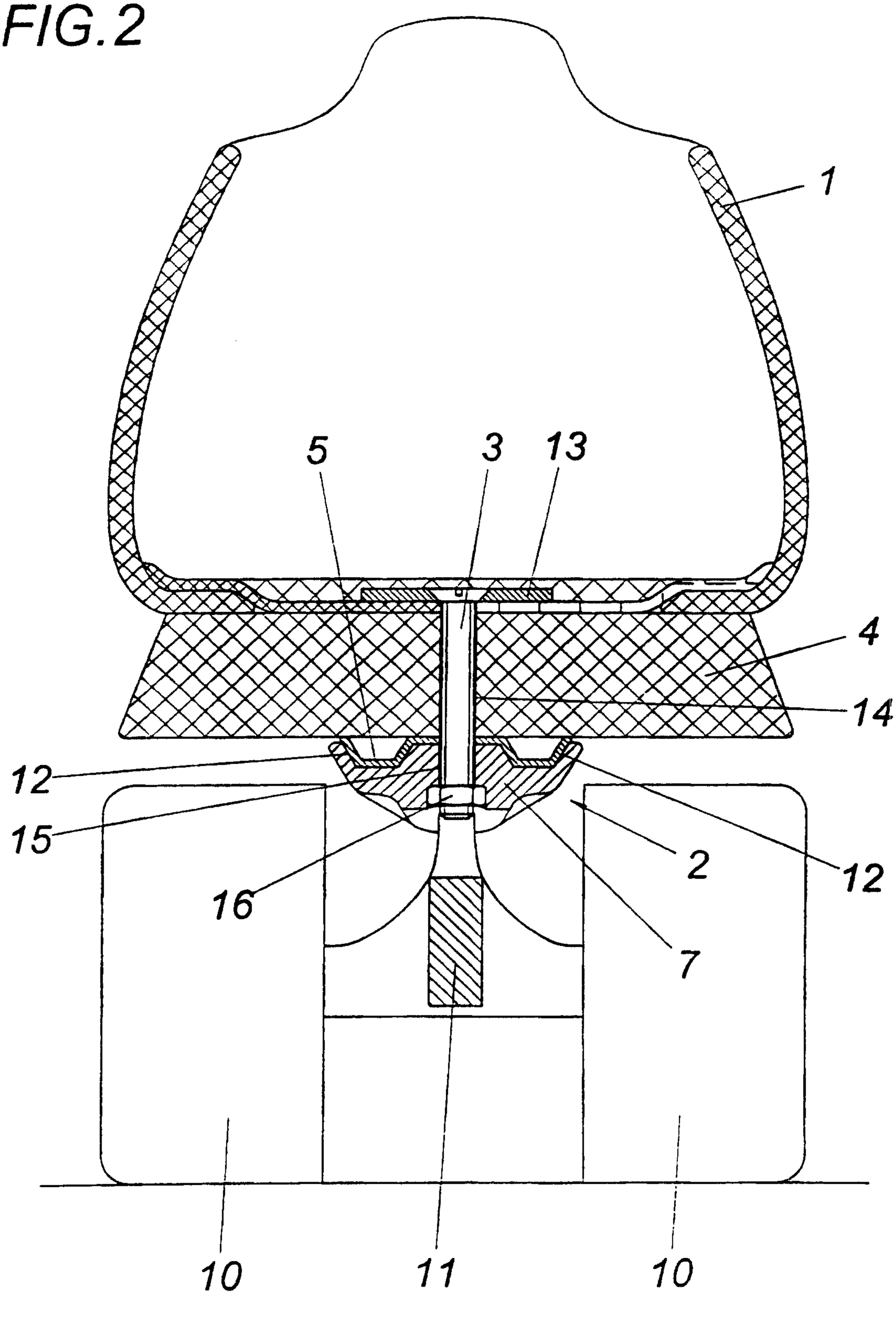


FIG.1

FIG.2



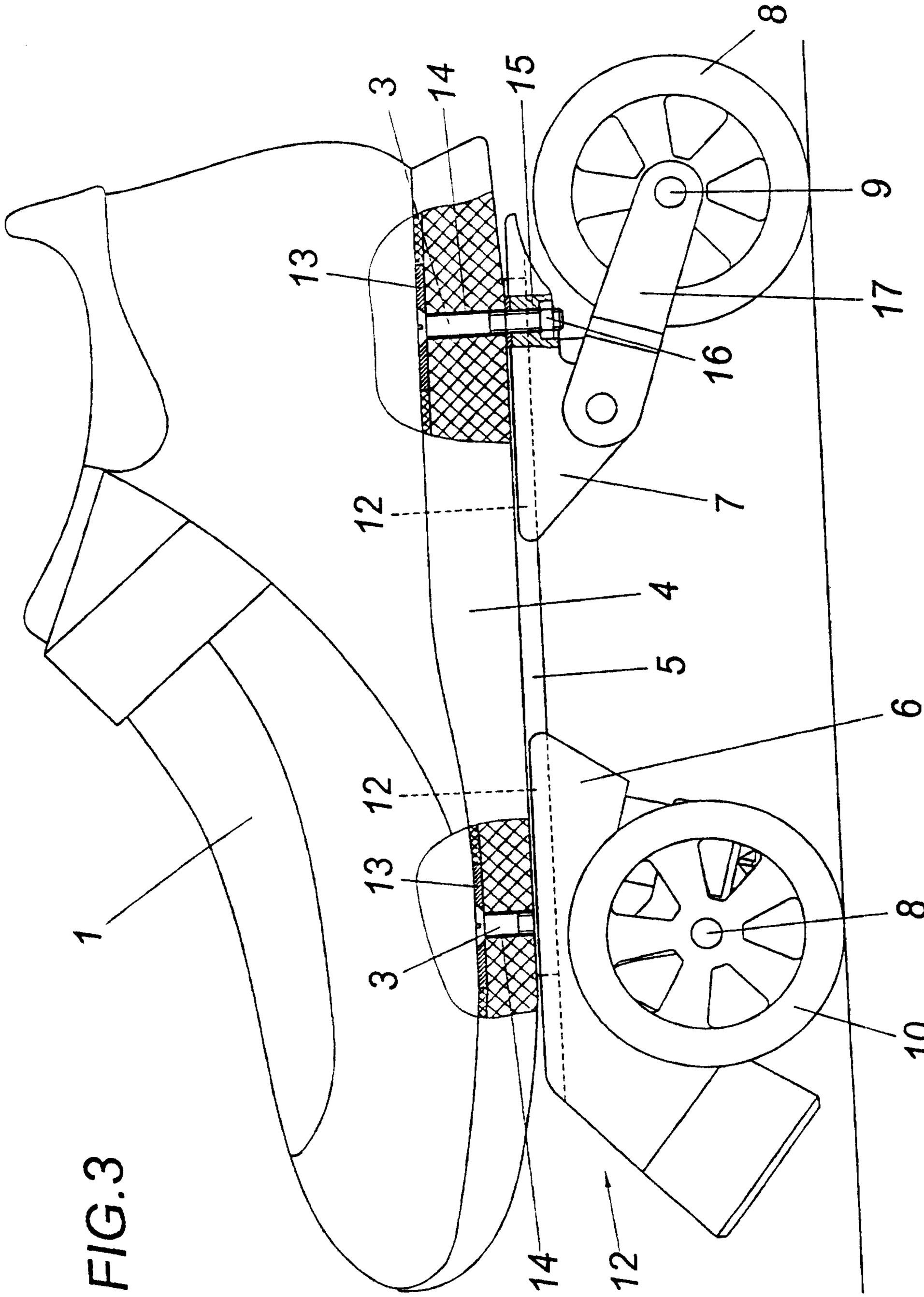
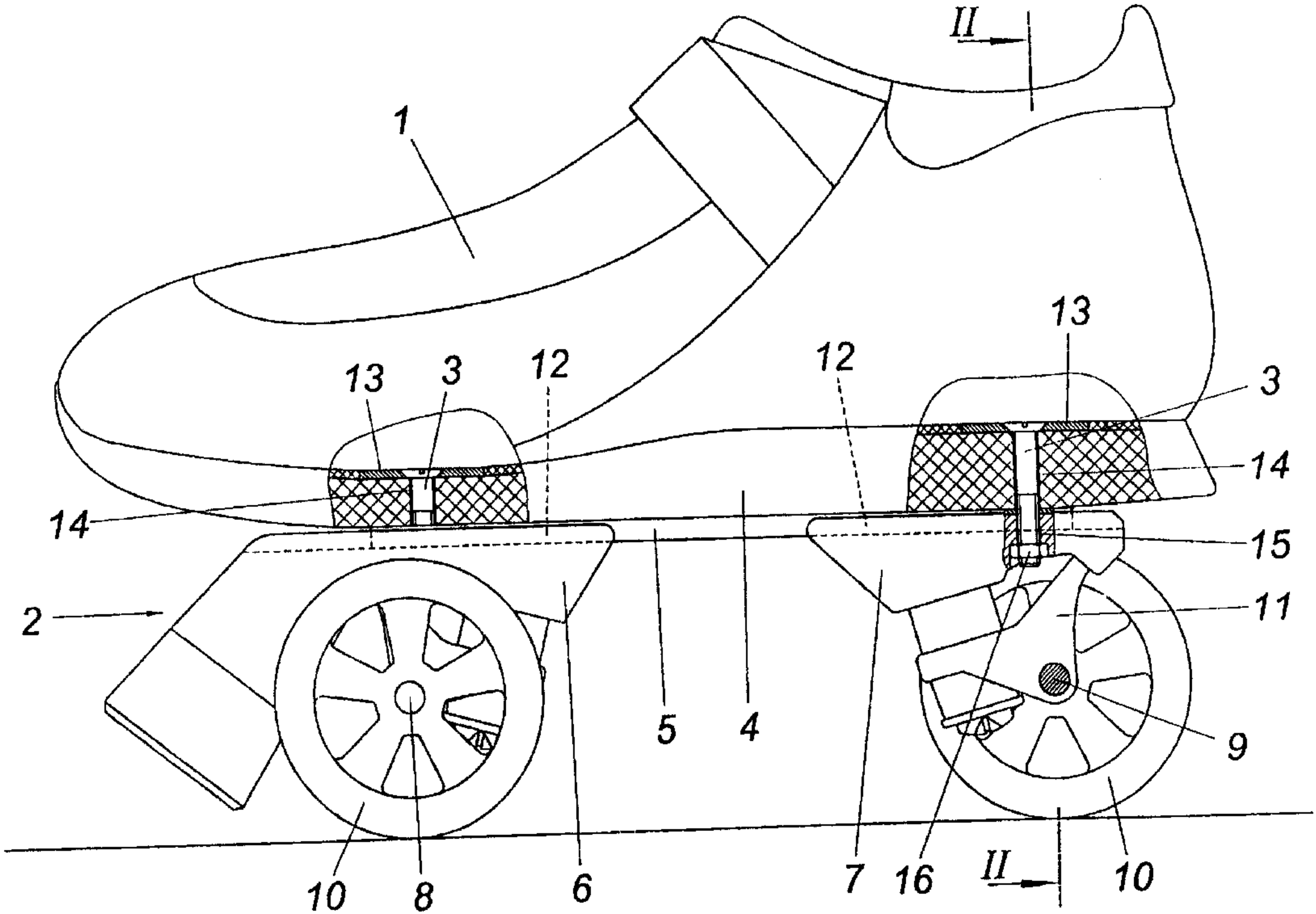


FIG.3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