CLAIMS

1. A walking aid wheelchair (1), comprising:

a chassis (3),

a movable base plate (60) which is movable relative to the chassis (3) between a low sitting position in which a user (U) can sit thereon, and a high walking position in which it is configured to be in contact with the user (U) and at least partially behind the user (U),

a position changing device (4) for the base plate, configured to move the base plate (60) between its high position and its low position,

the position changing device (4) comprising at least one first arm (41_G, 41_D) extending between the chassis (3) and the base plate (60), and a linear actuator (44_G, 44_D) which is connected through a lower mechanical connection (91) to the chassis (3) and by an upper mechanical connection (93) to the first arm (41_G, 41_D),

the linear actuator (44_G, 44_D) being configured to bias the movable base plate (60) to the high position through the arm (41_G, 41_D),

characterised in that the arm (41_G, 41_D) is connected at its lower end through a lower hinge (92) to the chassis (3) and at its upper end through an upper hinge (94) to the movable base plate (60), the upper hinge (94) being located behind the lower hinge (92) over the entire stroke of the movable base plate (60) when the movable base plate (60) moves from the low position up to the high position,

wherein the upper mechanical connection (93, 97) of each linear actuator (44_G, 44_D, 46_G, 46_D) is located behind the lower mechanical connection (91, 95) of the linear actuator (44_G, 44_D,46_G, 46_D), when the movable base plate (60) is at least in a position between the high position and the low position, and

the arm (41_G, 41_D) forming a third class lever.

2. The walking aid wheelchair (1) according to the preceding claim, wherein each linear actuator (44_G, 44_D) comprises an elastic return means configured to elastically bias the movable base plate (60) to the high position through the arm (41_G, 41_D), each linear actuator (44_G, 44_D) being preferably passive, each linear actuator (44_G, 44_D)

preferably comprising a cylinder, each linear actuator (44_G, 44_D) comprising more preferably a gas spring loaded type cylinder.

3. The walking aid wheelchair (1) according to any of the preceding claims, comprising at least two first arms (41_G, 41_D) each extending between the chassis (3) and the base plate (60), and two linear actuators (44_G, 44_D) which are each connected through a lower mechanical connection (91) to the chassis (3) and through an upper mechanical connection (93) to one of the arms (41_G, 41_D),

the linear actuators (44_G, 44_D) being configured to bias the movable base plate (60) to the high position through the first arms (41_G, 41_D),

the arms (41_G, 41_D) each forming a third class lever,

each first arm (41_G, 41_D) being connected at its lower end through a lower hinge (92) to the chassis (3) and at its upper end through an upper hinge (94) to the movable base plate (60), the upper hinge (94) being located behind the lower hinge (92) over the entire stroke of the movable base plate (60) when the movable base plate (60) moves from the low position to the high position.

4. The walking aid wheelchair (1) according to any of the preceding claims, comprising at least one second arm (42_G, 42_D) which extends between the chassis (3) and the movable base plate (60), preferably two second arms (42_G, 42_D) which each extend between the chassis (3) and the movable base plate (60),

each second arm (42_G, 42_D) being preferably a follower arm which is movably driven with respect to the chassis (3) by the at least one first arm (41_G, 41_D), or

the wheelchair (1) further comprising more preferably a linear actuator (46_G, 46_D) by second arm (42_G, 42_D), which is connected by a lower mechanical connection (95) to the chassis (3) and by an upper mechanical connection (97) to this second arm (42_G, 42_D), this linear actuator (46_G, 46_D) being configured to bias the movable base plate (60) to the high position through the second arm (42_G, 42_D).

5. The walking aid wheelchair (1) according to any of claims 3 to 4, wherein the arms (41_G, 41_D, 42_G, 42_D) are substantially parallel to each other,

the arms (41_G, 41_D, 42_G, 42_D) being laterally connected to the movable base plate (60), the position changing device (4) being designed such that the user (U) is between the arms (41_G, 41_D, 42_G, 42_D), at least when the movable base plate (60) is in the high walking position,

the arms (41_G, 41_D, 42_G, 42_D), the movable base plate (60) and the chassis (3) having preferably a generally parallelogram shape deformable between the high position and the low position.

6. The walking aid wheelchair (1) according to any of the preceding claims, wherein the position changing device (4) is configured to move the movable base plate (60) relative to the chassis (3) in a circumferential translational motion between the high walking position and the low sitting position,

each first arm (41_G, 41_D) and/or each second arm (42_G, 42_D) being preferably connected at its lower end by a pivot connection (92, 96) to the chassis (3) and preferably at its upper end by a pivot connection (94, 98) to the movable base plate (60), and/or

the lower end and/or the upper end of each first arm (41G, 41D) being preferably configured to form an angle between 50° and 90° with the horizontal counterclockwise, of preferably at most 76° in the high walking position, and/or

the lower mechanical connection (91) and the upper mechanical connection (93) being preferably pivot connections.

7. The walking aid wheelchair (1) according to any of the preceding claims, wherein

the absolute value of the angle between each linear actuator (44_G, 44_D, 46_G, 46_D) and the normal to the corresponding arm (41_G, 41_D,42_G, 42_D) in the low position being in particular lower than the absolute value of the angle between this linear actuator (44_G, 44_D, 46_G, 46_D) and the normal to the corresponding arm (41_G, 41_D,42_G, 42_D) in the high position.

8. The walking aid wheelchair (1) according to any of the preceding claims, wherein the movable base plate (60) comprises two side support elements (61, 63) and an intermediate support element (62) laterally located between both side support elements (61, 63), each of the side support elements (61, 63) forming with the intermediate support element (64) a housing (65_G, 65_D) for one of the user's lower limbs (U_{ID}, U_{IG}) in the high position, and/or wherein

the movable base plate (60) comprises a saddle (110), and preferably a saddle base (120) to which the saddle (110) is configured to be detachably connected.

9. The walking aid wheelchair (1) according to claim 8, wherein the saddle (110) has a laterally adjustable position relative to the chassis (3), and/or the movable base plate (60) comprises a frame (600) to which the saddle (110) is connected by being tiltable at least along the height direction (Z-Z), and/or

wherein the wheelchair (1) comprises a lower abutment member (130) configured to be a rear abutment for part of the user's lower limb (U_{ID}, U_{IG}) at least in the low sitting position, which is located in front of the saddle (110) and which is at least partly laterally adjustable relative to the chassis (3), the lower abutment member (130) preferably comprising at least one fitting (131_G, 131_D) which is laterally adjustable relative to the chassis (3).

10. The walking aid wheelchair (1) according to any of the preceding claims, wherein the chassis (3) comprises:

at least two posts (32, 34), preferably rectilinear, extending at least partially from front to rear and to which the arms (41_G, 41_D, 42_G, 42_D) and the linear actuators (44_G, 44_D) are connected, each of the posts (32, 34) preferably comprising at least one bar (32a, 32b, 34a, 34b), and

a fixed base (36, 35_H) which extends between both posts (32, 34) along a transverse direction (Y-Y) of the wheelchair (1), by mechanically connecting both posts (32, 34) to each other,

the movable base plate (60) being configured to abut against the fixed base (36, 35_H) in the low sitting position,

the chassis (3) preferably comprising a backrest (20) which is rigidly integral with the fixed base (36) and which extends upward from the fixed base (36), or the wheelchair (1) preferably comprising a backrest (20) which is rigidly integral with the movable base plate (60).

11. The walking aid wheelchair (1) according to any of the preceding claims, comprising a front retaining member (7_G, 7_D) configured to retain the user (U) from moving forward relative to the chassis (3),

the front retaining member (7_G, 7_D) comprising a front abutment element (72) configured to abut against the user's (U) pelvis in the high position, the front abutment element (72) being preferably an iliac abutment configured to abut against the user's anterior-superior iliac spine.

12. The walking aid wheelchair (1) according to claim 11, wherein the front retaining member (7_G, 7_D) is configured to guide the wheelchair (1), at least when the movable base plate (60) is in the high walking position,

wherein the front retaining member (7_G, 7_D) comprises the front abutment element (72) and preferably a base (70, 662), the front abutment element (72) being in particular configured to be able to pivot relative to the base (70, 662) between an upper position and a lower position, and/or

the front retaining member (7_G, 7_D) preferably comprises a support arm (78) to which the front abutment element (72) is connected by a hinge (77), such that the front abutment element (72) is laterally movable between an open position in which the front abutment element (72) lets the user (U) sit down on the movable base plate (60) and a closed position in which it retains the user (U) forward relative to the movable base plate (60).

13. The walking aid wheelchair (1) according to any of the preceding claims, comprising a push rear member (8) which is movably connected to the movable base plate (60),

the push rear member (8) comprising at least one rear abutment element (80) to abut against the rear of one of the user's lower limbs (U_{ID}, U_{IG}) in the high position, the push rear member (8) comprising a return means (82, 83) configured to bias the rear abutment element (80) forward,

wherein the rear abutment element (80) is preferably pivotable relative to the movable base plate (60), the rear abutment element (80) being in particular configured to have an oscillating motion relative to the movable base plate (60) while accompanying the lower limb (U_{ID}, U_{IG}) in walking.

14. The walking aid wheelchair (1) according to claim 13 combined with claim 8, wherein the push rear member (8) is configured to face one of the housings (65_G, 65_D) of the movable base plate (60) in the high walking position, the push rear member (8) being configured to seal at least partially the housing (65_G, 65_D) in the low sitting position, or wherein

the push rear member (8) is configured to be in front of the saddle (110) by abutting against the rear of one of the user's lower limbs (U_{ID}, U_{IG}) at least in the low sitting position.

15. The walking aid wheelchair (1) according to one of the preceding claims, comprising a locking member (200) for locking the movable base plate (60) in the low sitting position and/or the high walking position,

the locking member (200) preferably comprising at least one locking bar (202) pivotably connected relative to the chassis (3) and at least one locking pin (206) integral with the movable base plate (60), the locking bar (202) engaging the locking pin (206) in the locking position.