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Ir. A.A.G. Land c.s. te DEN HAAG.(54) **Walker device with sitting assembly.**

(57) The present invention relates to a walker device comprising an overarching frame with an overarching top, and a sitting assembly coupled to said frame, which frame extends at least primarily in a first direction between a front side with at least two front wheels and a rear side with a first rear wheel. The frame has a rear frame part and a middle frame part. The rear frame part has a height allowing a user to walk over the rear frame part and take place on the sitting assembly. The middle frame part has a width allowing a user to place his or her legs on either side of the middle frame part. The sitting assembly suitably comprises a hinge with a saddle pad for a transition between a first state and a second state.

WALKER DEVICE WITH SITTING ASSEMBLY

Technical field

The present invention relates according to a first aspect to a walker device. According to another aspect the present invention relates to a sitting assembly designed for use on a vehicle. According to still another aspect the present invention relates to the use of the present walker device.

Background art

The technical field of walker devices comprises several types of walker devices. A first and main category of walker devices are walkers wherein the user walks behind the walker. This is a type commonly in use by elderly people with reduced body stability that are afraid of falling in the course of walking.

A second category of walker devices are wheelchair type walker devices. An example hereof is for instance known from JP-2004-105396. This type comprises a frame extending on three sides of an inner space, in which a sitting assembly, such as a saddle, is located. The saddle pad is oriented with its front side at the open side of the frame. This type is not really intended for walking around independently. The frame structure however allows that the walker is pushed when a person is seated on the saddle. Its application is particularly as a medical and/or revalidation aid.

A third category of walker devices are supporting frames used to support a user to rise from a sitting posture to a standing posture. WO2007/056508 describes an example hereof. Disclosed is a walker having a main support frame, a superstructure and a body support means. The body support means is secured to the superstructure frame and operatively

arranged to support the user. The walker may include four wheels.

The invention relates particularly to the first category of walkers and is provided with a sitting assembly. Such a
5 combination is merely known in an implementation wherein a user should turn 180 degrees for arriving at the rest state - i.e. sitting assembly - from the state wherein he or she can walk behind the walker.

An example of a walker belonging to the first category
10 of walkers is DE 10 2004 020 989, describing a foldable conventional walker on wheels wherein the user can walk behind the walker and support on the handles. The folding transforms the walker into a rolling bag, which may be drawn by the user. The walker is further provided with a sitting
15 space to rest. This is a rectangular plate, which further would be suitable for placing luggage or as a sitting space for a child. It is quite small and uncomfortable for elderly people. Moreover, when the primary user of the walker would to sit, he or she first has to turn himself or herself
20 around, i.e. 180 degrees. However, such turning is not easy for an elderly person that is less mobile.

A further example is disclosed in JP-A 10-033606, disclosing a walker having sitting means wherein the sitting means is arranged in the opposition direction of the
25 handles. The sitting means are thus intended to rest when the walker is not pushed forward by the user. However, it is typically hard for less mobile persons to turn 180 degrees between the walking position and such a rest position

30 Further, US4384713 describes a rolling walker comprises a walker frame with four legs and wheels, wherein lockable front wheels can be disengaged by hand controls.

In addition to the turning problem, currently available walkers have more drawbacks. In fact, currently available walkers are devices which design has not substantially changed in the last thirty years. The design has drawbacks and principle flaws that pose problems for the users.

For example, the user is not attached to the walker, so when the walker accelerates (i.e. down a slope), creating a distance between walker and user, causing the user to lean forward and ultimately fall.

Further, when losing control of the device, the user would need to find the brakes. Currently most brakes are handles that would need to be grabbed, which requires, when in panic, an anti-intuitive action. When in panic, the user clinches their hands in search for support, the walker separates further from the user, ultimately causing the user to fall. In the US alone there are 40.000 reported cases of incidents with walkers / walking aids per year.

In Canada approximately half of the people who should use some kind of mobility aid are not using available devices due to the stigmatizing character attached with the use of these.

With regard with the walking position, current walkers have the disadvantage that the user has to bend forward, leaning on the handles to find support. This does not promote a healthy posture since users have an arched back and walk hunched over. Further, walkers also require the user to carry their complete body weight when walking, a challenge and risk for brittle osteoporosis patients.

In case a conventional walker has sitting means, they generally can only be used to rest. The user needs to rotate 180 degrees between the handle bars, which may be a challenge to balance.

Accordingly, a problem of the current available walkers is that they are intended for sitting, or for walking.

Summary of invention

5 Regarding the above disadvantages of the conventional walker, there is a need in the art for a walker which solves the related problems.

 The objective of the present invention is, amongst other objectives, to provide a walker device which solves
10 the above mentioned problems.

 It is a more specific object of the invention to provide an improved walker device enabling the user to a combination of sitting and walking.

 It is a further object to provide an improved method of
15 assisted walking, on the basis of said improved walker device.

 This objective, amongst other objectives, is met by providing a walker device according to the appended claim 1.

 Specifically, this objective, amongst other objectives,
20 is met by providing a walker device comprising an overarching frame with an overarching top, and a sitting assembly coupled to said frame, which frame extends at least primarily in a first direction between a front side with at least two front wheels and a rear side with a first rear
25 wheel. The overarching frame particularly comprises, when seen along the first direction, a fore frame part located before said overarching top, a middle frame part located between said overarching top and the sitting assembly, and a rear frame part located behind the sitting assembly to which
30 the rear wheel is connected, wherein the rear frame part has a height allowing a user to walk over the rear frame part and take place on the sitting assembly, and wherein the

middle frame part has a width allowing a user to place his or her legs on either side of the middle frame part.

With the walker device according to the present invention, a new subclass of the first category of walker device is provided enabling a new mode of transportation which is not limited to the disadvantages of the above described categories of conventional walkers. The walker device according to the invention both enables and supports movement of the user wherein the user combines sitting with walking and/or running.

The present invention provides a device which offers users an ability to move in a new way, combining sitting with walking and/or running. It is a new mode of transportation and not limited to offering an alternative for current walkers. The user mounts on top of the device so the body is resting on and in contact with the device, not just via the handles. The overarched frame allows for the legs to move freely without any obstruction between the lower legs. The user mounts over the saddle, particularly a fold-up saddle, which when collapsed is narrow and allows easy access. After mounting, the user may lever the saddle pads up and sits down, fully supported. Body weight is now supported by the saddle, so joints and muscles are not burdened, while the device allows complete movement, either walking or even running, all movements being safely controlled by the user.

The term 'overarching frame' as used in the present context means that the frame overarches legroom for the user between the present front wheels and first rear wheel. The terms 'front frame part', 'middle frame part' and 'rear frame part' are intended to describe the shape of the frame and do not need to be individual construction elements. Rather, it appears suitable that the overarching frame is - at least

substantially - a single construction element. Moreover, the term 'overarching top' is used for expression of a highest area of the frame, which highest area does not need to be a single point, but could extend in the first direction,
5 similar to a bridge.

The present walker device can advantageously be used for walking and/or running while sitting. The user therefore does not need to bend forward, but is supported by the sitting assembly, and typically also his or her own legs.
10 The overarching frame provides legroom to the legs, while a user sits on the sitting assembly. The orientation of the sitting assembly is towards the front side of the walker device, so that a user does not need to turn 180 degrees. Moreover, the walker device is designed so as a user can
15 easily get onto the device and get off the device. First, the present rear frame part allows the user to approach the walker device from behind by walking over the rear frame part, until the sitting assembly is placed behind the legs of the user. Since the rear frame part is sufficient low,
20 the user is not forced to lift his legs over the overarching frame.

Further, in a second step the user mounts on top of the walker device on the sitting assembly. Most suitably, use is made herein of a saddle that is removable, foldable,
25 rotatable or the like, so that the saddle does not hinder the user when mounting on the walker device. Then, once the sitting assembly is behind the person, the user brings the sitting assembly with suitable means from a first state to a second state, in which the user can sit on the saddle. A
30 user can slightly bend the knees and immediately rest the body on and in contact with the walker device. Thus the present walker device supports the user therewith avoiding burdening of joints and muscles. It also stabilizes users

with balance problems or degenerative conditions like Parkinson or MS.

In a third step, the user may start walking while continuing to be seated on the sitting assembly. The user could even be
5 running, since the overarching frame enables enough legroom for this purpose. Thus, the present walker device enables walking while its body is supported. Hereby the radius of action of user which are fit enough to walk is further improved, since its body weight is supported by the present
10 walker device.

In a fourth step, the user may stop the walker device. Brakes are suitably present thereto, although in principle this is not required: the user may stop the device with his feet. The rolling resistance may be set so as that the
15 device will easily and immediately stop. It is furthermore expected that the device in a further embodiment may comprise sensors for sensing speed, leg movement and/or leg position, and on the basis of the sensing, automatically activate brakes and/or increase rolling resistance. These
20 governors will be optional depending on user needs.

In a fifth step, after stopping the present walker device, the user may stand up in a natural way while the present walker device remains stabile due to its at least two front wheels and one rear wheel and thus provides further support
25 to the hands of the user, if desired.

Most suitably, the walker device of the present invention comprises a specific sitting assembly, which simplifies the second step even further. Accordingly, such a sitting assembly is movable relative to the
30 overarching frame by means of pivoting, rotating or extension. Particularly, the device is equipped with a foldable / collapsible saddle, allowing mounting over the

rear-end of the walker with minimum obstruction. Two seating pads can be levered into the position to form a saddle on which, after levering the pads into the upright position, the user sits down on.

5 According to this embodiment, the sitting assembly comprises a saddle coupled to a movement means, for instance a hinging means, such that a user may bring the saddle from a first state to a second state, in which first state a user may get onto the vehicle and above the saddle, in which second state
10 the saddle is locked and in a position to support a user. This sitting assembly allows a user to easily bring his or her body in position above the sitting assembly, without having to lift a leg. When the body of the user is brought above the sitting assembly, the user may bring the saddle to
15 a state wherein the saddle is suitable to support the body weight of the user. Most suitably, means are present so that a user can choose when such movement of the saddle occurs. The said means may be for manual operation (for instance a handle or lever or hydraulic switch) or for motorized
20 operation.

The said movement means is most preferably a hinging mechanism. Herewith the movement of the sitting assembly is a rotating movement. Such a rotating movement is a feasible manner of bringing the saddle below the back of the user.
25 When made fit for a particular user, it may be achieved that the saddle is in contact with the user's body already during the last portion of said rotating movement. A further advantage is that a user could ensure the transition for the first state to the second state manually, i.e. by operation
30 of a lever, which is handily arranged in front of the sitting assembly and thus in front of the user. Alternatively, or additionally, use could be made of a translation, i.e. a saddle pin extending upwards and/or

downwards. Obviously, the length of the saddle pin may be set and fixed prior to use, but can be extended with optional hydraulic saddle pin. However, the saddle pin could further be used in combination with a motor. Moreover, it
5 may be advantageous that the saddle just goes downwards, when a user wants to leave the walker device. This could be implemented with a motor, but alternative implementations are feasible. For instance a button coupled to a spring and/or locking means could be present.

10 In an advantageous embodiment, the saddle comprises a first and a second saddle pad. The saddle pads may be exchangeable and can be custom fitted for the specific needs of the user. The saddle pads support the sitting bones, but do not
15 excerpt pressure on the prostate (men) or private sensitive front parts (women) that saddles normally do. The pads are supporting exactly where they need to support, on the sitting bones, not on soft, sensitive parts where regular bicycle saddles are detrimental and uncomfortable. More particularly, the first and second saddle pads may be
20 movable, and particularly rotatable in accordance with a hinging mechanism. Therewith, a sitting assembly is obtained with high robustness, while a user may still walk over the saddle. During mounting of the sitting assembly, the saddle pads are hanging down and the sitting assembly is very
25 narrow, allowing the user to just pull the saddle between the legs, without having to lift up a leg at all.

Thereafter, when the person is behind the saddle, the user will use said means as discussed above to rotate the saddle pads upwards and bring the sitting assembly from the first
30 state into its second state.

In the first state of the sitting assembly, the first and the second saddle pad are oriented downwards, for instance vertical, or including an angle between 0 and 45 degrees to

a vertical axis. In the second state, the first and the second saddle pad are oriented substantially horizontally, or even upwards, so as to include mutually an angle of between 150 and 180 degrees. A structural advantage of this implementation is that there is no need for movement of the saddle pin of the sitting assembly. Functional advantages include minimizing space in the first state, and a gradual increase of support during the transition from the first to the second state.

In a specific implementation, the first and the second saddle pad rotate along an axis, during a transition from the first state to the second state or vice versa, which axis substantially extends along the first direction. In again a further implementation, the saddle is foldable, so as to extend its width in a transition from the first to the second state.

Rather than rotating a first saddle pad and a second saddle pad, the complete saddle could be rotated, relatively to the saddle pin between the saddle and the overarching frame. In a further alternative, said saddle pin could be rotated. A combination of such options may also be applied.

The sitting assembly as herein above described, appears to be useful also for alternative walker devices, or more in general vehicles.

According to a further aspect, the present invention relates to the use of the present walker device and/or the present sitting assembly for transporting individuals while the individuals are supported by the walker device.

A suitable embodiment of the present walker device is wherein the present middle frame part is higher than the present rear frame part to provide legroom for a walking movement by the user. When the present walker device is in use, the legs of the user are substantially placed under the

present middle part. Accordingly, when the middle frame part is higher than the rear frame part, this allows legroom for a walking and even running movement by the user.

Suitably, the middle frame part constitutes a 'structural
5 block' to provide the bearing and rotation part of the steering installation. In case of the cable steering, the middle frame part may comprise, particularly in an inner space, a wheel to rotate the cable. The cable will then run through the front frame part. In case of a rigid steering
10 mechanism, the middle frame part constitutes the structural part for the bearings of the steering.

In a further implementation hereof, the middle frame part comprises a hinge, which allows the frame to be folded for easy storage or transportation. It easily fits in the back
15 of a car.

The present overarching frame is preferably, when seen in a side view parallel to the first direction, an elliptical overarching frame, possibly with all sorts of variations to its shape. An elliptical overarching frame may comprise a
20 part of a circle, as well as other curvatures or sharper bends, angles. The advantage of an elliptical overarching frame is that the rear side of the walking device is low, therewith providing an easy access to the sitting assembly, and the fore part of the walking device high, therewith
25 providing enough leg room for walking and/or running while seating of the sitting assembly.

The principle is that the frame is some form of arched-over structure without any additional connection between the rear frame part and the front frame part.

30 Furthermore, the present rear frame part suitably extends towards a lower end at which said wheel is located, or wherein the present first rear wheel is placed behind the

body of the user for providing a stable walker device, thereby avoiding backwards falling with the walker device.

According to a preferred embodiment, the present walker device comprises an overarching frame wherein the present
5 fore frame part has a width larger than the middle frame part. The advantage of this embodiment is that a stable walker device is provided, both when the walker device is in use as well as when the walker device is parked.

In a suitable implementation, the present fore frame
10 part preferably comprises a first and a second frame element, wherein the first frame element extends from the middle frame part towards a left front wheel, and wherein the second frame element extends from the rear middle frame part towards a right front wheel. This implementation
15 provides a stable walker device since the width of the walker device is already increasing from the present middle frame part. Alternatively, the fore frame part may be a single construction element, triangulated to / mounted on the horizontal bumper, connection between the brackets
20 holding the rotation part of the steering front wheels.

In other words, in order to provide a stable walker device, the present overarching frame, when seen in a perpendicular top view, has or encloses a substantially triangular shape, wherein its width increases from the first
25 rear wheel to the at least two front wheels.

For reasons of stability, the present fore frame part is suitably connected with the at least two, preferably transversal arranged, front wheels via a transversal, preferably horizontal, rod which extends between the at
30 least two front wheels. The advantage of this transversal rod is that a rigid frame is provided. Further, the present transversal rod may provide a support for the feet of the user, for example when the user is waiting of when the user

is riding down a slope. The transversal rod (bumper) might also be used to rest a foot on for users recovering from lower body surgery. It also provides the structure for mounting baggage, storage space for a cane holder, prosthetic
5 leg holder, shopping bag etc.

Preferably, the present walker device comprises supporting connector elements between the transversal, preferably horizontal, rod and the fore frame part. The advantage of these supporting connector elements is that a
10 more rigid frame is provided.

Suitably, the present at least two, preferably transversal arranged front wheels, have a larger diameter than the first rear wheel. The advantage of larger front wheels is that the present walker device can easily handle
15 obstructions such a curbstone.

In order to provide an easily steerable walker device, the present at least two front wheels and/or one rear wheel are advantageously swivel castors. Swivel castors are easily moveable in desired directions. Optionally, the castors are
20 provided with locking means.

Another advantageous embodiment for a walker device providing support to the user is when the present walker device further comprises a support element at the front side, preferably mounted ad the fore frame part, that a user
25 may grip with his or her hands.

A most commonly applied steering mechanism for this walker is by means of cables. Cable steering allows a nearly invisible steering, not causing an obstruction and limiting the movement of the legs while striding on the walker. The
30 middle frame part houses a rotation wheel under the steering bar. The rotation wheel rotates when the steering bar is operated by user. The cables transfer the movement to the castors with the front wheels. Rigid cables may be used

which can be mounted in the tubing of the frame, or, alternatively, casual brake cables may be used. With use of these cables, horizontal rods are then connecting the castors and transfer the rotation from steering bar to
5 wheels.

In an alternative implementation, the said support element is or comprises a substantially horizontal steering bar with a mounted optional chest pad the users chest rests on, coupled to an optional swivel steering mechanism
10 suitable to actuate the at least two front wheels, which are suitably arranged transversally, i.e. at a distance transversal from a central axis of the overarching frame. Hereby, steering is designed to be operated in an intuitive way which makes it easy to operate for users with limited
15 upper-body strength. Steering is preferably provided by leaning the horizontal steering bar to either the right or the left, as desired. The steering bar is preferably attached to a substantially vertical swivel steering mechanism that transfers either leaning right or leaning
20 left to turning the wheels right or left, respectively.

Preferably, the present walking device is also provided with brakes, which are suitable to slow down the walker device, and/or which are suitable to lock the walker device in a parked position. Most preferably, the brakes are
25 activated by leaning on a pad mounted to the steering bar, an intuitive way of operating, not causing problems for users with compromised fine motor activity in their hands.

Furthermore, the rear wheel suitably has a stationary brake. The rear wheel may further or alternatively be
30 provided with a brake to be operated to slow down and stop instantly.

According to a further aspect of the invention, a sitting assembly is provided, which is designed for use on a

vehicle, provided with saddle pads coupled to a hinge, such that a user may bring the saddle pads from a first state to a second state, in which first state a user may get onto the vehicle and above the downwards hanging saddle pads, in
5 which second state the saddle pads are locked and in a substantially horizontal position to support a user.

An advantage of the present sitting assembly is that it enables easy access to the sitting assembly since the user can walk over the saddle in the first state without having

10 to lift a leg or stretch out the feet to stand on the ball of the feet to raise the crotch. A further advantage resides in an ergonomic support during walking. Neither movement of the hips under pressure is required, nor is any pressure on the crotch excerpted. The sitting assembly of the invention

15 allows for natural strides due to absence of obstruction between the legs, and just support the sitting bones in the buttocks. In a suitable implementation, the hinging means of the sitting assembly comprises a lever hinging around a saddle pin of the sitting assembly. This lever allows a user
20 to bring the saddle from the first into the second state in a manual operation. More suitably, the lever extends to the front side, so that a user can hold the lever, particularly a haft thereof, after mounting on the walker device or other vehicle.

25 A suitable construction thereto for instance comprises a top structure that is mounted on or near an end of a saddle pin, to which top structure the saddle or saddle pads thereof are rotatably connected. This construction has been found to meet the demands and requirements.

30 According to a preferred embodiment, the present saddle comprises two saddle pads suitable for supporting the buttocks of a user. The advantage of two saddle pads is that the user is supported under the buttocks, rather than having

to sit on the crotch (the latter often uncomfortable and not preferred by older people, especially detrimental for men - prostates).

According to another preferred embodiment, the present
5 lever is hinged on the saddle pin by a first and a second lever rod both acting on opposite sides of the saddle pin. The advantage of a double lever rod is that strength structure is obtained.

According to yet another preferred embodiment, the
10 present walker device comprises the present sitting assembly.

Given the above advantageous properties of the present walker device, the present invention relates according to a further aspect to the use of the present walker device for
15 transporting individuals while the individuals are supported by the walker device. In other words, the use of the present walker device for combining sitting with walking and/or running.

20 Overview of figures

These and other aspects of the invention will be further elucidated with reference to the figures, which are purely schematical, according to which:

FIG 1 is a view in perspective of a first
25 embodiment of the present walker device, with the preferred frame structure.

FIG 2 is another view in perspective of the first embodiment shown in Fig.1,

FIG 3A and FIG 3B are a perspective view of the
30 present sitting assembly,

FIG 4 is a view in perspective of another embodiment of the present walker device;

Fig 5 is a perspective view of a third embodiment of the walker device, with an alternative frame structure; and Fig. 6 shows a fourth embodiment of the walker device.

5

Detailed description of illustrative embodiments

The figures are not drawn to scale, and represent preferred examples of the invention. Equal reference numerals in different figures refer to same or corresponding elements.

10 Fig. 1 shows a schematical representation of the walker device 1 in a first embodiment primarily from the front side. Fig. 2 shows a schematical representation of the same embodiment in a bird's eye view. The walker device 1 of this embodiment comprises an overarching frame 2 with an
15 overarching top 3, and a sitting assembly 20 coupled to said frame 2. The frame 2 extends at least primarily in a first direction between a front side with at least two front wheels 4 and a rear side with a first rear wheel 5. The at least two front wheels 4 are transversally arranged, i.e.
20 they are located at a distance from a central axis of the frame 2 along the first direction. In this embodiment, the two front wheels 4 constitute the front corners of the device. The frame 2 comprises, when seen along the first direction, a fore frame part 2a located before said
25 overarching top, a middle frame part 2b located between said overarching top and the sitting assembly 20, and a rear frame part 2c located behind the sitting assembly 20 to which the rear wheel is connected. A support element 8 extends in this embodiment from the overarching top 3. The
30 support element 8 comprising a steering bar, which is coupled to actuating means of the wheels in a manner known per se for a vehicle engineer, such as a bicycle construction specialist. The steering functionality is

however not deemed essential for the invention; in a most simple implementation, steering functionality may be absent, and a user may achieve steering by means of his or her feet and/of slight pushing or lifting of the front frame part.

5 In accordance with the invention, the overarching frame 2 extends from the front side to the rear side, particularly to the first rear wheel 5 and overarches a legroom for the legs of a user. The rear frame part 2c has a height allowing a user to walk over the rear frame part and take place on
10 the sitting assembly 20. The middle frame part 2b has a width allowing a user to place his or her legs on either side of the middle frame part 2b.

In the embodiment as shown in Fig. 1, the overarching frame 2 essentially comprises two construction elements, i.e. the
15 front frame part 2a and a combination of the middle frame part 2b and the rear frame part 2c. A hinge (not shown) may be present in the middle frame part 2b, allowing the frame to fold up and be stored or more easily transported. The width of the overarching frame 2 is substantially uniform,
20 i.e. shaft-like. Alternative embodiments are however feasible. For instance, a double overarching frame may be chosen (as in Fig.4). This is effectively a frame construction with a first and a second element adjacent to each other, wherein the first element extends more or less
25 from the sitting assembly to the left front wheel and the second element extends from the sitting assembly to the right front wheel.

In the second embodiment of Fig. 4, the front frame part 2a comprises a first and a second frame element, extending from
30 the middle frame part 2b. The connection point of these first and second frame elements to the rear frame element may be provided with a hinging mechanism.

The first frame element extends from the middle frame 2b part towards a left front wheel. The second frame element extends from the middle frame part 2b towards a right front wheel. The end of said first and second frame elements is however not connected directly to any of the front wheels, as can be seen in Fig. 4. Rather, a connecting rod is present between the first and the second frame element. This connecting rod is again connected to a mechanical support structure comprising a further horizontal rod and some further connecting shafts. The frame of this embodiment has, when seen in a top view, a substantially triangular shape, which is good for stability. Moreover, in this manner space is created between the first and the second frame element, which could be used for a luggage carrier. The horizontal rods in this embodiment are curved, and are suitable as a bumper. Optionally, these are thereto provided with a rubber element. The support element 8 is in this element a steering construction that is provided with a separate shaft.

The sitting assembly 20 implemented in the first embodiment is provided with two saddle pads 21 coupled to a hinge 22, such that a user may bring the saddle pads 21 from a first state to a second state. In the first state, a user may get onto the vehicle and above the hanging down saddle pads. In the second state, the saddle pads are locked and in a substantially horizontal position to support a user. Hereby, the present walker device 1 provides an easy access to the user, since the saddle pads 21 are in a downwards orientation (Fig.3B), when the sitting assembly 20 is in its first state. This downward arrangement of the saddle pads allows the user to walk by the saddle pads without lifting his or her legs. Accordingly, elderly have an access to the walking device without performing risky caprioles.

When the user is situated above the sitting assembly 20, he can bring the sitting assembly into the second state. Then, the saddle pads are brought to a substantially horizontal position allowing the user to sit on the sitting assembly 20 (Fig.3A). Since the sitting assembly 20 comprises two independent saddle pads 21, the user is supported on its buttocks instead of its crotch, thereby providing a more comfortable position. Further, the present walking device 1 with sitting assembly 20 allows the user to sit while moving forward or backward by using the legs. The overarching frame 2 provides the user enough room to move its legs for moving, while its body weight is supported by the sitting assembly 20 and walking device 1.

As is apparent from the Figures 1, 2 and 4, the sitting assembly 20 is coupled with a saddle pin 23 to the overarching frame 2. This saddle pin 23 suitably extends backwards in space. This is very advantageous so as to create sufficient distance between the saddle pad 21 and the support element 8 at the front side. Moreover, this results in a walker device, wherein the saddle pad 21, when in the sitting state, is suitably at a height substantially equal or lower than the overarching top 3. Most suitably, as shown in the said figures of the first and the second embodiment, the saddle pin 23 extends at least largely perpendicular from the overarching frame 2. This is deemed beneficial from a construction perspective. While not indicated in the figures, it is not excluded that further supporting shafts may be coupled between the overarching frame 2 and the sitting assembly 20.

Further is shown in figures 1, 2 and 4, that in use the first rear wheel 5 is placed behind the body of the user for providing a stabile walker device as well as narrow mounting / walk-over access. When the user is situated on the sitting

assembly 20, the weight of the user is distributed by the overarching frame 2 towards both the rear wheel 5 and front wheels 4, thereby providing a stabile configuration, which avoids falling backward or forward.

5 Further is shown in figures 1 and 2 that the fore frame part 2a is connected with the at least two transversal arranged front wheels 4 via a transversal, preferably horizontal, 'bumper' / rod 6 which extends between the at least two transversal arranged front wheels 4. This results
10 in a rigid connection between the overarching frame 2 and the front wheels 4, thereby providing a stabile walking device 1. Further are shown supporting connector elements 7 between the transversal, preferably horizontal, rod 6 and the fore frame part 2a. These connector elements 7
15 contribute to the rigidity of the present walking device 1. Elements 7 can also house the rigid steering cables in this option of a nearly invisible steering mechanism.

In the embodiment shown in Figure 4, the front frame part 2a comprises a first and a second frame element 101,
20 102. The first and second frame element 101, 102 are connected to a rear portion at the connection point 103. This connection point is located within the frame middle part 2b between the sitting assembly 20 and the top 3 of the overarching frame. The connection point 103 comprises most
25 suitably a hinging mechanism.

The first and second frame elements 101, 102 are mutually coupled at the front side by means of the connecting rod 6. This rod 6 also has a bumper function and may be provided with a rubber-elastic material so as to
30 improve elasticity. Whereas the connecting rod 6 of the first embodiment shown in Fig 1 and 2 provided a direct connection to the front wheels 4, the rod 6 of this embodiment is particularly relevant for stability and

robustness. Moreover, this rod 6 may be placed more at the front side of the walker, therewith creating space for an additional luggage container or the like at the front side. The rod 6 is coupled to a second connecting rod 106 via one
5 or more connecting structures 110. Alternative implementations wherein either one of the - first - and second connecting rods 6, 106 would be left out, may well be elaborated by a skilled person.

In the embodiment shown in Figures 1 and 2, the
10 steering bar 8 is coupled to the front wheels 4 via a cable mechanism. The cable is hidden within the frame, particularly the fore frame part 2a and the middle frame part 2b, extending between a first rotating wheel 41 and a second rotating wheel 42. The first rotating wheel 41 is
15 coupled to or present within the frame middle part 2b. It transforms movement of the steering bar 8 into cable movement. The second rotating wheel 42 transfers movement of the cable into movement of the steering connector rods 43 coupled to the front wheels 4.

20 In the embodiment shown in Fig. 4, an alternative steering mechanism is used. In this Fig. 4, a first and second frame element 101, 102 are used. Therefore, the movement of the steering bar 8 is less easily transferred to the wheels by means of a cable. A solution is found in the
25 use of a shaft 45 and a steering arm 46 coupled thereto at a bottom side. The shaft 45, or more preferably a shaft hidden in a fixed encapsulation, transfers the rotation of the steering bar 8 to the steering arm 46. This steering arm is coupled via the connector rods 43 to the front wheels. This
30 steering mechanism fits well with the double arched frame with the first and second frame element 101, 102, since the shaft 45 may be supported between the first and second frame elements 101, 102.

A third embodiment is shown in Fig. 5. This third embodiment differs from the second embodiment in Fig. 4 with respect to the construction of the fore frame part 2a, and in relation to the steering mechanism. The walker of this
5 embodiment has an overarching frame 10 with a first and a second frame element 101, 102 at its front side. The frame elements 101, 102 are coupled with a connecting rod 6, which is located in this embodiment close to the top of the overarching frame 10. The resulting construction is very
10 simple. Moreover, in this embodiment, the frame elements 101, 102 effectively extend to the front wheels 4, and hold the wheels in a fork-shaped extension: the first frame element 101 extends to the first front wheel with an extension having fork elements 101a, 101b, wherein the wheel
15 is connected thereto by means of shaft 111. Similarly, the second frame element 102 extends to the second front wheel, extending into a fork with fork elements 102a, 102b, wherein the wheel is connected thereto by means of shaft 112.

The steering mechanism of the third embodiment is a so-called swivel steering mechanism. Key elements are the
20 bearings 121, 122 which are present between the first and second frame elements 101, 102 on the one hand and the fork-shaped extensions thereto (101a, 101b, 102a, 102b) on the other hand. These bearings 121, 122 allow a rotation of the
25 wheels relative to said frame elements 101, 102. In a more specific implementation as shown in this Fig. 5, the rotation of the bearings 121, 122 is governed via a plurality of shafts and rods 45a, 45b, 124, 125, 123. When the steering bar 8 is pushed to the right side (in the
30 figure), the shafts 45a, 45b, will rotate relative to the connecting rod 6. A lower end of the shafts 45a, 45b coupled to rod 124 is therewith moved in the opposite direction, i.e. the left side (see the arrow). Shaft 125 will then

rotate around its center, such that its bottom side goes again to the right side. Correspondingly, the rod 123 will move to the right side, resulting in rotation of the bearings 121, 122. Pin 119 further ensures that the shaft 45a, 45b is limited to a rotation within the plane of the shafts 45a, 45b and the connecting rod 6.

Again a further embodiment is shown in Fig. 6. This embodiment is similar to the third embodiment of Fig. 5, in that it has a first and a second frame element 101, 102, splitting up at or near the top of the overarching frame.

The frame elements 101, 102 are mutually coupled with a connecting rod 106 and with an auxiliary connecting rod 16.

The steering mechanism of this embodiment comprises a steering bar 8 that is coupled via a shaft 45 and a

connecting rod 46 to the wheels. Just above the front wheels 4, the frame elements 101, 102 are interrupted by a horizontal bearing 121, 122, which allow the wheels 4 to turn independently of the frame 10. The front wheels 4 are higher than the rear wheel 5, such that the center of the front wheels 4 is higher than for example a curbstone. This makes the transition from sidewalk to street and back to the sidewalk easier for the user. The front wheels are for instance 10" (25 cm) diameter or larger.

The walker device of this embodiment can be equipped with swivel/rotating wheels (castors, like on shopping carts but then larger) in the front, which enables easy manoeuvring, or in the more specialized version, be equipped with a complete steering mechanism, whereby both front wheels remain connected to the frame as is, but can each rotate as determined by the swiveling steering handle bar 8, that through the steering house or shaft 45 connects the wheels 4 with the horizontal, parallel steering mechanism 46, 47.

The steering of the Walker device in the embodiment of Fig. 6 is designed for an intuitive way of moving. When the user wants to go right, the user "leans" the steer 8 to the right. The rolling point of the wheels is off centre, but not at the lowest point. The horizontal steering bar 8 is mounted on top of the vertical steering house or shaft 45 with an adjustable tightening bolt. The vertical steering house is hinged on the top frame, auxiliary connector 16. such that when the steering bar 8 is pushed to the right, the bottom part of the steering house or shaft 45 swivels to the right. The bottom of the steering house is connected to the horizontal connectors 46, 47 between the front wheels 4. The front wheels may be spoke-less wheels. The roller on the bottom of the fork of the frame is attached to the inner rim, the outer rim runs through the roller. This way the gravity point is low, but the larger wheel allows to go over larger obstacles like curbs. However it can also be equipped with regular wheels.

The brake mechanism is based on safety and easy to use for people with limited fine motor in their hands, in a suitable embodiment. When leaning on the steering bar 8 forward, the roller on the wheels 4, start touching the outer rim of the wheels. That friction slows it down. The more weight you put forward the harder it brakes.

Alternatively, when equipped with regular wheels, the brake activates similarly by moving the steering bar forward. When an older person is tired, or panics, it just leans forward and comes to a standstill. For parking the walker device, the rear wheel suitably has a stationary brake. Hence, it can be locked so the person can walk off the Walker device and transition to a seat, then swing the Walker out of the way.

Further is shown in figures 1, 2 and 4 that the fore frame part 2a is higher than the rear frame part 2c to provide maximum legroom for a walking movement by the user. Hereby, damaging of the legs by collision with the walking device 1 is avoided.

Supporting and steering is further provided by support element 8 at the front side, which support element may be gripped by a user with his or her hands. The support element 8 comprises a substantially horizontal steering bar mounted on a rotating wheel transferring the steering action via the cables to the wheels.

Alternative swivel steering for special users has a substantially vertical swivel steering mechanisms suitable to actuate the at least two transversal arranged front wheels.

The figures 1, 2 and 4 further show that the at least two front wheels 4 have a larger diameter than the first rear wheel 5, thereby providing a safe drive without being stopped by small obstacles.

Referring now to figure 3, figure 3A and 3B show a sitting assembly 20 according to the present invention, provided with a saddle 21 having a first and a second saddle pad 21a, 21b. Rather than two saddle pad 21a, 21b, one saddle pad could be present, which suitably hinges upwards at the rear side. Three saddle pads, or other options are not excluded.

The saddle pads 21a, 21b are rotatable fixed to a supporting element or top structure 29, which is connected to a saddle pin 23 of the sitting assembly 20. With this saddle pin 23, the sitting assembly 20 is connected to the overarching frame 2. The rotatable fixation is for instance a hinge 28 and allows that each saddle pad 21a, 21b is moved from a substantially vertical position to a substantially

horizontal position, or vice versa. This occurs when the sitting assembly is brought from its first state to its second state.

The sitting assembly 20 is further provided with a hinging mechanism, according to which a lever construction 22 rotates around or hinges on an axis located on the lever, for instance halfway, or more generally at a position between 30% and 70% of the lever length. This axis is embodied in an element, which extends through or is directly connected to the saddle pin 23. The end of the lever construction 22 is coupled to extenders 27 to the bottom side of saddle pad portions 21a, 21b. Thus, when the lever 22 is pushed downward, particularly at its haft 25, the opposite end of the lever 22 goes upward. The extenders 27 then go upward and outwards to bring the saddle pads from a substantially vertical position to a substantially horizontal position.

In order to fix the saddle pads in their latter position, a lock is provided. This lock is a mechanical lock in the embodiment shown in Fig. 3 and comprises an arm 31 with a locking pin 32. Upon transition from the first to the second state, the locking pin 32 glides downwards along a surface of the lever 22. It ultimately arrives at a locking cavity 33, into which it falls, thus locking the sitting assembly. By pushing the haft 25 of the lever 22 further downwards, or pulling arm 31 upwards, the saddle unlocks. Saddle pads 21a and 21b return to the first state and the user can easily dismount.

In order to have a most effective use, the lever 22 comprises in this embodiment a first and a second lever arm, that are mutually angled at or near the saddle pin. Thereto, they mutually include an angle of 90-180 degrees, preferably 120-150 degrees. This two-arm construction enables that the

haft 25 of the lever 22 is sufficiently upwards in the first state. This allows an easy and forceful grip of a user.

The lever construction is furthermore provided with a left lever rod 22a and a right lever rod 22b. This double

5 construction is deemed beneficial from constructional point of view. It moreover easily allows that the saddle pin 23 extends between the left and right lever rod 22a, 22b.

In the shown embodiment, the lever rods 22a, 22b are mutually connected at an end through a rod-end connector 26.

10 Extenders 27 connected to said rod-end connector 26 extend under the saddle pads 21a, 21b. The connection point of the levers 22a, 22b and the connector 26 and the extenders 27 move upwards when bringing the sitting assembly from the first state to the second state. The extenders 27 also move
15 outwards, so that they each end up near to the bottom and suitably an edge of a saddle pads 21a, 21b and provide optimum support. Thereto, these extenders 27 are suitably provided behind the lever rods 22a, 22b.

The operation is as follows:

20 In figure 3B the sitting assembly is shown in its first state with the saddle 21 folded or at least not obstructing movement of a user. The saddle comprises in this embodiment saddle pads 21a, 21b, which are hanging down in the first state. A user may get onto the vehicle and above the saddle
25 pads 21a, 21b. Subsequently, the user may bring the sitting assembly into the second state, wherein the saddle pads 21a, 21b extend substantially horizontal or even slightly upwards, as shown in figure 3A. This is done by using the lever 22, for instance the haft 25 thereof. In this second
30 state the saddle 21 is locked. Particularly, when pushing the lever mechanism down, the lock comes down and locks the lever into place once the saddle has come to full extension. Upon dismounting from the saddle pad (i.e. leaving the

vehicle), the lever can be 'unlocked' by pulling the arm 31 up, out of the "lock" position. Automatically, this will lower the saddle pads and elevate the lever 22, allowing easy dismounting. More specifically, in the shown

5 implementation, the lock is effectively a locking lever arm 31 gliding downwards along a surface of the levers 22a, 22b, when the lever haft 25 is pushed downwards by a user. A pin 32 of the locking lever arm 31 then falls into a cavity 33 in the levers 22a, 22b. This constitutes the lock. The
10 locking lever arm 31 is suitably connected with its opposite end at a hinge in the saddle assembly, for instance a rod between ends of the levers 22a, 22b.

Pads are exchangeable and can be custom fitted for various users. The pads are separately mounted on and snapped in
15 place in the two hinging plates of the saddle mechanism.

While the shown embodiment comprises a left lever 22a and a right lever 22b, this could alternatively be implemented with a single lever. A connecting rod is then not necessary, and the extenders 27 could be connected to
20 the lever 22 directly.

Fig. 1 and 4 moreover show a second embodiment of the sitting assembly. Herein, the haft 25 is connected to the lever arm 31 via shaft 36 and coupled via rotatable wires 35 to an end of the lever 22. This embodiment has the advantage
25 that a user can with a single haft 25 operate the lever 22 and ensure locking and particularly delocking of the locking pin 32. A further feature of this second embodiment is the replacement of the locking cavity 33 with a protrusion 34. When bringing the lever 22 downwards for a transition from
30 the first state to the second state, the locking pin 32 will glide on the surface of the lever 22 and pass over the protrusion 34, so as to become locked. A cavity could be made, but does not appear necessary. It appears that the

dimensions of the locking arm 31 and the lever 22, as well as the location of the protrusion 34 anyhow fix the position of the locking pin 32 in the said locking position.

In summary, the present invention provides a walker device
5 comprising an overarching frame with an overarching top, and a sitting assembly coupled to said frame, which frame extends at least primarily in a first direction between a front side with at least two front wheels and a rear side with a first rear wheel. The frame has a rear frame part and
10 a middle frame part. The rear frame part has a height allowing a user to walk over the rear frame part and take place on the sitting assembly. The middle frame part has a width allowing a user to place his or her legs on either side of the middle frame part. The sitting assembly suitably
15 comprises a hinge with a saddle, preferably comprising a first and a second saddle pad for a transition between a first state and a second state.

CONCLUSIES

1. Rollatorinrichting omvattende een boogvormig frame met een boogtop, en een zitsamenstel gekoppeld aan het genoemde
5 frame, welk frame zich ten minste hoofdzakelijk uitstrekt in een eerste richting tussen een voorzijde met ten minste twee voorwielen en een achterzijde met een eerste achterwiel.

2. Rollatorinrichting volgens conclusie 1, waarbij het
10 boogvormige frame omvat, indien bezien langs de eerste richting, een voor-frame-deel geplaatst vóór de genoemde boogtop, een midden-frame-deel geplaatst tussen de genoemde boogtop en het zitsamenstel, en een achter-frame-deel geplaatst achter het zitsamenstel waaraan het achterwiel is
15 verbonden, waarbij het achter-frame-deel een hoogte heeft welke toestaat dat een gebruiker over het achter-frame-deel heenloopt en plaats neemt op het zitsamenstel, en waarbij het midden-frame-deel een breedte heeft die toestaat dat een gebruiker zijn of haar benen aan beide zijden van het
20 midden-frame-deel kan plaatsen.

3. Rollatorinrichting volgens conclusie 2, waarbij het voor-frame-deel een breedte heeft die groter is dan de breedte van het midden-frame-deel.
25

4. Rollatorinrichting volgens conclusie 2 of conclusie 3, waarbij het midden-frame-deel hoger is dan het achter-frame-deel voor het verschaffen van beenruimte voor een loopbeweging van de gebruiker.
30

5. Rollatorinrichting volgens één van de conclusies 1 tot en met 4, waarbij bezien vanaf een zijkant parallel aan de

eerste richting het boogvormige frame een ellipsvormig frame is.

6. Rollatorinrichting volgens een van de conclusies 2 tot en met 5, waarbij het achter-frame-deel zich uitstrekt tot een lager uiteinde waar het genoemde wiel zich bevindt.

7. Rollatorinrichting volgens één van de conclusies 2 tot en met 6, waarbij het achter-frame-deel een zodanige lengte heeft dat in gebruik het eerste achterwiel is geplaatst achter het lichaam van de gebruiker.

8. Rollatorinrichting volgens één van de conclusies 2 tot en met 7, waarbij het voor-frame-deel een eerste en een tweede frame-element omvat, waarbij het eerste frame-element zich uitstrekt van het midden-frame-deel in de richting van een linker voorwiel, en waarbij het tweede frame-element zich uitstrekt van het midden-frame-deel in de richting van een rechter voorwiel.

20

9. Rollatorinrichting volgens één van de conclusies 1 tot en met 8, waarbij het boogvormige frame, indien gezien in een loodrecht bovenaanzicht, een in hoofdzaak driehoekige vorm insluit, waarbij zijn breedte toeneemt van het eerste achterwiel naar de ten minste twee voorwielen.

25

10. Rollatorinrichting volgens één van de conclusies 2 tot en met 9, waarbij het voor-frame-deel met de tenminste twee voorwielen verbonden is via een transversale, bijvoorkeur horizontale, staaf die zich uitstrekt tussen de ten minste twee voorwielen.

30

11. Rollatorinrichting volgens conclusie 10, waarbij het boogvormige frame verder ondersteunende verbindingselementen omvat tussen de transversale, bij voorkeur horizontale, staaf en het voor-frame-deel.

5

12. Rollatorinrichting volgens één van de conclusies 1 tot en met 11, waarbij de tenminste twee voorwielen een grotere diameter hebben dan het eerste achterwiel.

10 13. Rollatorinrichting volgens een van de conclusies 1 tot en met 12, waarbij de ten minste twee voorwielen en/of een achterwiel zwenkwielen zijn.

14. Rollatorinrichting volgens een van de conclusies 1 tot
15 en met 13, verder omvattende een steun- element aan de voorzijde, dat vastgehouden kan worden door een gebruiker met zijn of haar handen.

15. Rollatorinrichting volgens conclusie 14, waarbij het
20 steunelement een in hoofdzaak horizontale stuurstang omvat, die op een in hoofdzaak verticaal zwenkstuurmechanisme gemonteerd is, welk zwenkstuurmechanisme geschikt is voor het aandrijven van de tenminste twee transversaal geplaatste voorwielen.

25

16. Rollatorinrichting volgens één van de voorgaande conclusies, waarbij het zitsamenstel gekoppeld is aan het frame met een verbinding die draaibaar en/of uitstrekbaar is.

30

17. Rollatorinrichting volgens conclusie 16, verder omvattende middelen voor het draaien en/of uitstrekken van

de genoemde verbinding, welke middelen kunnen worden ingesteld / bewogen door een gebruiker.

18. Zitsamenstel bedoeld voor gebruik op een voertuig,
5 voorzien van een zadel dat aan scharniermiddelen gekoppeld is, zodanig dat een gebruiker het zadel van een eerste toestand in een tweede toestand kan brengen, waarbij in de eerste toestand de gebruiker op het voertuig en boven het zadel kan komen, en waarbij in de tweede toestand het zadel
10 is vergrendeld en in een positie om de gebruiker te ondersteunen.

19. Zitsamenstel volgens conclusie 18, waarbij het zadel twee zadelkussens omvat, die geschikt voor het ondersteunen
15 van de billen van een gebruiker, en waarbij bij overgang van de eerste toestand naar de tweede toestand elk zadelkussen van een neerhangende oriëntatie naar een in hoofdzaak horizontale oriëntatie wordt gebracht.

20 20. Zitsamenstel volgens conclusie 18 of conclusie 19, waarbij de scharniermiddelen een hefboom omvatten, die rondom een zadelpen van het zitsamenstel scharniert.

21. Zitsamenstel volgens conclusie 20, waarbij de
25 scharniermiddelen verder een topstructuur omvatten, die op of bij een uiteinde van de zadelpen gemonteerd is, en aan welke topstructuur het zadel of zadelkussens roteerbaar zijn verbonden.

30 22. Zitsamenstel volgens conclusie 20 of 21, waarbij een of meerdere leden aan een uiteinde van de genoemde hefboom zijn vastgemaakt en zich tot een onderkant het genoemde zadel of genoemde zadelkussens uitstrekken, zodanig dat een

neerwaartse druk op het handvat van de hefboom een opwaartse rotatie van het zadel of de zadelkussens van een hangende oriëntatie naar in hoofdzaak horizontale oriëntatie bewerkstelligt.

5

23. Zitsamenstel volgens één van de conclusies 20 tot en met 22, waarbij de hefboom een eerste en een tweede arm omvat, die onderling een hoek van 90 tot en met 180 graden insluiten, bijvoorkeur van 120 tot en met 150 graden en aan
10 elkaar gekoppeld zijn ter hoogte van de genoemde verbinding met de zadelpen.

24. Zitsamenstel volgens een van de conclusies 20 tot en met 23, waarbij de hefboom scharniert op de zadelpen met behulp
15 van een eerste en een tweede hefboomarm, die elk werken op een tegenoverliggende zijde van de zadelpen.

25. Rollatorinrichting volgens één van de conclusies 1 tot en met 17, die voorzien is van het zitsamenstel volgens één
20 van de conclusies 18 tot en met 24.

26. Gebruik van de rollatorinrichting volgens één van de conclusies 1 tot en met 17 voor ondersteund lopen, waarbij
25 een gebruiker loopt terwijl de gebruiker zit op het zitsamenstel van de rollatorinrichting.

27. Gebruik van het zitsamenstel volgens één van de conclusies 18 tot en met 24, voor het overbrengen van een zadelkussen van een eerste oriëntatie waarin deze neerhangt,
30 naar een in hoofdzaak horizontale oriëntatie.

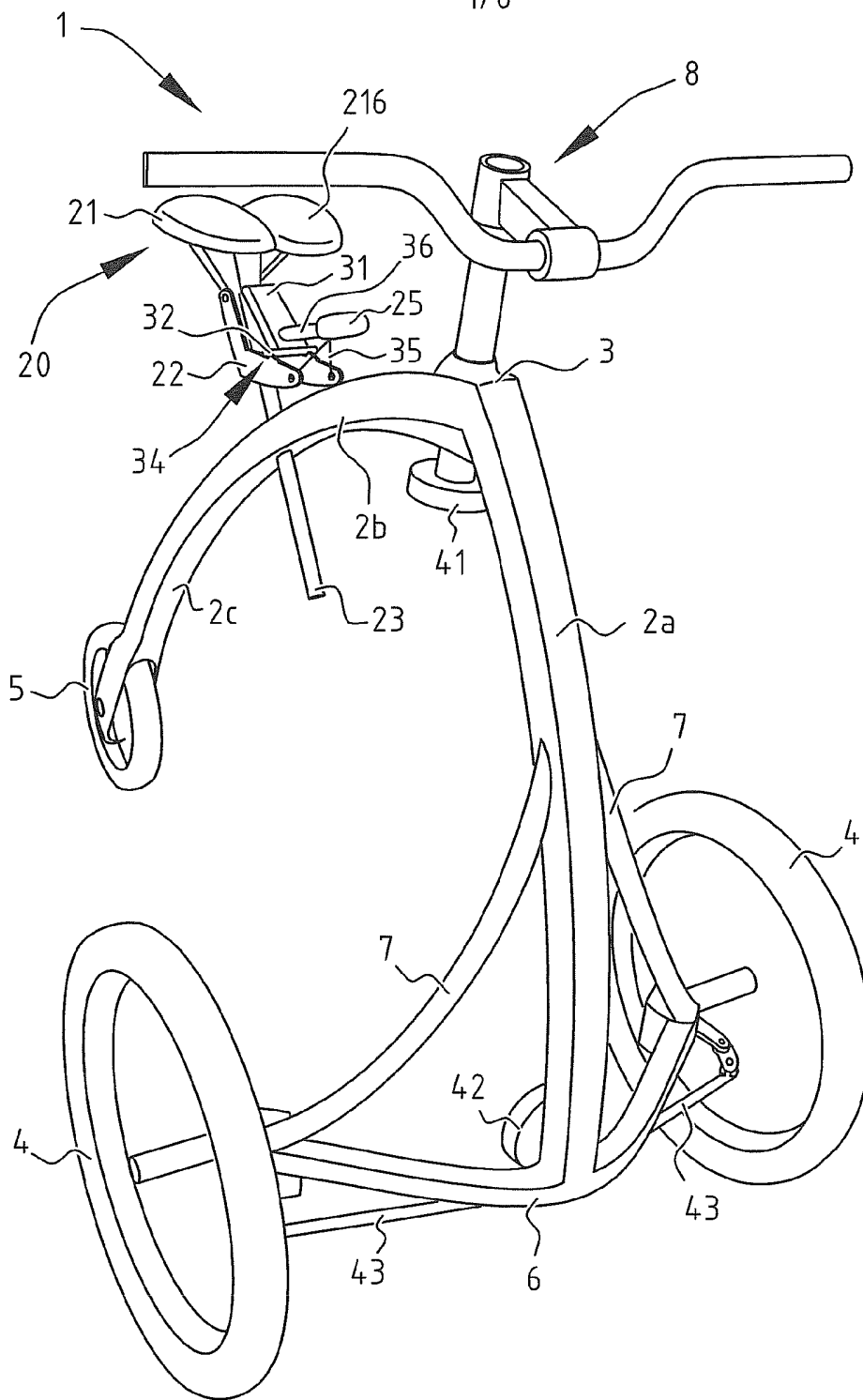
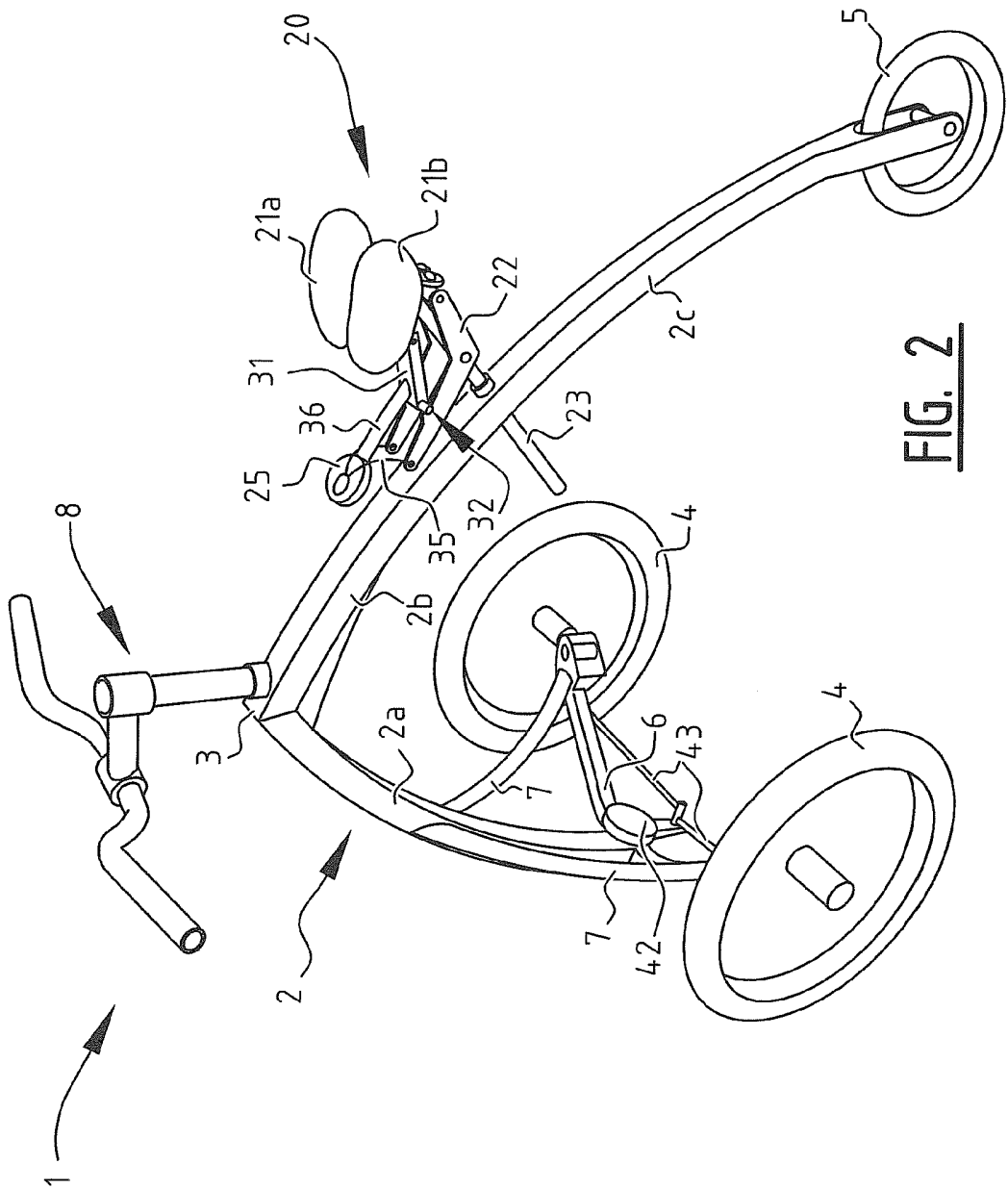


FIG. 1



3/6

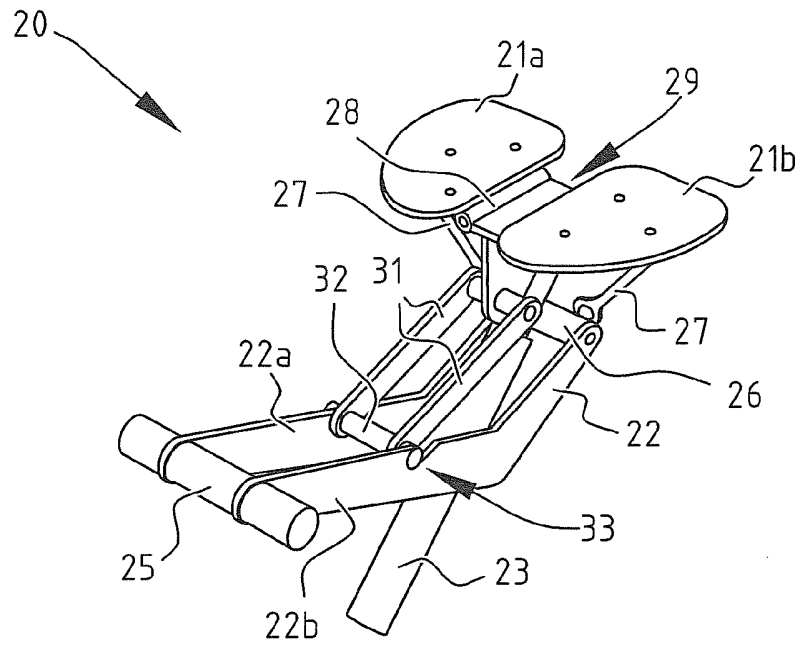


FIG. 3A

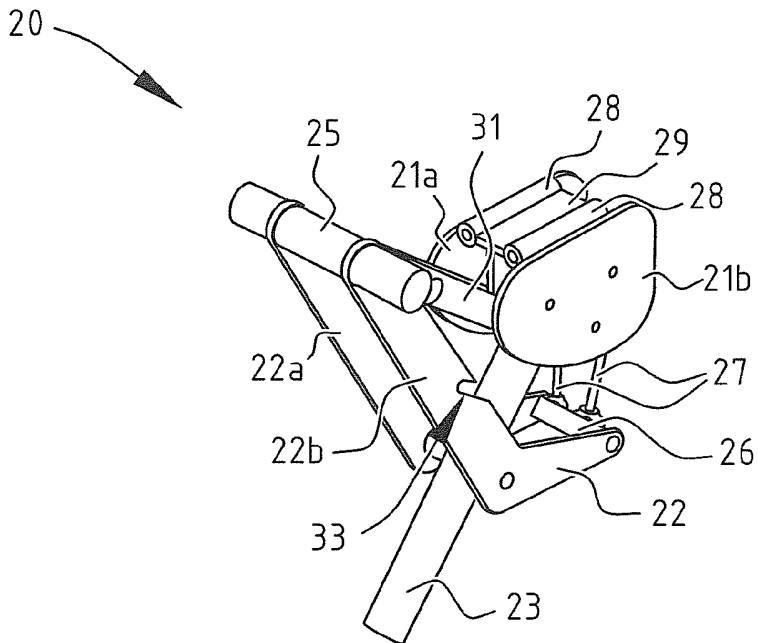


FIG. 3B

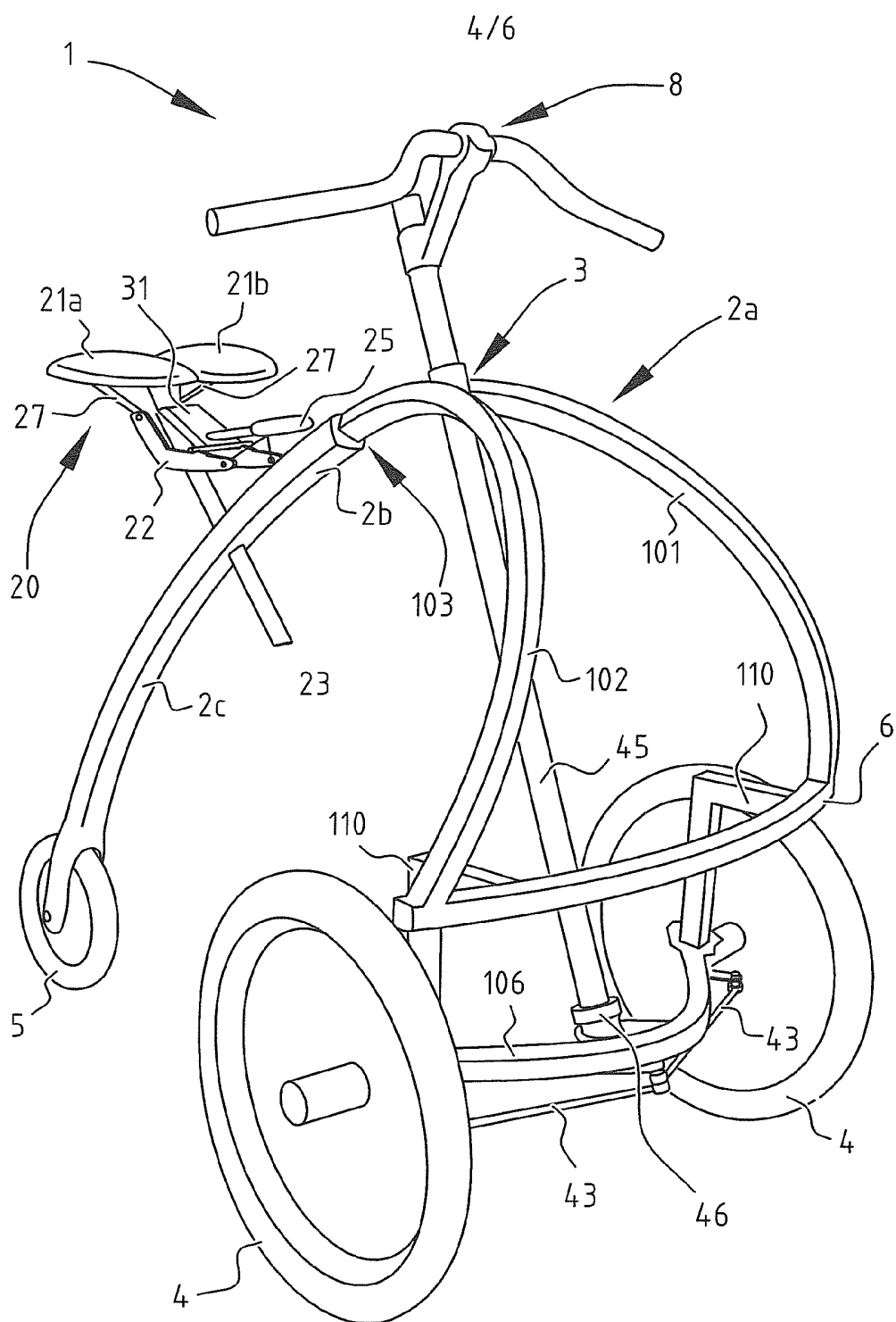


FIG. 4

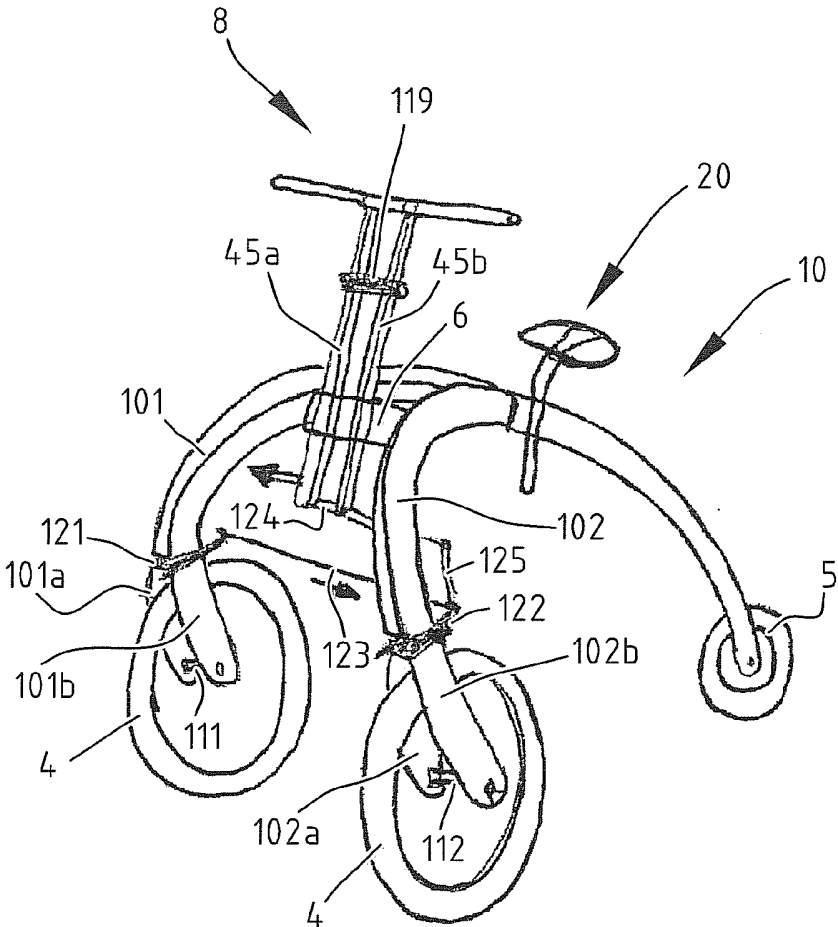


FIG. 5

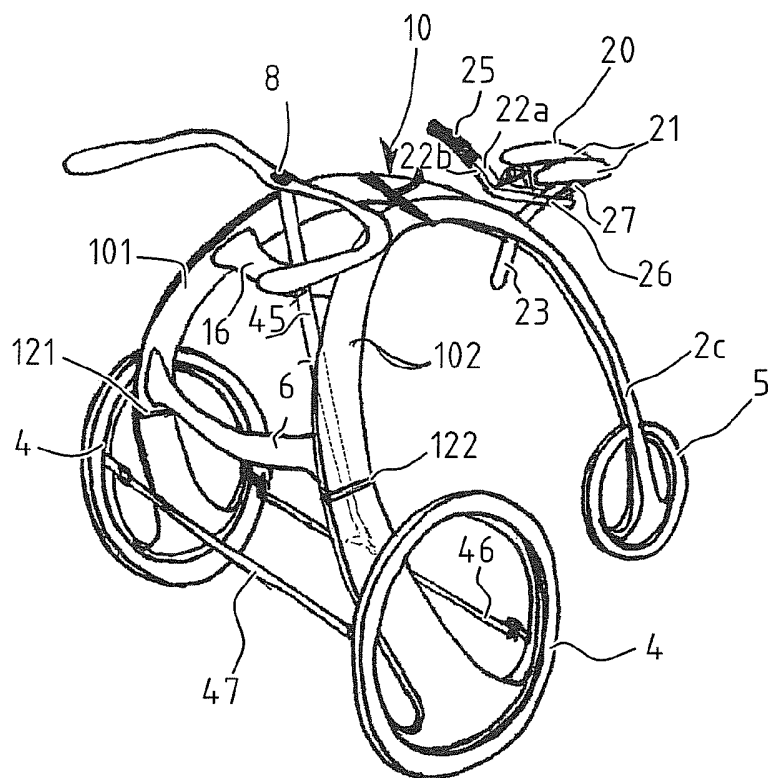


FIG. 6

SAMENWERKINGSVERDRAG (PCT)

RAPPORT BETREFFENDE NIEUWHEIDSONDERZOEK VAN INTERNATIONAAL TYPE

IDENTIFICATIE VAN DE NATIONALE AANVRAGE	KENMERK VAN DE AANVRAGER OF VAN DE GEMACHTIGDE 4H/2NO35/EvH/1
Nederlands aanvraag nr. 2010082	Indieningsdatum 04-01-2013
	Ingeroepen voorrangsdatum 24-04-2012
Aanvrager (Naam) Alink	
Datum van het verzoek voor een onderzoek van internationaal type 27-04-2013	Door de Instantie voor Internationaal Onderzoek aan het verzoek voor een onderzoek van internationaal type toegekend nr. SN 59954
I. CLASSIFICATIE VAN HET ONDERWERP (bij toepassing van verschillende classificaties, alle classificatiesymbolen opgeven)	
Volgens de internationale classificatie (IPC) A61H3/04 B62J1/00	
II. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK	
Onderzochte minimumdocumentatie	
Classificatiesysteem	Classificatiesymbolen
IPC	A61H
Onderzochte andere documentatie dan de minimum documentatie, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen	
III. <input checked="" type="checkbox"/>	GEEN ONDERZOEK MOGELIJK VOOR BEPAALDE CONCLUSIES (opmerkingen op aanvullingsblad)
IV. <input checked="" type="checkbox"/>	GEBREK AAN EENHEID VAN UITVINDING (opmerkingen op aanvullingsblad)

**ONDERZOEKSRAPPORT BETREFFENDE HET
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar
de stand van de techniek
NL 2010082

A. CLASSIFICATIE VAN HET ONDERWERP
INV. A61H3/04 B62J1/00
ADD.

Volgens de Internationale Classificatie van octrooien (IPC) of zowel volgens de nationale classificatie als volgens de IPC.

B. ONDERZOCHE GEBIEDEN VAN DE TECHNIEK

Onderzochte minimum documentatie (classificatie gevolgd door classificatiesymbolen)
A61H

Onderzochte andere documentatie dan de minimum documentatie, voor dergelijke documenten, voor zover dergelijke documenten in de onderzochte gebieden zijn opgenomen

Tijdens het onderzoek geraadpleegde elektronische gegevensbestanden (naam van de gegevensbestanden en, waar uitvoerbaar, gebruikte trefwoorden)
EPO-Internal, WPI Data

C. VAN BELANG GEACHTE DOCUMENTEN

Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
	EENHEID VAN UITVINDING ONTBREEKT zie aanvullingsblad B ONVOLLEDIG ONDERZOEK zie aanvullingsblad C -----	
X	DE 37 20 368 A1 (RANKE JENS [DE]) 5 januari 1989 (1989-01-05) * kolom 2, regels 10-60; figuren *	1-15
X	FR 2 902 317 A1 (LETHROSNE FRANCIS [FR]) 21 december 2007 (2007-12-21) * figuren 1-8 *	1-15
X	FR 2 959 663 A1 (ORTHOTECH [FR]) 11 november 2011 (2011-11-11) * bladzijde 5, regel 32 - bladzijde 6, regel 1; figuren * ----- -/--	1-15



Verdere documenten worden vermeld in het vervolg van vak C.



Leden van dezelfde octrooifamilie zijn vermeld in een bijlage

° Speciale categorieën van aangehaalde documenten

"A" niet tot de categorie X of Y behorende literatuur die de stand van de techniek beschrijft

"D" in de octrooiaanvraag vermeld

"E" eerdere octrooi(aanvraag), gepubliceerd op of na de indieningsdatum, waarin dezelfde uitvinding wordt beschreven

"L" om andere redenen vermelde literatuur

"O" niet-schriftelijke stand van de techniek

"P" tussen de voorrangsdatum en de indieningsdatum gepubliceerde literatuur

"T" na de indieningsdatum of de voorrangsdatum gepubliceerde literatuur die niet bezwarend is voor de octrooiaanvraag, maar wordt vermeld ter verheldering van de theorie of het principe dat ten grondslag ligt aan de uitvinding

"X" de conclusie wordt als niet nieuw of niet inventief beschouwd ten opzichte van deze literatuur

"Y" de conclusie wordt als niet inventief beschouwd ten opzichte van de combinatie van deze literatuur met andere geciteerde literatuur van dezelfde categorie, waarbij de combinatie voor de vakman voor de hand liggend wordt geacht

"&" lid van dezelfde octrooifamilie of overeenkomstige octrooipublicatie

Datum waarop het onderzoek naar de stand van de techniek van internationaal type werd voltooid

19 juni 2013

Verzenddatum van het rapport van het onderzoek naar de stand van de techniek van internationaal type

Naam en adres van de instantie

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Fischer, Elmar

**ONDERZOEKSRAPPORT BETREFFENDE HET
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Nummer van het verzoek om een onderzoek naar
de stand van de techniek
NL 2010082

C.(Vervolg). VAN BELANG GEACHTE DOCUMENTEN		
Categorie °	Geciteerde documenten, eventueel met aanduiding van speciaal van belang zijnde passages	Van belang voor conclusie nr.
X	WO 2004/047712 A2 (GIO HOLDING B V [NL]; PLOMP MARCEL [NL]; MASTENBROEK PIETER LENNERT []) 10 juni 2004 (2004-06-10) * figuur 10 *	1-15
X	----- DE 298 00 585 U1 (KASPER GISELA [DE]) 5 maart 1998 (1998-03-05) * figuren 1,2 *	1-15
X	----- DE 92 06 417 U1 (.) 29 oktober 1992 (1992-10-29) * figuren 1,2 *	1-8,13
X	----- US 7 311 319 B1 (ORTEGA KATHRYN MCDANIEL [US]) 25 december 2007 (2007-12-25) * kolom 4, regel 38 - kolom 5, regel 2; figuren *	1-15
X	----- DE 90 15 563 U1 (.) 21 februari 1991 (1991-02-21) * bladzijde 1, regels 5-15; figuren 1,2 *	1-15

**ONVOLLEDIG ONDERZOEK
AANVULLINGSBLAD C**

Octrooiaanvraag Nr.:

SN 59954
NL 2010082

Volledig onderzoekbare conclusie(s):

1-25, 27

Niet onderzochte conclusie(s):

26

Reden voor de beperking van het onderzoek (niet octrooieerbare uitvinding(en)):

Method for treatment of the human or animal body by therapy.
In particular, independent claim 26 is directed to a method of using a walker for assisted walking, the purpose and inevitable effect being therapeutic, namely rehabilitation, training muscles to prevent their further degradation, and preventing injury while walking.

GEBREK AAN EENHEID VAN UITVINDING

Octrooiaanvraag Nr.:

SN 59954

NL 2010082

AANVULLINGSBLAD B

De Instantie belast met het uitvoeren van het onderzoek naar de stand van de techniek heeft vastgesteld dat deze aanvraag meerdere uitvindingen bevat, te weten:

1. conclusies: 1-15

Walker device comprising an overarching frame with an overarching top.

2. conclusies: 16-25, 27

Sitting assembly and walker including such a sitting assembly, the sitting assembly being provided with a saddle coupled to a hingeing means.

Het vooronderzoek werd tot het eerste onderwerp beperkt.

The reasons for which the inventions are not so linked as to form a single general inventive concept are as follows:

DE 37 20 368 A1 (D1) discloses (see esp. Figs. 1, 2) (the references in parentheses applying to this document):

A walker device comprising an overarching frame (12, 16) with an overarching top (see Fig. 1), and a sitting assembly (18) coupled to said frame, which frame extends at least primarily in a first direction between a front side with at least two front wheels (14, 14') and a rear side with a first rear wheel (10).

Thus, the subject-matter of independent claim 1 is known from D1. The subject-matter of claim 1 likewise lacks novelty over the disclosure of each of the documents FR 2 902 317 A1 (D2), FR 2 959 663 A1 (D3), WO 2004/047712 A2 (D4), DE 298 00 585 U1 (D5), DE 92 06 417 U1 (D6), US 7 311 319 B1 (D7), DE 90 15 563 U1 (D8) (see esp. the relevant passages cited in the search report). Consequently that claim does not comprise any special technical features, i.e. technical features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art. However, although not necessarily defined explicitly in the claims, the following technical features of the claims dependent on claim 1 as well as of independent claim 18 potentially make a contribution over the prior art and can be considered as potential special technical features, solving the following problems:

Group (i) of inventions:

The walker device has a specific overarching frame with overarching top, solving the problem of providing reduced complexity of manufacture without compromising stability.

Group (ii) of inventions:

The sitting assembly comprises a specific hingeing means, such that a user may bring the saddle from a first state in which the user may get onto the walker to a second state in which the saddle is locked, solving the problem of facilitating getting onto the walker.

As a consequence, the potential special technical features of groups (i) and (ii) of inventions are neither identical nor corresponding, since the features have different effects and solve different problems. There are no corresponding special technical features shared by all groups of inventions.

GEBREK AAN EENHEID VAN UITVINDING

Octrooiaanvraag Nr.:

SN 59954

NL 2010082

AANVULLINGSBLAD B

De Instantie belast met het uitvoeren van het onderzoek naar de stand van de techniek heeft vastgesteld dat deze aanvraag meerdere uitvindingen bevat, te weten:

Thus, groups (i)-(ii) of inventions are not so linked as to form a single general inventive concept. The application, hence does not meet the requirements of unity of invention.

**ONDERZOEKSRAPPORT BETREFFENDE HET
RESULTAAT VAN HET ONDERZOEK NAAR DE STAND
VAN DE TECHNIEK VAN HET INTERNATIONALE TYPE**

Informatie over leden van dezelfde octrooifamilie

Nummer van het verzoek om een onderzoek naar
de stand van de techniek

NL 2010082

In het rapport genoemd octrooigecschift	Datum van publicatie	Overeenkomend(e) geschift(en)	Datum van publicatie
DE 3720368	A1	05-01-1989	GEEN
FR 2902317	A1	21-12-2007	EP 2029082 A1 04-03-2009 FR 2902317 A1 21-12-2007 MA 30506 B1 01-06-2009 WO 2007147985 A1 27-12-2007
FR 2959663	A1	11-11-2011	GEEN
WO 2004047712	A2	10-06-2004	AU 2003289685 A1 18-06-2004 NL 1022017 C2 07-06-2004 WO 2004047712 A2 10-06-2004
DE 29800585	U1	05-03-1998	GEEN
DE 9206417	U1	29-10-1992	GEEN
US 7311319	B1	25-12-2007	GEEN
DE 9015563	U1	21-02-1991	GEEN

WRITTEN OPINION

File No. SN59954	Filing date <i>(day/month/year)</i> 04.01.2013	Priority date <i>(day/month/year)</i> 24.04.2012	Application No. NL2010082
International Patent Classification (IPC) INV. A61H3/04 B62J1/00			
Applicant Alink			

This opinion contains indications relating to the following items:

- ☒ Box No. I Basis of the opinion
- ☐ Box No. II Priority
- ☒ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☐ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the application
- ☐ Box No. VIII Certain observations on the application

	Examiner Fischer, Elmar
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WRITTEN OPINION

Application number
NL2010082

Box No. I Basis of this opinion

1. This opinion has been established on the basis of the latest set of claims filed before the start of the search.
2. With regard to any **nucleotide and/or amino acid sequence** disclosed in the application and necessary to the claimed invention, this opinion has been established on the basis of:
 - a. type of material:
 - ☐ a sequence listing
 - ☐ table(s) related to the sequence listing
 - b. format of material:
 - ☐ on paper
 - ☐ in electronic form
 - c. time of filing/furnishing:
 - ☐ contained in the application as filed.
 - ☐ filed together with the application in electronic form.
 - ☐ furnished subsequently for the purposes of search.
3. ☐ In addition, in the case that more than one version or copy of a sequence listing and/or table relating thereto has been filed or furnished, the required statements that the information in the subsequent or additional copies is identical to that in the application as filed or does not go beyond the application as filed, as appropriate, were furnished.
4. Additional comments:

WRITTEN OPINION

Application number
NL2010082

Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

The questions whether the claimed invention appears to be novel, to involve an inventive step, or to be industrially applicable have not been examined in respect of

☐ the entire application

☒ claims Nos. 16-27

because:

☐ the said application, or the said claims Nos. relate to the following subject matter which does not require a search (*specify*):

☐ the description, claims or drawings (*indicate particular elements below*) or said claims Nos. are so unclear that no meaningful opinion could be formed (*specify*):

☐ the claims, or said claims Nos. are so inadequately supported by the description that no meaningful opinion could be formed (*specify*):

☒ no search report has been established for the whole application or for said claims Nos. 16-27

☐ a meaningful opinion could not be formed as the sequence listing was either not available, or was not furnished in the international format (WIPO ST25).

☐ a meaningful opinion could not be formed without the tables related to the sequence listings; or such tables were not available in electronic form.

☒ See Supplemental Box for further details.

Box No. IV Lack of unity of invention

1. The requirement of unity of invention is not complied with for the following reasons:

see separate sheet

2. This report has been established in respect of the following parts of the application:

☐ all parts.

☒ the parts relating to claims Nos. (see Search Report)

WRITTEN OPINION

Application number
NL2010082

**Box No. V Reasoned statement with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty	Yes: Claims	
	No: Claims	1-15
Inventive step	Yes: Claims	
	No: Claims	1-15
Industrial applicability	Yes: Claims	1-15
	No: Claims	

2. Citations and explanations

see separate sheet

Re Item III

Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

Claim 26 of the present application relates to methods for treatment of the human or animal body by therapy. Consequently, no opinion will be formulated with respect to novelty, inventive step and industrial applicability of the subject-matter of that claim.

In particular, independent claim 26 is directed to a method of using a walker for assisted walking, the purpose and inevitable effect being therapeutic, namely rehabilitation, training muscles to prevent their further degradation, and preventing injury while walking.

Re Item IV

Lack of unity of invention

1 There are two inventions covered by the claims indicated as follows:

- (i) Claims 1-15: Walker device comprising an overarching frame with an overarching top.
- (ii) Claims 16-25, 27: Sitting assembly and walker including such a sitting assembly, the sitting assembly being provided with a saddle coupled to a hingeing means.

2 The reasons for which the inventions are not so linked as to form a single general inventive concept are as follows:

DE 37 20 368 A1 (D1) discloses (see esp. Figs. 1, 2) (the references in parentheses applying to this document):

A walker device comprising an overarching frame (12, 16) with an overarching top (see Fig. 1), and a sitting assembly (18) coupled to said frame, which frame extends at least primarily in a first direction between a front side with at least two front wheels (14, 14') and a rear side with a first rear wheel (10).

Thus, the subject-matter of independent claim 1 is known from D1. The subject-matter of claim 1 likewise lacks novelty over the disclosure of each of the documents FR 2 902 317 A1 (D2), FR 2 959 663 A1 (D3), WO 2004/047712 A2 (D4), DE 298 00 585 U1 (D5), DE 92 06 417 U1 (D6), US 7 311 319 B1 (D7), DE 90 15 563 U1 (D8) (see esp. the relevant passages cited in the search report). Consequently that claim does not comprise any special technical features, i.e. technical features that define a contribution which each

of the claimed inventions, considered as a whole, makes over the prior art. However, although not necessarily defined explicitly in the claims, the following technical features of the claims dependent on claim 1 as well as of independent claim 18 potentially make a contribution over the prior art and can be considered as potential special technical features, solving the following problems:

Group (i) of inventions:

The walker device has a specific overarching frame with overarching top, solving the problem of providing reduced complexity of manufacture without compromising stability.

Group (ii) of inventions:

The sitting assembly comprises a specific hingeing means, such that a user may bring the saddle from a first state in which the user may get onto the walker to a second state in which the saddle is locked, solving the problem of facilitating getting onto the walker.

As a consequence, the potential special technical features of groups (i) and (ii) of inventions are neither identical nor corresponding, since the features have different effects and solve different problems. There are no corresponding special technical features shared by all groups of inventions.

Thus, groups (i)-(ii) of inventions are not so linked as to form a single general inventive concept. The application, hence does not meet the requirements of unity of invention.

Re Item V

Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

I. Documents

Reference is made to the following documents:

- | | |
|----|--------------------|
| D1 | DE 37 20 368 A1; |
| D2 | FR 2 902 317 A1; |
| D3 | FR 2 959 663 A1; |
| D4 | WO 2004/047712 A2; |

- D5 DE 298 00 585 U1;
D6 DE 92 06 417 U1;
D7 US 7 311 319 B1;
D8 DE 90 15 563 U1.

II. Requirements of clarity

- 1 It is not clear which structural features are intended to be implied in claim 1 by the features "overarching frame" and "overarching top", since any frame "overarches" the space between the front and the rear wheels.
- 2 According to claim 1 the frame extends in a first direction between a front side and a rear side. Consequently, it is not clear how, according to dependent claim 5, a side view can be parallel to that first direction.

III. Requirements of novelty / inventive step

- 1 The subject-matter of independent claim 1 is not novel over the disclosure of each of the documents D1-D8, see above.
- 2 Dependent claims 2-15 are formulated in such broad terms that their subject-matter likewise is known from at least one of the documents D1-D8. Different "overarching frames" are known from each of the documents D1-D8. A steering mechanism is known e.g. from D1, D7 or D8.