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(54) **Rollator**

(57) The invention relates to a rollator (1) having a frame (2,3), front wheels (4) and back wheels (5), and further comprising handles (6) that are connected to the frame (2,3), wherein the frame (2,3) comprises a first frame part (2) and a second frame part (3), which frame parts (2,3) are moveably connected to each other between a first predetermined position at which the front wheels (4) are at a first distance from the back wheels (5), and a second predetermined position at which the front wheels (4) are at a second distance from the back wheels (5), wherein the first distance is larger than the second distance.

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Description

[0001] The invention relates to a rollator having a frame, front wheels and back wheels, and further comprising handles that are connected to the frame.

[0002] Such a rollator is known from different citations, notably the Dutch patents 1021140, 1022512, 1023842 and 1026176.

[0003] A recognized problem with existing rollators is that they provide difficulty when the user tries to move to the sidewalk coming from the street due to the elevated level of the sidewalk as compared to the street level. This is particularly true in view of the fact that rollators are in use by elderly people and in general by people experiencing a physical challenge.

[0004] To alleviate this problem some suggestions are knowledgeable from the prior art, notably the Dutch patents 1026176 and 1023842.

[0005] Dutch patent 1026176 suggests to provide the rollator with a complicated tool at the rollator's front end which provides as it were, a circumferential part of a large diameter cylinder rolling from street level to the sidewalk level.

[0006] Dutch patent 1023842 teaches to apply handles which can be shifted backwards, thus providing better leverage for tilting the rollator backwards, when trying to move from street level to the sidewalk level. A disadvantage is however that when the handles are moved backwards, the rollator is also inclined to move backwards, which is contrary to the intended direction of movement.

[0007] With the invention it is intended to provide a rollator allowing to move from the street level to the sidewalk level more easily and to provide an alternative for existing rollators.

[0008] A further object is to provide a rollator which allows for dual use as will become apparent from the following discussion of the invention.

[0009] The objectives of the invention are at least partly met by a rollator which is characterized by one or more of the appended claims.

[0010] In a first aspect of the invention the rollator is characterized in that the frame comprises a first frame part and a second frame part, which frame parts are moveably connected to each other between a first predetermined position at which the front wheels are at a first distance from the back wheels, and a second predetermined position at which the front wheels are at a second distance from the back wheels, wherein the first distance is larger than the second distance.

[0011] In this way it is possible to provide a rollator with dual use, i.e. the first position at which the front wheels are at the first distance from the back wheels being the standard rollator orientation of the wheels, wherein the wheels are relatively distant from each other, and the second position wherein the front wheels and the backwheels are at the second distance, i.e. at close proximity that converts the rollator to a trolley type of orientation of the first frame part as compared to the second frame part allowing for ease of movement and ease of passing bends. Also moving from the street level to the sidewalk level is then more easy because in this second position the rollator can easily be swivelled, such that the front wheels loose contact with the ground and the rollator is only touching base with the back wheels.

[0012] In order to most effectively realise the objectives of the invention it is preferable that the first frame part and the second frame part are at their first extremities provided with the back wheels, respectively the front wheels.

[0013] Also, it is advantageous for promoting of the ease of lifting of the front wheels when moving from the street level to the sidewalk level, that the first frame part is having the handles at its second extremities distant from the first extremities.

[0014] A preferred embodiment within the general construction of the rollator of the invention as discussed above is characterized in that the second frame part connects to the first frame part with at least one slidable hinge connection provided at an intermediate location between the handles and the back wheels.

[0015] Such a slidable hinge connection preferably comprises cooperating grooves and pins, wherein the grooves comprise a straightly aligned groove and a bended groove so as to cause that in both the first position and the second position of the frame parts the second frame part that supports the first wheels is able - during use - to essentially maintain its orientation in respect of the ground. This is particularly helpful to maintain a desired steering behaviour of the rollator which is indifferent to whether the rollator is in the first position or in the second position.

[0016] Desirably a lock is provided for locking the frame parts in the second position. This allows for continued use of the rollator when it is placed in the second position being the trolley position.

[0017] A suitable arrangement of the lock comprises a switch provided on one of the frame parts, that cooperates with a protrusion provided on the other frame part.

[0018] In another aspect of the rollator of the invention, same is **characterised in that** the handles are linked to each other with a handlebar, and that the handles are swivably mounted on the first frame part and arranged such that the handlebar is moveable between a first lockable and forewardly oriented position and a second lockable and rearwardly oriented position.

[0019] The first lockable and forewardly oriented position corresponds to the use of the rollator in its normal function, when the front wheels and the back wheels are distantly positioned with respect to each other. The second lockable and rearwardly oriented position provides an easy manner in using the rollator as if it were a trolley, which corresponds to the proximate position of the front wheels and the back wheels.

[0020] The invention will hereinafter further be elucidated with reference to a schematic drawing of an exemplary embodiment of the rollator of the invention.

[0021] In the drawing:

- Fig. 1 shows the rollator of the invention in a first position;
- Fig. 2 shows the rollator of the invention in a second position;
- Fig. 3 shows a sliding hinge connection of the rollator of the invention pertaining to the rollator's first position,
- Fig. 4 shows the sliding hinge connection of the rollator of the invention in the second position,
- Fig. 5 shows the handles and the handlebar of the rollator of the invention when the handlebar is in the forewardly oriented position, and
- Fig. 6 shows the handles and the handlebar of the rollator of the invention when the handlebar is in the rearwardly oriented position.

[0022] Wherever in the figures the same numerals are applied, these numerals relate to same parts.

[0023] With reference first to Fig. 1 the rollator 1 of the invention is shown in a first position relating to the normal use of the rollator 1 for its intended purpose to assist elderly or physically challenged persons to move in and out of the house.

[0024] The rollator 1 has a frame 2,3, front wheels 4 and back wheels 5. The rollator 1 further comprises handles 6 that are connected to the frame 2,3.

[0025] The rollator 1 of the invention is characterized in that the frame 2,3 comprises a first frame part 2 and a second frame part 3, which frame parts 2,3 are moveably connected to each other between a first predetermined position that is shown in Fig. 1 and a second predetermined position that is shown in Fig. 2. The second position of the rollator 1 of the invention that is shown in Fig. 2 concerns a so-called trolley position of the rollator 1 and differentiates from the standard position shown in Fig. 1 in that the front wheels 4 and the back wheels 5 are at close proximity, whereas in Fig. 1 the front wheels 4 and the back wheels 5 are shown to be at a larger distance than is the case in Fig. 2.

[0026] In the standard position shown in Fig. 1 the rollator 1 is fully capable to assist elderly and disabled persons by providing adequate support when such persons are leaning on the handle 6. The rollator 1 remains stable.

[0027] In the trolley position shown in Fig. 2 the rollator 1 is better capable to pass obstructions such as occur when moving from street level to an elevated sidewalk level. A little leaning on the handles 6 is possible but if the leaning force is further increased the front wheel 4 will lift from the ground and moving from street level to a level of the sidewalk is easily facilitated. For this purpose it is preferable that the first frame part 2 is provided with the back wheels 5 and the second frame part 3 is provided with the front wheels 4 as is clearly shown in Fig. 1 and Fig. 2. Furthermore, it is preferable that the first frame part 2 is provided with the handles 6.

[0028] Fig. 1 and Fig. 2 also show that the second frame part 3 connects to the first frame part 2 at an intermediate location between the handles 6 and the back wheels 5 and for this purpose the connection between the first frame part 2 and the second frame part 3 is preferably a slideable hinge connection 7.

[0029] An open view at this slideable hinge connection 7 is offered in Figs. 3 and 4, wherein Fig. 3 shows the hinge connection in a position that corresponds to the first position of the rollator 1 shown in Fig. 1 and Fig. 4 represents the hinge connection 7 corresponding to the second position of the rollator 1 as shown in Fig. 2.

[0030] As a general remark it is mentioned that the slidable hinge connection as shown in the figures normally is placed on both sides of the rollator 1 of the invention.

[0031] The hinge connection 7 comprises cooperating grooves 8,9 and pins 10,11 wherein the grooves 8,9 comprise a straightly aligned groove 8 and a bended groove 9 so as to cause that both in the standard position of the rollator 1 as shown in Fig. 1 and in the trolley position as shown in Fig. 2, the second frame part 3 that supports the front wheels 4 is arranged such that during use this second frame part 3 essentially maintains its orientation in respect of the ground. This is clearly recognizable by comparison of Fig. 1 with Fig. 2. The combination of the straightly aligned groove 8 and the bended groove 9 results in a combined translation and rotation of the first frame part 2 as compared to the second frame part 3 when moving the rollator 1 from the first position shown in Fig. 1 to the second position shown in Fig. 2. This can also be recognized by comparison of Fig. 3 with Fig. 4.

[0032] Fig. 3 and Fig. 4 further show that a lock 12,13 is provided for locking the frame parts 2,3 in the second position shown in Fig. 2 and Fig. 4. The lock 12,13 comprises to this end a switch 12 that is provided on, for instance, the first frame part 2, which switch 12 cooperates with a protrusion 13 that is provided on the other frame part 3. This can of course also be implemented vice versa.

[0033] Further, it is remarked that the rollator 1 of the invention does not need to be embodied with a lock for locking the frame parts 2,3 when placed in the first position. Due to the laws of gravity the first position of the rollator 1 as shown in Fig. 1 is stable without such a lock.

[0034] With reference to Figure 5 and Figure 6 a further feature of the rollator of the invention is shown that concerns the handles 6 that are connected to each other by means of an interconnecting handlebar 16.

[0035] Fig. 5 shows the position of the handles 6 and the handlebar 16 corresponding to the use of the rollator as discussed hereinabove with reference to Fig. 1 which is the normal rollator use. The position of the handles 6 allows that a person can lean on the handles 6 on both sides of the rollator and simply stand in between these two handles 6.

[0036] When the rollator of the invention is converted to trolley use as shown in Fig. 2, then it is beneficial to also convert the handles 6 and the handlebar 16 to the

position shown in Fig. 6. This makes it is possible to draw the rollator with a single hand by pulling the handlebar 16.

[0037] The conversion from the orientation of the handles 6 and handlebar 16 as shown in Fig. 5 to the orientation shown in Fig. 6, can be effected by first depressing a release knob 14. This allows that the handles 6 and the handlebar 16 can be pulled to an extreme position in the direction of arrow B and then be rotated or swivelled to the position shown in Fig. 6. Releasing knob 14, then secures again the handles 6 and the handlebar 16 in the orientation shown in Fig. 6.

Claims

1. Rollator (1) having a frame (2,3), front wheels (4) and back wheels (5), and further comprising handles (6) that are connected to the frame (2,3), **characterized in that** the frame (2,3) comprises a first frame part (2) and a second frame part (3), which frame parts (2,3) are moveably connected to each other between a first predetermined position at which the front wheels (4) are at a first distance from the back wheels (5), and a second predetermined position at which the front wheels (4) are at a second distance from the back wheels (5), wherein the first distance is larger than the second distance.

2. Rollator (1) according to claim 1, **characterized in that** the first frame part (2) and the second frame part (3) are at their first extremities provided with the back wheels (5), respectively the front wheels (4).

3. Rollator (1) according to claim 2, **characterized in that** the first frame part (2) is having the handles (6) at its second extremities distant from the first extremities.

4. Rollator (1) according to anyone of claims 1-3, **characterized in that** the second frame part (3) connects to the first frame part (2) with at least one slidable hinge connection (7) provided at an intermediate location between the handles (6) and the back wheels (5).

5. Rollator (1) according to claim 4, **characterized in that** the at least one slidable hinge connection (7) comprises cooperating grooves (8,9) and pins (10,11) and that the grooves (8,9) comprise a straightly aligned groove (8) and a bended groove (9) so as to cause that in both the first position and the second position of the frame parts (2,3) the second frame part (3) that supports the front wheels (4) is able during use to essentially maintain its orientation in respect of the ground.

6. Rollator (1) according to any one of claims 1-5, **characterized in that** a lock (12,13) is provided for locking the frame parts (2,3) in the second position.

7. Rollator (1) according to claim 6, **characterized in that** the lock (12,13) comprises a switch (12) provided on one (2) of the frame parts, that cooperates with a protrusion provided on the other (3) frame part.

8. Rollator according to anyone of the preceding claims, **characterized in that** the handles (6) are linked to each other with a handlebar (16), and that the handles (6) are swivably mounted on the first frame part (2) and arranged such that the handlebar (16) is moveable between a first lockable and forewardly oriented position and a second lockable and rearwardly oriented position.

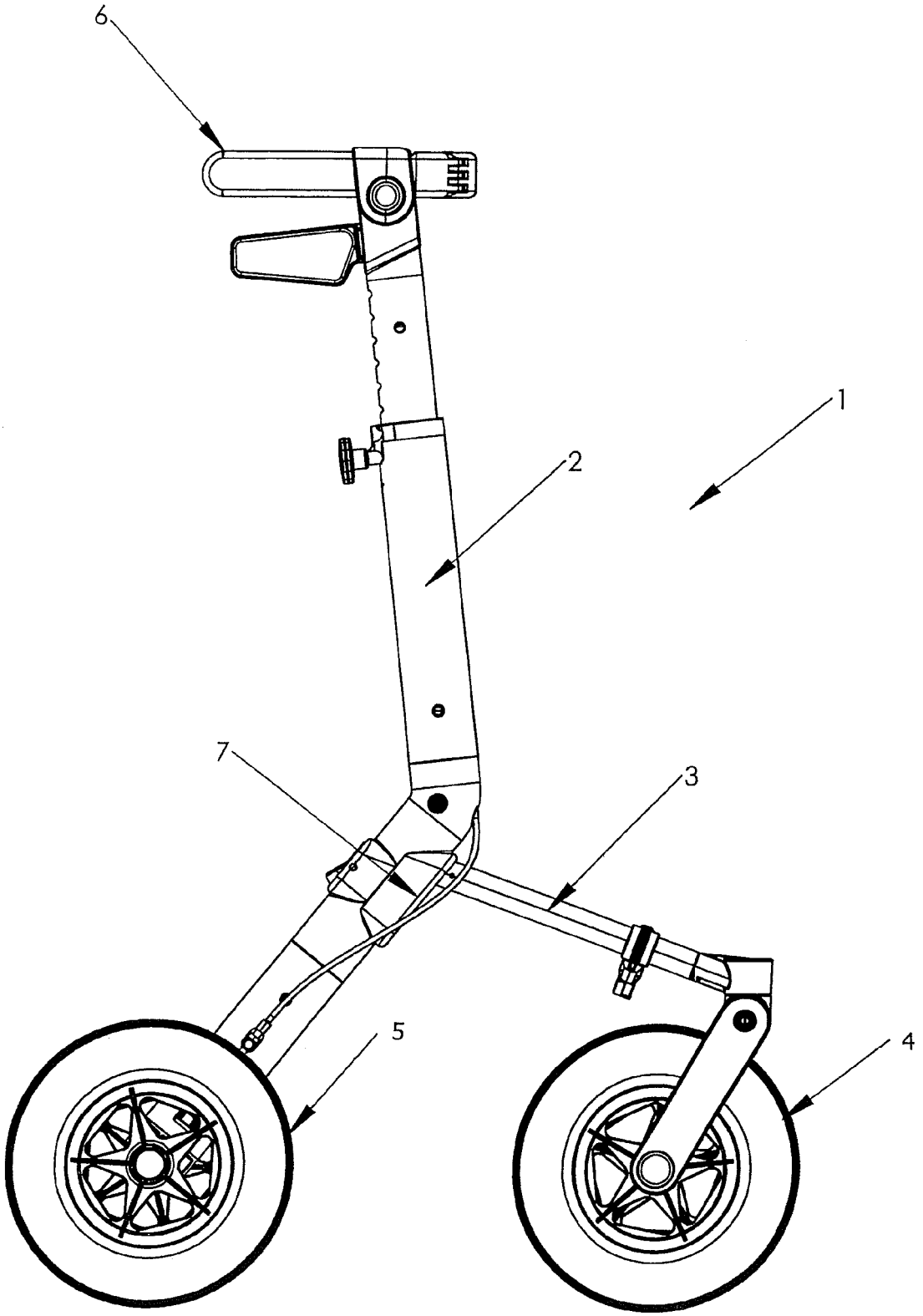

FIG 1

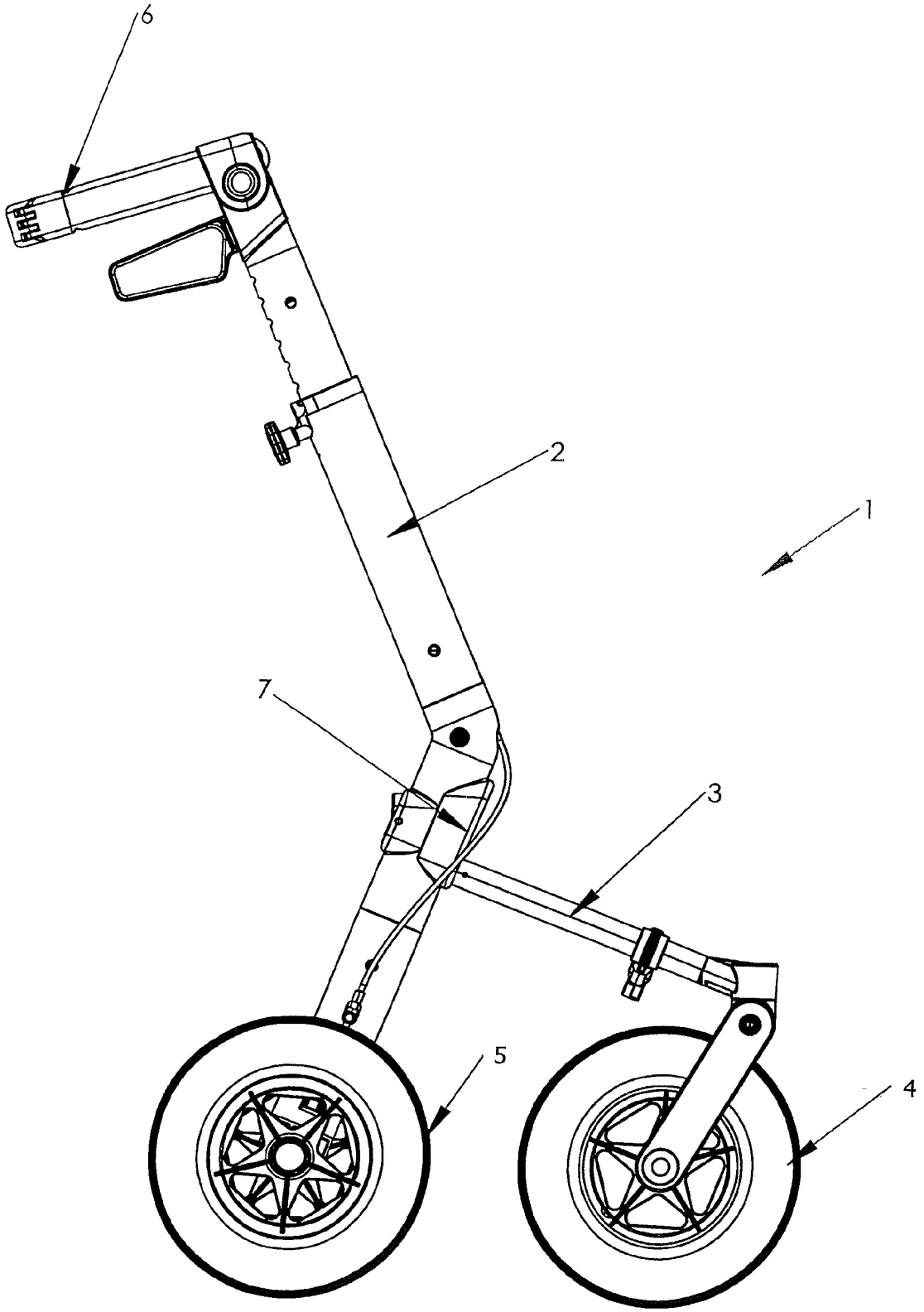

FIG 2

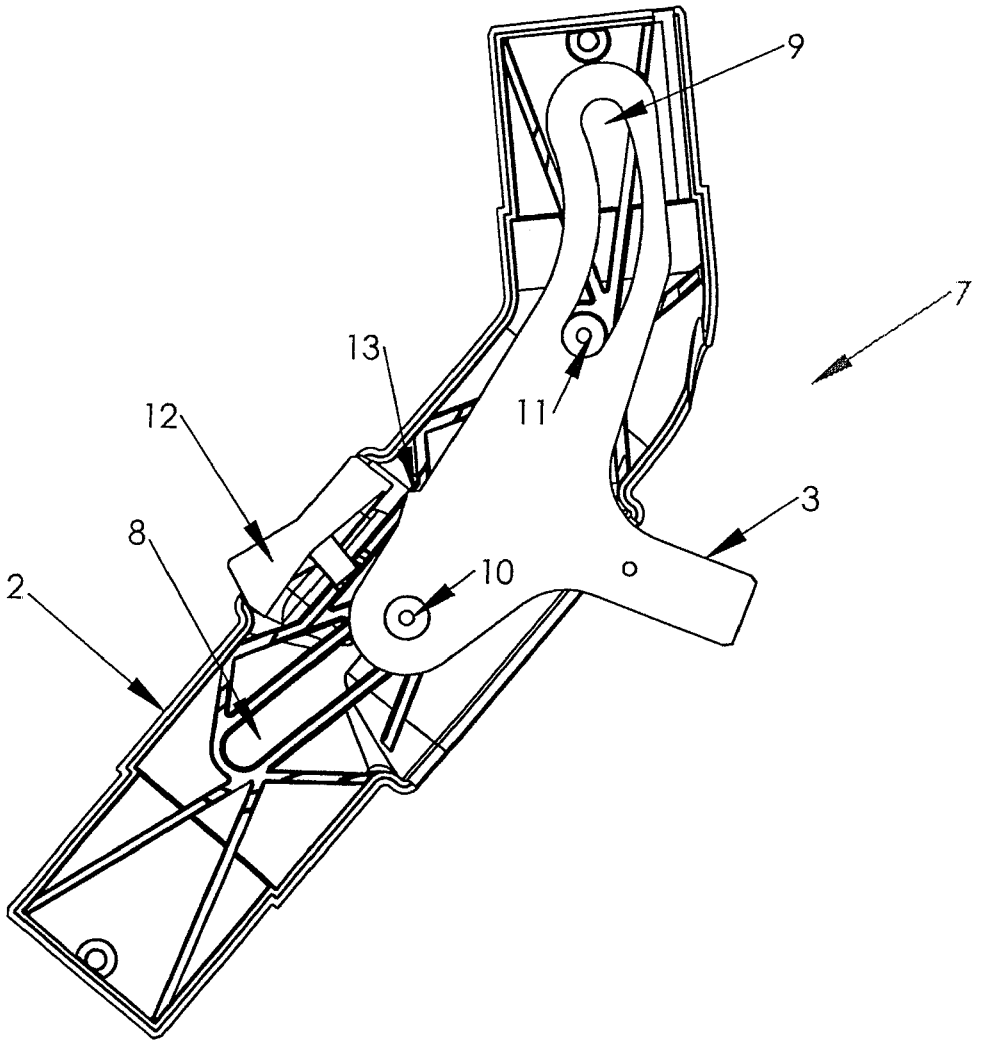

FIG 3

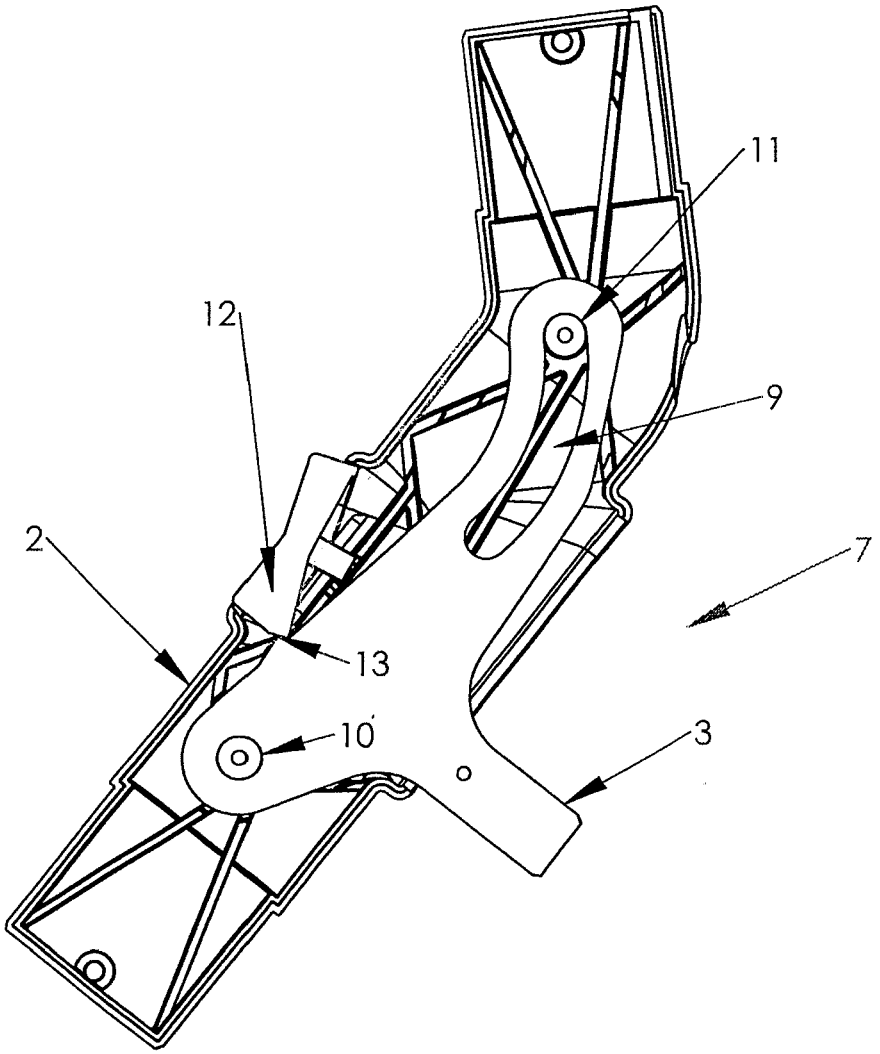

FIG 4

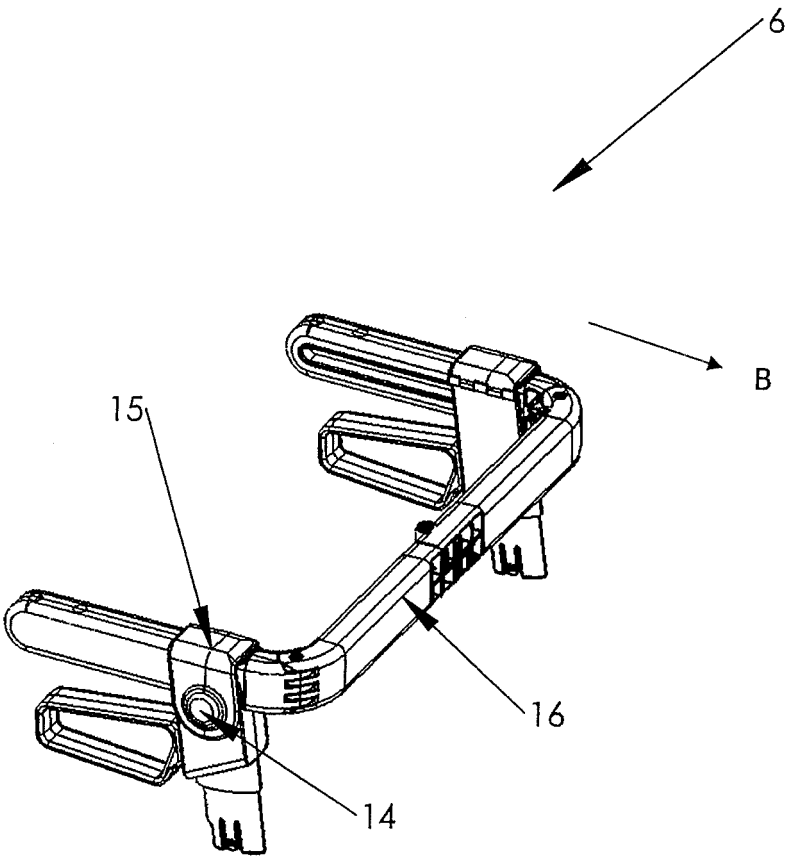

FIG 5

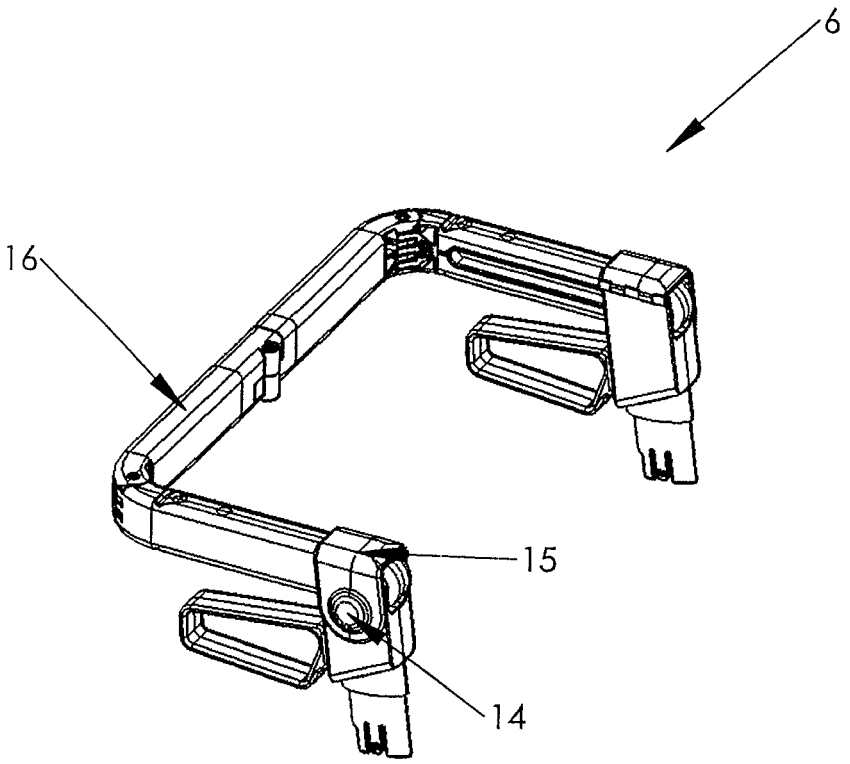

FIG 6

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Application Number
EP 07 11 3722

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
The Hague	20 December 2007	Knoflacher, Nikolaus

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