

Search history

Search 1: FT=(wheel 1w chair and transmission and suspension) (Results 193)

Search 2: FT=(wheel 1w chair and transmission and suspension) and IC=(a61g) (Results 87)

1) Family number: 24164033 (US2001011613A)

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MID-WHEEL DRIVE POWER WHEELCHAIR

Abstract: Source: US2001011613A A mid-wheel drive power wheelchair is provide having a pair of drive wheels on the support frame below the seat. Castor wheels are positioned behind the drive wheels and rearward of the seat. A pair of anti-tip idler wheels are positioned forward of the drive wheels on opposite sides of the frame. The anti-tip wheels are normally positioned off the ground when the drive wheels and the castor wheels are in their normal ground-engaging position. The anti-tip wheels have a resilient mounting comprising a support arm attached at a rear end to the frame. The forward positioned anti-tip wheels are movable upwardly about the attachment of the support arm, with the suspension resiliently resisting such movement, in response to the engagement with a curb or obstruction or in response to a forward pitching of the chair about the drive wheels.

Probable Assignee: PRIDE HEALTH CARE INC

Earliest Publication Date: 19980901

2) Family number: 5267058 (US4661035A)

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COLLAPSIBLE **WHEEL-CHAIR** AND APPARATUS FOR LIFTING THE **WHEEL-CHAIR** INTO AND OUT FROM AN AUTOMOBILE

Abstract: Source: US4661035A The invention relates to an apparatus for lifting a **wheel-chair** into and out from a vehicle, having a lifting arm which may be connected to the **wheel-chair**. According to the invention the apparatus comprises a substantially Z-shaped stand (4) having a lower support and mounting plate (5) intended to be attached to the vehicle floor at the place for the driver's seat by means of a number, suitably three, of bolts (6), and a substantially vertical middle portion (7) an an upper support plate (8) intended to be positioned on top of the back seat of the vehicle, a lifting mechanism (25-45) and a swinging equipment (36-45) for the lifting arm (3) whereby the lifting arm (3) and the lifting mechanism (25-34) and the swinging equipment (36-45) are carried by the upper support plate (8) of the stand (4). The invention also relates to a collapsible **wheel-chair** especially adapted for use together with the lifting apparatus.

Probable Assignee: ROLF AHLBERGS MEKANISKA VERKSTAD AB

Earliest Publication Date: 19840226

3) Family number: 22660710 (US2003168264A)

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OBSTACLE TRAVERSING WHEELCHAIR

Abstract: Source: US2003168264A The present invention provides a curb-climbing wheelchair having pivotal arm assemblies. The pivotal arm assemblies include at least one front caster and have the ability to rotate or pivot. The pivot arms rotate or pivot in response to moments generated by accelerating or decelerating the wheelchair thereby raising or lowering the front caster(s) through the rotational movement of the pivot arms. By raising or lowering the front caster(s) in such a manner, curb-like obstacles can be traversed in a low-impact manner.

Probable Assignee: INVACARE CORP

Earliest Publication Date: 20020502

4) Family number: 15329926 (WO9615751A1)

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DEVICE FOR SECURING A **WHEEL CHAIR** AND FITTING FOR MOUNTING ON A **WHEEL CHAIR**

Abstract: A **wheel chair** (1) is secured in a vehicle, like a minibus, the **wheel chair** being provided with fittings (3) with engaging means, which can engage and be fixed by jaws in two sets of jaws on a device (4) mounted on the base (2) of the bus. The engaging means on the fittings (3) and the openings between the jaws are designed with cross sections, which generally do not vary in the direction of travel (11) of the **wheel chair**. Thus the engaging means on the fittings (3) can be engaged in the sets of jaws by advancing the **wheel chair** in the direction of travel (11). The set of jaws are mutually spaced crosswise to the direction of travel (11), and the fittings (3) are designed to being fastened mutually spaced apart in pairs on the **wheel chair** (1) near the areas where the wheels (8), which carry the greatest weight load of the **wheel chair** (1), are mounted to the chair (1). Thus a strong and safe securing of the chair to the base (2) of the bus is obtained, the fittings (3) and the device (4) also being suitable for use with a collapsible **wheel chair**.

Probable Assignee: HANS BORGE RASMUSSEN

Earliest Publication Date: 19960525

5) Family number: 31428930 (US2004265084A)

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AMBULANCE STRETCHER SUPPORT TO REDUCE PATIENT TRAUMA

Abstract: Source: US2004265084A An ambulance stretcher support is described for an ambulance having a floor with a top floor surface. In one embodiment, each support includes a stretcher leg receiving member that is adapted to releasably receive an ambulance stretcher leg. A base, configured to be mounted to the ambulance floor, mounts the stretcher leg receiving member for movement between a position substantially coplanar with the top floor surface, and a position below the top floor surface. A vibration reduction device is mounted between the base and the stretcher leg receiving member such that the stretcher leg can be releasably supported on the stretcher leg receiving member and the vibration reduction device will reduce transfer of vibration from the ambulance floor to the stretcher.

Probable Assignee: HILLBERRY DEE J

Earliest Publication Date: 20041230

6) Family number: 31992852 (US2005127631A)

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CURB-CLIMBING POWER WHEELCHAIR

Abstract: Source: US2005127631A A mid-wheel drive power wheelchair for use by handicapped and disabled persons is provided having a frame, a seat supported by the frame, a pair of drive wheels supported on the frame under the seat, drive means for causing rotation of the drive wheels, power means for supplying power to the drive means, a rearward idler wheel, a forward anti-tip device and a resilient suspension supporting the forward anti-tip device, the suspension being attached to the drive means rearward of the front portion of the frame.

Probable Assignee: SCHAFFNER WALTER E

Earliest Publication Date: 20050616

7) Family number: 1138830 (US3901337A)

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WHEEL CHAIRS

Abstract: Source: US3901337A In a **wheel chair**, electric driving means pivotally supported for movement between an operative driving position in which a wheel pinion and driven pinion are coupled, and an inoperative position in which the pinions are uncoupled leaving the wheel free for normal rotation free of any coupling to the electric driving means. Preferably the wheel and electric driving means is supported on the **wheel chair** frame by a resilient mounting embodying a suspension media providing independent suspension for the rear wheels. 12 Claims, 6 Drawing Figures

Probable Assignee: SPASTICS SOC

Earliest Publication Date: 19730530

8) Family number: 46986859 (US2010298742A)

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PATIENT MOVEMENT DETECTION SYSTEM AND METHOD

Abstract: Source: US2010298742A A monitoring system and method tracks a patient's position over time and ensures that proper turning or other manipulation is done within the time prescribed. Preferably, the techniques herein continuously monitor patient position and alert medical or other personnel of the need for turning or other patient manipulation. The system may be implemented within a medical or other care facility, or within a patient's home.

Probable Assignee: LEAF HEALTHCARE INC

Earliest Publication Date: 20100930

9) Family number: 30257097 (US2004007401A)

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DETACHABLE TRANSMISSION MECHANISM FOR A WHEEL CHAIR AND DRIVING DEVICE THEREOF

Abstract: Source: US2004007401A A detachable transmission mechanism for a **wheel chair** includes a control unit, two support frames, a suspension frame and a driving device. The channel clamps of the two support frames can be connected to two lower transverse rods of an existing **wheel chair** and the joining tubes at two sides of the battery unit is connected to the joining pipe so that the battery unit can be fixed beneath a seat of the **wheel chair**; furthermore, the control unit is positioned on one side of one of armrest of the **wheel chair** so that in case of the handle being rotated, the vertical shaft, rotary plate and the connecting rod can move relatively and in turn rotate the suspension frame as well as the driving device; and when a control switch is turned on, the driving wheel can be rotated in either forward or reversed direction and thus move the **wheel chair** forward or backward.

Probable Assignee: CHU SIMON

Earliest Publication Date: 20030307

10) Family number: 28678235 (US2003030243A)

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MODULAR WHEEL CHAIR

Abstract: Source: US2003030243A The invention relates to a small vehicle, particularly a **wheel chair**, having a modular structure including a main component, at least one pivotable wheel which is adapted to be detachably mounted at said main component via a quick release device, at least one driving wheel adapted to be detachably mounted at said main component via a quick release device and a seat component which is adapted to be detachably mounted at said main component via a quick release device. The main component comprises a main body to which four arms for supporting the wheels are springably coupled. The quick release devices between said main component and said wheels are disposed between said arms and said wheels, respectively.

Probable Assignee: ULRICH ALBER GMBH

Earliest Publication Date: 20030126

11) Family number: 1555545 (US4247127A)

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VEHICULAR SUSPENSION SYSTEM

Abstract: Source: US4247127A A wheelchair and rolling suspension system are supported by a pair of inclined, nested circular hoops. The hoops may be manually driven by lever arms accessible to the chair occupant. Moreover, the drive system permits the chair to negotiate straight lines, gradual and sharp curves, as well as to rotate about a vertical axis. The wheelchair is a two-wheel system having self-righting characteristics and is collapsible for storage and transportation. A seat assembly is articulatable between a vertically upright position and a fully reclined position. In addition, the wheelchair can function as a rocking chair.

Probable Assignee: WILKES DONALD F

Earliest Publication Date: 19800430

12) Family number: 4221858 (US4953645A)

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ELECTRIC WHEEL CHAIR

Abstract: Source: US4953645A The electric wheel chair comprises drive wheels on one axle group, and swivel wheels on a second axle group, with the swivel wheels being either freely pivotable or positively steerable by an engageable steering drive. The positive steering system may have either a purely electric configuration in the form of a pair of electric steering drives, or an electro-mechanical configuration in the form of a common steering drive and a mechanical steering mechanism with electro-mechanical disengagement of the positive steering system. Switch-over from pivoting to steering operation is monitored by position sensors provided on the swivel wheels. As the seat assembly is adapted to be rotated to a corresponding position, the swivel wheels may be operated alternatively as the front wheels or the rear wheels of the wheel chair. Owing to the engageable steering drive, the wheel chair is well adapted for both indoor operation and outdoor operation, thereby considerably enhancing the mobility of a disabled person.

Probable Assignee: ORTOPEDIA GMBH

Earliest Publication Date: 19890713

13) Family number: 42244894 (US2002014951A)

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REMOTE CONTROL FOR A HOSPITAL BED

Abstract: Source: US2002014951A A remote control system includes beds, remote controls, and a master station in communication with the beds and the remote controls. Each bed is adapted to receive requests from a patient associated with the bed, and each remote control is adapted to present requests to a caregiver associated with the remote control. The master station is adapted to receive a nurse call request from a patient via a bed, to identify a remote control that is associated with a caregiver for the patient, and to transmit the nurse call request to the remote control identified as being associated with the caregiver for the patient.

Probable Assignee: HILL ROM SERVICES INC

Earliest Publication Date: 20011115

14) Family number: 49098804 (US2012012417A)

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"WHEELCHAIR"

Abstract: Source: US2012012417A A wheelchair comprises a main frame and a seat mounted on the main frame. A pair of front wheels and a pair of rear wheels are also mounted on the frame. A propulsion mechanism is provided for driving the rear wheels, the propulsion mechanism comprising an arm lever for forward and back movement and a gear train between the arm lever and the rear wheels.

Probable Assignee: BAKER SCOTT BRADLEY

Earliest Publication Date: 20110621

15) Family number: 9557839 (EP0286742A1)

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ADAPTING VEHICLES TO POWERED DRIVE.

Abstract: Source: EP0286742A1 There is provided a method for adapting a vehicle to powered drive comprising fitting to the vehicle a self-contained drive unit (15,16) including a motor (17) driving a ground-engaging wheel (18).

Probable Assignee: ARMSTRONG A

Earliest Publication Date: 19870415

16) Family number: 28821415 (US2003122332A)

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WHEEL CHAIR WITH MONOCOQUE-TYPE BODY

Abstract: Source: US2003122332A The invention relates to a small vehicle, particularly a wheel chair, comprising a chassis having a monocoque-type main body to which arms for supporting wheels are coupled and at which a seat component can be attached. The main body is designed as a monolith and preferably is manufactured from an extruded profile of aluminium or an aluminium alloy, or is made of wound sheet metal or of plastic. Four arms for two freely pivotable supporting wheels and two driving wheels are springably coupled to said main body.

Probable Assignee: ULRICH ALBER GMBH

Earliest Publication Date: 20030126

17) Family number: 2862892 (US4806060A)

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WHEEL CHAIR HOIST ASSEMBLY FOR VEHICLES

Abstract: Source: US4806060A A **wheel chair** hoist assembly for a vehicle having a body, a roof and a door opening comprises a support bar suspended within the body, with a mount tube reciprocally mounted upon the support bar. A boom having a retracted position within the body is located parallel to the support bar and at one end is secured to the mount tube. A motor operated winch assembly depends from the mount tube, and includes a drum with a cable wound thereon, and projected through the boom. The cable terminates in hooks to support a **wheel chair**. A reversible electric motor is supported upon the mount tube and drives a pinion in mesh with a stationary rack gear for reciprocally feeding the boom from its retracted position to an advanced position through the door opening. A manual remote control selectively connects the vehicle battery to the motor and to the winch assembly for alternately advancing and retracting the boom, and for alternately lowering and raising the **wheel chair**.

Probable Assignee: BAYVIEW MFG INC

Earliest Publication Date: 19890221

18) Family number: 8404102 (US5649605A)

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WHEELED CHASSIS AND STEERING DEVICE FOR STEERING IT

Abstract: Source: US5649605A A chassis, particularly for carrying a wheelchair with pivotal seat (S), fitted with ground-engaging wheels with at least one driven from a drive device through a drive transmission and with at least one steerably suspended and connected to a steering motor receiving steering signals for steering the chassis bearing while driving from a steering panel comprising steering control devices (STY) is described, whereby all steerably wheels (2R) are drive device driven and steerably suspended each being pivotal about a vertical steering axis (2S, STF) geometrically maintained within or at a vertical plane comprising the wheel axis (2RAKS). By means of a between the steering axes (2S) arranged and these mechanically connecting steering transmission system (STT) including a herethrough for the pivoting of said steering axes (2S, STF) connected steering driving device rotating the axes, and through the same direction of rotation, each steering axis (2S, STF) is arranged able to pivot all said wheels about their steering axes (2S, STAKS, STF), i.e. through mainly equally sized pivoting angles independently of the bearing of the seat or dependently being correlated therewith. A drive device can directly or through a drive transmission system (RTT, RTAKS) with the same direction of rotation simultaneously rotate all wheels (2R). A steering system hereto, mainly of electronic kind, is described.

Probable Assignee: NIKOMED APS

Earliest Publication Date: 19931028

19) Family number: 31002676 (US2004188152A)

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POWER WHEELCHAIR

Abstract: Source: US2004188152A A mid-wheel drive power wheelchair for use by handicapped and disabled persons is provided having a frame, a seat supported by the frame, a pair of drive wheels supported on the frame under the seat, drive means for causing rotation of the drive wheels, power means for supplying power to the drive means, a rearward idler wheel, a forward anti-tip wheel and a resilient suspension supporting the forward anti-tip wheel, the suspension being attached to the frame rearward of the front portion of the frame.

Probable Assignee: SCHAFFNER WALTER E

Earliest Publication Date: 20040930

20) Family number: 56032719 (US2015250668A)

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WHEELCHAIR EQUIPPED WITH A CRANE HAVING AN EXTENSIBLE MODULE WITH X-SHAPED CROSSES

Abstract: Source: US2015250668A Wheelchairs equipped with a crane, cranes, scaffolding and handling equipment comprising electrically activated extensible structures of articulated trellis, providing large extension relative to retracted length and handling cantilever loads. Crane stabilizers combining the additional functions of wheel axle, crane leveller, vehicle suspension and carrier of counterweight. Electric wheels acting as crane turntable. Electric wheels independently steered with angular actuators and integrated with an assembly of spring suspension, of shock absorber that can be locked to insure crane steadfastness and of linear actuator for levelling. Wheelchair seats with pro file varied by the combination of an electrical linear actuator adjusting the angle of the backrest and the motorized extension of the main frame of the vehicle. Seat covers framed with pressurized tubes made of composite films acting as structural elements, said seat covers also used as mattress and equipped with a removable chamber pot. Fixtures for integration of modules.

Probable Assignee: 8582106 CANADA LTD

Earliest Publication Date: 20140321

21) Family number: 10334109 (US5772237A)

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SUSPENSION SYSTEM FOR POWERED WHEELCHAIR

Abstract: Source: US5772237A A suspension system for the ground engaging powered and/or caster wheels of a power wheelchair utilizes three links, two of which are universally pivotally connected between the frame of the wheelchair and a wheel mounting transaxle housing or subframe so that the wheels can tilt relative to the frame of the wheelchair in a vertical plane. A third link is connected between the vehicle frame and the wheel mounting structure which can only pivot in a vertical plane, thus restraining the wheels from any lateral displacement relative to the vehicle frame. Fluid cylinders operable between the links and the vehicle frame provide cushioning of the frame and also, by subtraction of fluid from the fluid cylinders, can lower the entire frame of the wheelchair relative to the ground engaging wheels to permit the wheelchair and occupant to drive into the side door opening of a conventional van.

Probable Assignee: MILLER TECHNICAL SERVICES INC

Earliest Publication Date: 19971127

22) Family number: 29540928 (US2003205878A)

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SUSPENSION SYSTEM FOR A WHEELCHAIR

Abstract: Source: US2003205878A A suspension system for mounting a pair of wheels to a wheelchair is disclosed. The system includes a crossbar pivotally mounted to the wheelchair so as to pivot about a longitudinal axis. At least one spring assembly is located between the crossbar and the wheelchair frame for controlling the pivoting of the crossbar. A hinge assembly is mounted on each lateral end of the crossbar. The hinge assembly includes a first hinge component attached to the crossbar so as to be rotatable about a vertical axis, and a second hinge component resiliently connected to the first hinge component. The resilient connection biases the second hinge connection against rotation with respect to the first hinge component. A wheel and yoke assembly are mounted to the second hinge component.

Probable Assignee: PRIDE MOBILITY PRODUCTS CORP

Earliest Publication Date: 20031106

23) Family number: 67727721 (US2007116534A)

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VEHICLE WITH LOW, FLAT FLOOR AND RAMP FOR PERSONS WITH DISABILITIES OR FOR OTHER USES

Abstract: Source: US2007116534A A taxicab or other vehicle is designed specifically for persons with disabilities, although it can have other uses, e.g., a delivery vehicle. A ramp, stored in a cartridge under the vehicle floor, is extended to the curb to accommodate a wheelchair or other mobility aid. The floor is low enough that the slope of the ramp does not exceed regulations. The floor is lowered by providing a joint in the drive shaft to lower the drive shaft and eliminate the drive-train hump. An enclosure with a rotating window is provided to separate the driver from the front passenger area. The driver can unlock the doors on only one side to prevent a passenger from opening a door into traffic.

Probable Assignee: VEHICLE PRODUCTION GROUP LLC

Earliest Publication Date: 20070518

24) Family number: 52824570 (US2013019873A)

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METHOD AND DEVICES FOR PREVENTION AND TREATMENT OF PRESSURE ULCERS

Abstract: Source: US2013019873A Method and devices for the prevention and treatment of pressure ulcers are described in which a portable support assembly may be worn by a bed-stricken individual around particular regions of the body where pressure ulcers tend to form. The portable support assembly may generally include one or more individual fluid filled pods which are enclosed entirely within an inner fluid pad localized along a central portion. Both the one or more pods and inner fluid pad are then enclosed entirely by another layer of fluid within an outer fluid pad which extends over the entire assembly. Each of the fluid layers may be secured to an outer shell which is relatively stiffer than the fluid layers and may restrict or limit the expansion or movement of the fluid pods and/or fluid pads.

Probable Assignee: PRS MEDICAL TECHNOLOGIES INC

Earliest Publication Date: 20130124

25) Family number: 32623185 (US2006031984A)

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MOTIVATIVE EXERCISE AND LIFTING AID DUAL DEVICE

Abstract: Source: US2006031984A A lift device capable of performing an activating motion having a part suspension device for training an upper limb capable of easily and surely performing an upper limb activating motion and easy to handle and use such that it is free to pass over a sill height difference, comprising leg parts (3 a, 3 b) with a caster (2) having a sliding run-over plate (1), an equipment storage part (4), wheels (5), a lifting guide (6) installed erectedly on the equipment storage part by fixing one end thereof to the storage part, a lifting part (7) provided inside the lifting guide, a lifting drive part (9) drivingly lifting the lifting part, a moving switch (81 s), a lifting drive control part (10) controlling the lifting drive part, devices (81 t, 120) to set the training devices, a chair (101), a running-pulling arm (88) installed on the lifting part, part suspension device mounting devices (11) and (12) for training an upper limb, installed on the equipment storage part, a mounting hole (13) for the part suspension device for training an upper limb provided in the lifting guide and a part suspension device (14) for training an upper limb, installed on the mounting device for part suspension device for training an upper limb.

Probable Assignee: BIOPHILIA INST INC

Earliest Publication Date: 20020117

26) Family number: 10807705 (DE4211338A1)

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WHEELCHAIR WITH TWO MANUALLY ACTUATED DRIVE WHEELS - HAS EACH DRIVE WHEEL HUB CONTINUOUSLY LINKED TO MANUAL DRIVE BY MULTISPEED TRANSMISSION AND FREEWHEEL CLUTCH

Abstract: Source: DE4211338A1 The two drive wheels (3) of the wheelchair (1) are so linked as to enable a conversion of manual drive motion into a rotary one. The hub of each drive wheel is continuously coupled to the manual drive via a multi-speed transmission and a freewheel clutch acting in one travel sense. The transmissions are operable for the gear change by a common gear selection, acting simultaneously and in the same sense. Pref. each transmission forms a unit in its own housing. USE/ADVANTAGE - Comfortable use of wheelchair, with adaptability to the user's condition.

Probable Assignee: ORTHOPAEDIETECHNIK THILLMANN G

Earliest Publication Date: 19931014

27) Family number: 57136801 (US2014219756A)

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LEVELING RAMP FOR A WHEELCHAIR

Abstract: Source: US2014219756A An apparatus for providing wheelchair access to a vehicle, including a deployable wheelchair access assembly coupled to the vehicle and deployable to a position in which one end of the assembly is in contact with the ground. The wheelchair access assembly can include multiple panels. Some embodiments include a control system for adjusting the angular relationship of one panel relative to another panel. Yet other embodiments include a sensor for measuring the inclination of the deployed assembly relative to earth's gravity. In yet other embodiments the vehicle includes a sensor for measuring the inclination of the vehicle relative to earth's gravity, and a plurality of suspension actuators for changing the inclination of the vehicle.

Probable Assignee: DALLAS SMITH CORP

Earliest Publication Date: 20140807

28) Family number: 30018988 (US2001029628A)

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PATIENT CARE SYSTEM

Abstract: Source: US2001029628A A bed configured to support a patient having a weight comprises a frame, a patient support, and a plurality of sensors coupled between the frame and the patient support. Each of the plurality of sensors is configured to generate an analog signal in response to a portion of the weight of the patient on the patient support. The bed also comprises a circuit coupled to the plurality of sensors to receive the analog signals therefrom. The circuit includes a plurality of analog-to-digital converters, each analog-to-digital converter being coupled to one of the sensors to generate a separate digital signal for each of the plurality of sensors, and a processor coupled to the plurality of analog-to-digital converters to determine the weight of the patient on the patient support.

Probable Assignee: HILL ROM SERVICES INC

Earliest Publication Date: 19891019

29) Family number: 15209570 (US5899475A)

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VEHICLE HAVING WHEELS AND CASTORS

Abstract: Source: US5899475A A vehicle such as a wheelchair having wheels by which the vehicle is propelled and steered and castors which support a proportion of the vehicle's weight, has its castors provided with biasing means which resists swivelling movement of the castors from the straight-ahead position thereby resisting an oversteer condition of the vehicle.

Probable Assignee: MEDEQUIP SUB 1 LTD

Earliest Publication Date: 19960523

30) Family number: 30108714 (US2002019686A)

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POWER ASSIST VEHICLE

Abstract: Source: US2002019686A A power-assist vehicle such as a wheelchair senses driving torque/force applied by a user through a transmission. The detected force/torque is utilized in a control system with a control map defining a desired dynamic of the vehicle and programmed with the desired mass and drag parameter.

Probable Assignee: DELTAGLIDE INC

Earliest Publication Date: 20010308

31) Family number: 2709716 (US4360307A)

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DEVICE FOR VERTICAL AND/OR HORIZONTAL TRANSPORT OF LOADS INTO AND OUT OF A VEHICLE OR THE LIKE

Abstract: Source: US4360307A A device for vertical and/or horizontal transport of loads into and out of a vehicle or the like and particularly intended to enable disabled **wheel chair** bound persons to be transferred into and out of a passenger car and comprising a tubular supporting member attached to the car in connection to the vehicle roof and in the lateral direction of the vehicle and being intended to support a supporting arm cooperating telescopically with the supporting member and being displaceable along the supporting member. The supporting arm is adapted to be moveable laterally between a position entirely inside the side of the vehicle and positions outside the side of the vehicle, and the electrically powered lifting device is arranged to be suspended from said supporting arm. It is hereby possible for the disabled himself to load and unload himself and/or his **wheel chair** and the like in and out of the car resp.

Probable Assignee: IDE PRODUKTION CARIN AB

Earliest Publication Date: 19810419

32) Family number: 62525347 (US2016151215A)

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RECONFIGURATION MEANS FOR A WHEELCHAIR

Abstract: Source: US2016151215A Means for reconfiguring a wheelchair are disclosed wherein a user or an occupant of the wheelchair is enabled to repeatedly alternate the wheelchair between an original load-bearing configuration and a modified load-bearing configuration by engaging and disengaging a ground-contacting adaptive implement operatively connected to a load transitioning mechanism, said load transitioning mechanism adapted for connection to a forward portion of the wheelchair. Embodiments according to the present invention enable an occupant of the wheelchair to alternate the wheelchair, through a cyclic operation sequence, between the original configuration and the modified configuration by toggling of a manipulable switch and subsequent momentary reclining of the wheelchair. The user willfully effectuates a change in the angular disposition of the ground-contacting adaptive implement relative to the wheelchair about a substantially horizontal joint axis wherein in the modified configuration a deployed angular orientation is maintained under load-bearing conditions during travel of the wheelchair in all directions. Embodiments of the present invention enable wheelchair reconfiguration with simplicity of operation while ensuring rigid attachment of a ground-contacting adaptive implement to the wheelchair to confer special functionalities to the wheelchair while preserving comfort and safety for the user while the wheelchair is in the modified load-bearing configuration.

Probable Assignee: GOLDEN JR STEPHEN C

(33) Family number: 30067792 (US2003141121A)

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FOLDABLE PERSONAL MOBILITY VEHICLE

Abstract: Source: US2003141121A A foldable personal mobility vehicle is disclosed comprising first and second units having first and second wheels being rotatable about first and second axes. A drive unit rotates the second wheel for moving the foldable personal mobility vehicle. A pivot disposed substantially parallel to the first and second axes pivotably connects the first unit to the second unit for folding the personal mobility vehicle. The foldable personal mobility vehicle may include a folding unit for automatically folding the foldable personal mobility vehicle.

Probable Assignee: ELECTRIC MOBILITY CORP**Earliest Publication Date:** 20030508**(34) Family number: 11709382** (US5246082A)

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SMALL VEHICLE, PARTICULARLY ROLLING CHAIR WITH FOLDABLE CHAIR FRAME

Abstract: Source: US5246082A A small vehicle, in particular a rolling chair, has a frame, at least two running wheels having hubs, a direct current motor provided with a transmission and a stator and located in a region of each of the hubs so as to drive a respective one of the running wheels. The running wheels are formed as movable wheels provided with plug-in axles releasably fixable on the frame. Each of the direct current motors with a respective one of the transmissions is arranged inside a respective one of the hubs without projecting beyond the latter. And a supporting part such that, each of stators of each of the direct current motors are fixable releasably on the frame through the supporting part.

Probable Assignee: ULRICH ALBER GMBH**Earliest Publication Date:** 19930218**(35) Family number: 30881444** (US5503513A)

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ROBOT ABLE TO MOVE ON FIXED OR MOBILE WORKING STATIONS

Abstract: Source: US5503513A A robotic system for use with at least two working stations and for carrying out tasks, is provided. At least one of the two working stations is mobile. The system according to the present invention comprises a controller for permitting the system to be controlled via a system interface located on the working stations, which interface is connected to an emission/receiver for exchanging information with the robotic system and the interface. A device for supplying energy to the system is provided which is comprised within the working stations. The system is self-propelled to permit autonomous movement between the two stations. Also, included are mechanical and electrical connections for permitting the system to be interchangeably disconnected from one of the working stations and reconnected to another working station.

Probable Assignee: COMMISSARIAT ENERGIE ATOMIQUE**Earliest Publication Date:** 19930430**(36) Family number: 34032810** (US2009321162A)

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WHEELCHAIR WITH MIDDLE WHEEL DRIVE

Abstract: Source: US2009321162A A wheelchair has two central wheels (15) which can be separately driven by a motor. In order to allow the wheelchair to turn around in narrow spaces, the central wheels (15) can be driven in opposite directions of rotation. When the wheelchair is turned around, the front wheels (17) and rear wheels (19) do not constitute a hindrance because they are kept at a distance from the ground (25) by the swivelling wheel (21). All three wheels (15, 17, 19) are coupled together on each side by a chain (27). When the front wheels run against an obstacle, the wheelchair climbs over the obstacle with the driven front wheels (17). This causes the fork (22) of the swivelling wheel (21) to swivel about the rotational axis (31) in the direction of arrow (33), against the force of a spring, bringing the rear wheels in contact with the ground and also driving the wheelchair's rear wheels. This all-wheel drive allows the wheelchair to overcome relatively high obstacles both forwards and backwards, even when driving slowly and without losing its manoeuvrability.

Probable Assignee: DEGONDA REHAB SA**Earliest Publication Date:** 20061228**(37) Family number: 28989225** (US2006145433A)

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RUNNING APPARATUS FOR STAIRS, RAMPS AND OFF ROADS

Abstract: Source: US2006145433A This running apparatus(1) has 4 wheels(3) operating seesaw type are axle installed on the first and second lever(4.5.6). This running apparatus can travel with its 8 wheels or sometimes 4 wheels touching grounds at any circumstances. This is very suitable for the **wheel chair** or truck carrying special cargo running on the stairs, ramps, sands, marshy muds, rocks, and so on. And comfortability and safety of this vehicle can be maximized by the seesaw movement of the first and second levers(4.5.6,) which diminish the shock according to the ground. When converting the second levers(5) of the front wheels which can axis operates according to the ground, with rack(11) and pinion(10) make one of front two wheels contact grounds and easily convert the steering wheel(16), and also possible to change the length and width of the vehicle cope with location and speed, and can travel with all good conditions

Probable Assignee: KIM SEO RIM**Earliest Publication Date:** 20030315**(38) Family number: 1255588** (US3945449A)

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WHEELED ATTACHMENT FOR A CHAIR

Abstract: Source: US3945449A A generally rectangularly shaped support frame provided with ground-engaging wheels upon which almost any type and size of conventional chair may be readily mounted so as to provide mobile means for transporting non-ambulatory persons; certain of the ground engaging wheels are capable of being rotated manually by the person using the converted **wheel chair** in order to propel the chair in two embodiments of the invention, electrically in a third embodiment and selectively manually or electrically or both manually or electrically in a fourth embodiment thereof; a retractable foot rest is also incorporated in the support frame.

Probable Assignee: OSTROW HENRY J

Earliest Publication Date: 19760323

39) Family number: 5076288 (GB2055344A)

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VEHICLE ENTRY AID

Abstract: Source: GB2055344A A vehicle entry aid for a handicapped person and preferably also such auxiliary equipment as for example a **wheel-chair**, comprises a frame 1 and a carrying unit 2, which is provided to support the person and the auxiliary equipment and which is connected to the frame and can be moved up and down on the frame by a lifting mechanism 3. The frame is detachably attached to the vehicle adjacent to the entrance opening of the same. The frame comprises two uprights 4,5 connected to each other and the carrying unit is displaced along these uprights. The carrying unit comprises platforms 12 and 18 which are hinged together as shown. A tapered end board 23 is hinged to platform 12.

Probable Assignee: UNIV GOETEBORG

Earliest Publication Date: 19810111

40) Family number: 8451087 (WO9415567A1)

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WHEELCHAIR

Abstract: A wheelchair comprising a frame (1), a seat unit (2) at least partially supported on the frame (1), and wheels (5, 6, 12, 13) situated on a front and a rear wheel axis (3, 4), each wheel being connected to the frame (1) in such a way by means of a suspension mechanism that it can carry out a spring movement relative to the frame (1). The wheelchair also comprises an interconnecting device which interconnects the suspension mechanism of at least one wheel situated on the front wheel axis (3) to the suspension mechanism of at least one wheel situated on the rear wheel axis (4), in such a way that, at least during forward travel of the wheelchair, when a wheel situated on the front or rear wheel axis (3, 4) performs a spring movement relative to an initial position, the interconnecting device effects a spring movement of a wheel coupled thereto on the rear or front wheel axis (3, 4) respectively, in the corresponding direction relative to the frame (1). The interconnecting device preferably comprises spring means acting between the suspension mechanisms coupled thereto.

Probable Assignee: LIGTVOET PRODUCTS BV

Earliest Publication Date: 19940721

41) Family number: 4260700 (DE3525234A1)

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ELECTRIC **WHEEL-CHAIR** FOR THE DISABLED

Abstract: Source: DE3525234A1 The invention relates to an electric **wheel-chair** for the conveyance of disabled individuals indoors, for example, at home, the workplace or the like. The **wheel-chair** has a central controlled driving wheel (8) which is suspended together with the electric motor (7) so as to be pivotable to the chassis (2) via a lever transmission which reduces the load on the driving wheel and can be steered by a control gear and a control lever (15). As a result of the proposed arrangement the **wheel-chair** is easy to steer and is therefore intended, inter alia, for individuals whose gripping and movement capacity of the hands and arms are considerably restricted.

Probable Assignee: SPOFA VEREINIGTE PHARMA WERKE

Earliest Publication Date: 19860515

42) Family number: 67079491 (WO17162487A1)

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METHOD AND DEVICE FOR CONTROLLING AN ELECTRIC MOTOR FOR EXPANDED BALANCING SUPPORT OF A WHEELCHAIR

Abstract: The invention relates to a method for controlling an electric motor for the expanded balancing support of a wheelchair, to a control unit that performs the method, and to a wheelchair that has a control unit according to the invention. When balancing is performed, the common center of gravity of a wheelchair and of a wheelchair driver is held over an axis of a drive wheel by tilting the wheelchair about said axis. In one step of the method, at least one current value of tilting about the axis of the drive wheel is sensed when tilting occurs. The sensed value of tilting comprises in particular a tilt angle of the wheelchair and/or a rate of rotation about an axis of the drive wheel. In a further step, an electric motor is controlled in accordance with the sensed value of tilting. The electric motor provides a torque to the drive wheel of the wheelchair. The produced torque of the electric motor causes a rotation about the axis of the drive wheel toward the balancing position of the wheelchair.

Probable Assignee: BOSCH GMBH ROBERT

Earliest Publication Date: 20170928

43) Family number: 7506720 (US3770073A)

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FOLDABLE INVALID CHAIR

Abstract: Source: US3770073A A foldable invalid chair, comprising two hingedly connected side frames provided with bearings for the mounting of axles of driving wheels and dirigible wheels, the driving wheels being in the form of running wheels mounted on the side frames. A detachable propulsion unit, including an electric motor is positioned between the side frames, and is coupled to the axles of both driving wheels.

Probable Assignee: MEYER WILHELM FA

Earliest Publication Date: 19700403

ELECTRIC DRIVE FOR WHEEL CHAIRS

Abstract: Source: US3930551A In a wheelchair, battery operated electric driving means for driving two wheels each mounted on a wheel plate connected to the wheelchair frame. For each driven wheel a motor is carried on the wheel plate and drive is transmitted to a pinion fixed on the wheel through a pivotal gear carrier carrying one or two idler gears in constant mesh with the fixed pinion, but movable into or out of mesh with a motor driven pinion on controlled pivotal movement of the gear carrier.

Probable Assignee: SPASTICS SOCIETY A BRITISH CO

Earliest Publication Date: 19741210

POWERED WHEELCHAIR

Abstract: Source: US3111181A (Claim 1) 1. Having thus described my invention, I claim: 3. A power operated adjustable **wheel chair** comprising a wheel frame, a plurality of ground engaging wheels carried by said wheel frame, a superstructure on said frame including a pair of guideways at opposite sides 10 thereof inclined downwardly from the front of the chair towards the back thereof, a slide disposed on each of said guideways, a seat bottom, means mounting said seat bottom on said slides for forward and rearward movement along said guideways, a seat back hingedly connected to said seat bottom at adjoining edges for pivotal movement from a substantially right angle relationship where the seat is at a rearward position to a substantially coplanar relationship where the seat is at a forward position, movable back supporting means for said 20 seat back pivotally mounted on said superstructure and interconnected to said seat bottom, said back supporting means being swingable about its pivot upon the movement of said seat bottom forward and rearward to lower and raise said seat back respectively, and power operated 25 means on said superstructure for moving said slides and said seat bottom from the rearward position to the forward position and vice-versa, the forward movement of said slides up said guideways carrying said seat bottom which in turn swings said back supporting means in a direction about 30 its pivot to lower said seat back toward the aforesaid coplanar relationship, and rearward movement of said slides and seat bottom down said guideways by said power operated means pivoting said back supporting means on its pivot in a direction to urge said seat back towards 35 the aforesaid right angle relationship with said seat bottom.

Probable Assignee: YATICH GEORGE D

Earliest Publication Date: 19631119

VEHICULE POUR L'EMBARQUEMENT ET LE TRANSPORT D'UNE PERSONNE SUR FAUTEUIL ROULANT

Abstract: Source: FR3000666A Le vehicule est capable d'embarquer et de débarquer un passager sur fauteuil roulant (49) Le vehicule est du type capable de circuler en equilibre sur seulement deux roues coaxiales 1. De preference des roues de stabilisation (19, 21) limitent le debatement au tangage autour de l'axe (4) des roues coaxiales (1); un bras telescopique (51) permet de hisser le fauteuil roulant (49); l'acces s'opere par une porte frontale (37) coulissant le long du pavillon (9); un siege (72) pour personne valide est egalement prevu; le siege (72) s'escamote pour accueillir le fauteuil roulant (49). Vehicule particulierement maniable adapte a la traction electrique. The vehicle has a motor unit indirectly coupled with two coaxial wheels (1), where the vehicle is held on a ground (2) by the two coaxial wheels during certain phases of operation. The motor unit is connected with a drive of the vehicle and directs force into the vehicle by applying a speed ratio between the two coaxial wheels according to control of direction. A direct wheel (19) is partly located in a space that is formed between the coaxial wheels. Hoisting parts (51, 64) of a **wheel chair** are arranged perpendicular to an axis (4) of the coaxial wheels.

Probable Assignee: VILLE ET VOITURE

Earliest Publication Date: 20140711

**VERFAHREN UND VORRICHTUNG ZUR ANSTEUERUNG EINES ELEKTROMOTORS FÜR DIE BALANCIERUNTERSTÜTZUNG EINES ROLLSTUHLS
METHOD AND DEVICE FOR CONTROLLING AN ELECTRIC MOTOR FOR THE BALANCING SUPPORT A WHEELCHAIR (MACHINE TRANSLATION)**

Abstract: Source: DE102016204762A1 Die vorliegende Erfindung betrifft ein Verfahren zur Ansteuerung eines Elektromotors fuer die Balancierunterstützung eines Rollstuhls, ein Steuergeraet, welches dieses Verfahren ausfuehrt, und einen Rollstuhl, welcher ein erfindungsgemaesses Steuergeraet aufweist. Der Rollstuhl umfasst zumindest ein Antriebsrad mit einer Achse und einer Kraftuebertragungseinrichtung zur uebertragung einer manuellen Kraft des Rollstuhlfahrers auf das Antriebsrad. Im Verfahren wird eine aktuelle Drehrate um die Achse des Antriebsrades beim Kippen erfasst. Ausserdem erfolgt die Ansteuerung eines Elektromotors in Abhaengigkeit der erfassten Drehrate, wodurch der Elektromotor ein Drehmoment auf das Antriebsrad des Rollstuhls beim Kippen liefert. Dabei wird erfindungsgemaess die Drehrate um die Achse des Antriebsrades reduziert, wobei eine Drehrate betragsmaessig groesser Null mit gleichbleibender Kipprichtung resultiert. Das Kippen aus der Balancierlage wird durch das Drehmoment des Elektromotors auf das Antriebsrad also nur verlangsamt, d.h. nicht gestoppt. Die Rueckstellung in die Balancierlage wird durch manuellen Krafteingriff des Rollstuhlfahrers erreicht. The present invention relates to a method for controlling an electric motor for the balancing support, a **wheel chair**, a controller implementing this method executes, and a wheelchair, a control device. The Wheelchair includes at least one drive wheel having an axis and a power transmission device for transmitting a manual force of the wheelchair to the drive wheel. In the method, a current rate of rotation about the axis of rotation of the drive wheel when tilting. In addition, the driving an electric motor in response to the detected rotation rate, improving the electric motor torque to the drive wheel of the wheelchair when tilting. In this case, and in accordance with the invention, the rate of rotation about the axis of rotation of the drive wheel is reduced, wherein a rate of rotation magnitude greater than zero with constant tilt direction. The tilt of the balancing position is determined by the torque of the electric motor to the drive wheel only slows down, i.e. is not stopped. The return into the balancing position by way of manual force engagement of the wheelchair driver.

Probable Assignee: BOSCH GMBH ROBERT

Earliest Publication Date: 20171012

SUSPENSION OF VEHICLES FOR RUGGED TERRAIN

Abstract: Source: US4353428A The invention relates to the suspension of a vehicle for rugged terrain with a wheel or wheel-like ground engaging element, the ground-engaging surface of which has the shape of a body of revolution and which is journaled for free rotation on a primary axle, the primary axle being freely rotatable around a second axle which is connected with the frame of the vehicle. The secondary and primary axles make an angle alpha with respect to each other which is less than 90 DEG. Also with respect to a reference plane tau, perpendicular to a horizontal support plane and passing through the longitudinal axis of the vehicle at least one of said axles making an angle beta with the plane tau which is less than 90 DEG. The suspension according to this invention is a simple design and no additional control device is required for the adjustment of the travel gear when overcoming obstacles. The suspension may be used to advantage on vehicles which are power driven, as well as on vehicles which are not power driven and which are either pushed or towed.

Probable Assignee: USTAV PRO VYZKUM MOTOROVYCH VO

Earliest Publication Date: 19821012

49) Family number: 29796068 (GB883964A)

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HOSPITAL BED

Abstract: Source: GB883964A 883,964. Surgical traction. ORTHOPEDIC FRAME CO. Aug. 25, 1959 [Nov. 20, 1958], No. 29051/59. Class 81 (2). [Also in Group XIV] In a hospital bed construction in which the mattress support lies within two right circular rotatable rings, the bed may be rotated to any inclination or lowered at one end to extend chordally across the rings. As shown, rings 14 are mounted by means of rollers 96 and others (Fig. 10, not shown) on the arms 87 of a U-shaped base having castors 89. The rings are rigidly connected together by members 17a-17d and 78 and are rotated by rubber-tyred wheels through a worm drive and belt transmission (Fig. 11, not shown) by a reversible electric motor (Figs. 6 and 9, not shown) controlled by bedside switches on cable 142. Traction is applied by weight 184 through pulley 191 and head sling 182. The tension may be relieved when desired by allowing the weight to rest on the floor. In another arrangement (Fig. 4, not shown) pulleys are positioned so that the weight swings clear at the side of the rings when the head of the bed is tilted upwardly.

Probable Assignee: ORTHOPEDIC FRAME COMPANY

Earliest Publication Date: 19611206

50) Family number: 11941027 (WO0108623A1)

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WHEELCHAIR STABILIZING ASSEMBLY

Abstract: A resilient suspension front wheel drive wheelchair which has a stabilizing assembly that substantially maintains the drive wheels in vertical alignment upon encountering an obstacle such as a bump thereby providing stability. The stabilizing assembly comprises a plurality of substantial equal length and parallel link arms which independently connect each drive wheel to a frame. A rear counter weight is also provided to provide a shorter turning radius and hence improved turning ability while maintaining stability.

Probable Assignee: INVACARE CORP

Earliest Publication Date: 20001128

51) Family number: 32518076 (US2005288157A)

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WALKING AND BALANCE EXERCISE DEVICE

Abstract: Source: US2005288157A A pelvic support unit is coupled to a base by a powered vertical force actuator mechanism. A torso support unit, which is affixed to the patient independently of the pelvic support unit, is connected to the base by one or more powered articulations which are actuatable around respective axes of motion. Sensors sense the linear and angular displacement of the pelvic support unit and the torso support unit. A control unit is coupled to these sensors and, responsive to signals from them, selectively control the displacement actuator and articulation(s). Wheel modules are independently powered to both rotate and steer, and, responsive to the control unit, are capable of rolling the exercise device in a direction of travel intended by the patient.

Probable Assignee: REHABILITATION INST OF CHICAGO ENTERPRISES

Earliest Publication Date: 20051229

52) Family number: 58179160 (US2015001833A)

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UNILATERAL TRANSITION MEANS FOR ADAPTING A WHEELCHAIR

Abstract: Source: US2015001833A A transition means for adapting a wheelchair is disclosed wherein a user or an occupant of the wheelchair is enabled to repeatably alternate the wheelchair between an original mode and an adapted mode by engaging and disengaging a unilaterally-connected adaptive implement.

Probable Assignee: GOLDEN JR STEPHEN C

Earliest Publication Date: 20150101

53) Family number: 10499331 (US5127113A)

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INVALID TRANSFER ARRANGEMENT

Abstract: Source: US5127113A An arrangement of a wheelchair with a movable seat and leg rest and a bed equipped with transfer apparatus including rollers, a movable sheet, a lift member, and a control system for transporting an invalid comfortably across the bed to a sitting position on the wheelchair.

Probable Assignee: CONNECTICUT INNOVATIONS INC A CORP OF CT

Earliest Publication Date: 19920707

54) Family number: 58800418 (US2016227937A)

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ARRANGEMENT FOR USE OF A FUNCTIONAL SEAT

Abstract: Source: US2016227937A The invention relates to an arrangement for use of a functional seat, which seat is intended particularly for assisting a person sitting thereon to stand up from a sitting position. The arrangement comprises a seat part (1) provided/to be provided in connection with a sitting base (A) and being coupled in a power transmitting manner with armrests (1a) of the seat, wherein the seat part (1) is arranged by a movement mechanism (x) simultaneously on the other hand to incline from an essentially horizontal sitting-position (I) to a standing up-position (II), where the seat part is inclined down ward toward its front edge, and on the other hand to move upward while being inclined to the standing up-position (II) from the sitting-position (I) particularly in order to enable assisting a standing up-movement, advantageously by influence of the person him-/herself sitting on the seat part (1), by exploiting his/her upper body through using hand force. The arrangement comprises driving means (y), including at least a locking assembly (y1) for an locking the seat essentially immovably to its sitting-position (I) and a releasing assembly (y2) for reinstating the movement function of the seat by releasing it from its sitting-position (I), wherein releasing assembly (y; y2) of the driving means is arranged to operate by influence of the power directed to the seat part (1) from the person sitting on the seat, in order to activate the movement function of the seat automatically when the person is sitting on the seat.

Probable Assignee: TAMERGO OY

Earliest Publication Date: 20150326

55) Family number: 11279032 (US5242179A)

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FOUR-LINE EXERCISING ATTACHMENT FOR WHEELCHAIRS

Abstract: Source: US5242179A A four limb exercising attachment for wheelchairs which will permit the occupant of the wheelchair to exercise all four limbs simultaneously, thereby affording proper bilateral movement of the arms and legs. The exercising attachment will also propel the wheelchair when operated in a suitable manner. The attachment may be used with most standard wheelchairs of the type having right and left front and rear wheels. The attachment includes right and left mounting assemblies, each mounting assembly being securable to the frame of a standard 4 wheel wheelchair at three or more spaced apart locations. A common input shaft will extend between the left and right mounting assemblies after they are mounted upon the wheelchair. Left and right arm-drives in the form of levers and leg-drives including foot pedals are in turn interconnected to the common input shaft in such a manner that movement of the arm levers will cause corresponding movement of the foot pedals and vice versa, which movement can be suitably synchronized. A resistance device is in turn connected to the common input shaft, which resistance device may include a propulsion assembly. Finally, steering devices are provided in the forms of manually operated brakes.

Probable Assignee: UNIV NEW YORK STATE RES FOUND

Earliest Publication Date: 19930907

56) Family number: 51759686 (CN102631264A)

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PEDESTAL PAN

Abstract: Source: CN102631264A The invention relates to a pedestal pan, in particular to a pedestal pan on a **wheel chair** or a chair used by the handicapped. The pedestal pan comprises a seat plate, a bed pan, a pan door, a bed pan cover and a driving mechanism, wherein the pan door is matched with a pan opening; the bed pan is arranged below the pan opening; and the bed pan cover is arranged above the pan opening. The pedestal pan is characterized by further comprising a pan door and bed pan cover combination mechanism, a transmission mechanism and a pan door anti-tilting mechanism, wherein the front end of the bed pan is provided with a urine-blocking plate, and two sides of the bed pan are respectively provided with a suspension loop; the suspension loop is connected with a pothook fixedly arranged below the seat plate; the pan door and bed pan cover combination mechanism is connected with the transmission mechanism and the pan door anti-tilting mechanism; the transmission mechanism is arranged below the seat plate and is connected with the rear end of the pan door; and the transmission mechanism is connected with the driving mechanism arranged below the seat plate through a connection device. Due to the pan door and bed pan cover combination mechanism, when the driving mechanism is operated, the pan door is driven to slide backwards to be opened through the transmission mechanism, and the bed pan cover is also driven to slide backwards to be opened; due to light front part and heavy rear part of the bed pan, the urine-blocking plate on the bed pan rises automatically under the action of gravity so as to achieve the purpose of blocking urine; and the opening of the pan door and the bed pan cover is completed by one-step operation, and the urine-blocking function is realized.

Probable Assignee: CHEN JUNHUA

Earliest Publication Date: 20120815

57) Family number: 67374319 (WO17185148A1)

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MULTIFUNCTIONAL MOTOR-DRIVEN SYSTEM FOR MANUAL WHEELCHAIRS

Abstract: The present application to a patent of invention relates to novel multifunctional motor-driven systems that can be used in manual wheelchairs, and therefore the field of the invention is that of the transportation of wheelchair users. The invention includes a line of interchangeable accessories used to transform a wheelchair (1) or a non-powered device into a tricycle or portable motor-driven accessory (M), and is characterised in that it uses a universal support (2) and a driven front wheel with a control system (3), that is to say a motor-driven accessory that can be coupled to all models of manual wheelchairs (1) by a quick-coupling attachment system; the invention provides assemblies for different uses, all of them including the driven front wheel with a control system (3), the universal support (2) and the wheelchair (1) as its components.

Probable Assignee: ALVES JULIO OLIVETO

Earliest Publication Date: 20171102

58) Family number: 11216516 (EP0826355A1)

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A FOLDABLE WHEELCHAIR

Abstract: Source: EP0826355A1 A wheelchair is made up of a pair of parallel main frames connected to each other on the rear side via a detachable back supporter and on the front side via footplates foldable along a center hinge extending in the longitudinal direction. Large wheels and a seat plate are detachably coupled to the main frames. The seat plate is changeable in level by leverage operation. After detachment of the large wheels, and unlocking of the back supporter, the wheelchair can approach very close to a user lying on a bed. When the large wheels are detached, the wheelchair can go through doors of ordinary sizes. By folding the foot plates together, the main frames can be put together side by side for convenience in transportation.

Probable Assignee: MIZUNO JIRO

Earliest Publication Date: 19980304
59) Family number: 5329346 (US4825971A)

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UNIVERSAL **WHEELED CHAIR**

Abstract: Source: US4825971A A lightweight universal electric **wheeled chair** is formed of hollow tubular frame members. The seat is preferably cantilevered from rear frame members. The frame includes two lower side frame members, each of which has relatively small wheels mounted at both ends. The frame also includes two rear frame members, pivotally connected together intermediate their ends to form an "X" configuration with the lower ends of each of the rear frame members being pivotally secured to the rear ends of the lower side frame members. The front of the two lower side members are coupled together using two frame members and linear bearings intercoupling the two frame members to permit adjustment and collapsing of the **wheeled chair**. Two upper side members extend forwardly from the rear of the **wheeled chair**, and are secured to the rear frame members. A seat may be supported directly on these two upper side frame members, or the two upper side frame members may serve as arms for the **wheeled chair**, with the seat being slung from these arms at a lower position. Motor and gearing arrangements are provided for varying the distance between the two side members to change the height of the seat. When the lower side members are at their maximum separation, the pivoted rear frame members are very nearly parallel and horizontal. Nickel-cadmium batteries may be mounted in the tubular frame of the **wheeled chair**, and each of the rear wheels is provided with a small electric motor, aligned with and coupled to each rear wheel through appropriate gear reduction assemblies.

Probable Assignee: BERNSTEIN LAWRENCE A

Earliest Publication Date: 19890502

60) Family number: 65133166 (UA113486U)

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DISABLED **WHEEL CHAIR** (MACHINE TRANSLATION)

Abstract: Source: UA113486U **Wheel Chair** for people with disabilities contains the frame, leading wheels of the hoop handle management, combined with the drive lever, brake device, at least two supporting wheels, armrests, bandwagon, seat and backrest, with the seat located between the leading wheels of hoop. Additionally introduced side-wall; at least one rear Rotary wheel; one brake device; one drive lever; at least two chain transmission, three dampers, two obginni, two locking mechanisms and brake handle related brake devices; at least two lever front suspension and rear suspension lever placed on the frame; incorporates front suspension are leading wheels with hoop, brake controllers, obginni clutches and shock absorbers; on the lever rear suspension and rear wheel is Rotary shock absorber; driving levers include brake handle and lock mechanisms and associated with the leading wheels of the hoop chain gears; the control handle is connected with the rear swivel wheel and supporting wheel is ahead of .

Earliest Publication Date: 20170125

61) Family number: 9296387 (DE4236786A1)

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STEERING FOR WHEELCHAIR ASSIGNED TO TWO WHEELS OF DIFFERING CIRCLE OF TURNING - USES CURVED GROOVE DRIVE OF UNEVEN REDUCTION CHARACTERISTIC TO SET NON-CONSTANT RELATIONSHIP BETWEEN STEERING AND WHEEL TURNING CIRCLES

Abstract: Source: DE4236786A1 At least one of the steered wheels (11a,11b) has a non-constant relationship between the steering and wheel turning circles. These wheels are pref. steered from a common drive which can be operated from signals of an operating unit. This drive can be a steering motor with uniform reduction gearing. One of the steered wheels can be directly coupled to the drive while the other is coupled via an uneven reduction curved groove drive. A regular reduction drive (24a,24b) can follow the uneven drive having a reduction ratio of 3:1. ADVANTAGE - Large steering swing. Economical mfr. and servicing with high operational reliability.

Probable Assignee: ORTOPEDIA GMBH

Earliest Publication Date: 19940501

62) Family number: 22121822 (US3288234A)

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STAIR CLIMBING CONVEYANCE

Abstract: Source: US3288234A (Claim 1) 1. In a load carrying conveyance, a platform to receive the load; Tain endless belt tractor means supporting the platform for mobility; lever means arrying auxiliary endless belt tractor means disposed on pivots forwardly and rearwardly on the platform and out_wardly off-set from said main tractor means and said platform to be operatively clear of said main tractor means and platform to permit rotation of said auxiliary tractor means io without interference contact with said main tractor -means or platform; power mechanism manually controllable by an operator for driving the several tractor means; rotational means for rotating said several lever means concentrically positioned with said pivots and means for driving said rotational means.

Probable Assignee: FELIZ JACK M

Earliest Publication Date: 19661129

63) Family number: 30259759 (US6684969B)

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CHANGEABLE PERSONAL MOBILITY VEHICLE

Abstract: Source: US6684969B An improved footrest system and an improved electrical switching device are disclosed for a personal mobility vehicle having a rotatable chair. The improved footrest system comprises a first and a second footrest plate pivotably mounted to a first and a second end of the personal mobility vehicle. A first and a second spring resiliently biases the first and a second footrest plate into an inoperative position. Each of the first and second footrest plates is pivotable into an operative position by the feet of an operator for providing a footrest for the operator for a first and a second rotational station of the chair. The improved electrical switching device comprises a first switch for providing a front wheel drive operation and a second switch for providing a rear wheel drive operation. In one embodiment the first and second switches are actuated by the rotation of a chair into the operative position. In another embodiment, the first and second switches are actuated by rotation of the first and second footrest plates into an operative position.

Probable Assignee: ELECTRIC MOBILITY CORP

Earliest Publication Date: 20040203

RESILIENT PANEL HAVING ANISOTROPIC FLEXING CHARACTERISTICS AND METHOD OF MAKING SAME

Abstract: Source: US5039567A A resilient panel having anisotropic flexing characteristics in which thermal compression bonding techniques have been to laminate a plurality of sheets of thermoplastic polyurethane material together with bonds that are in strip form, spaced at regular intervals, and staggered between alternate sheets of material. The laminated stack was then cut into slices of appropriate thickness, and the slices were expanded to form a honeycombed core which, while held in spread apart disposition, was thermally pre-formed and made ready to receive facing materials. The facing materials were then thermal compression bonded to each side of the honeycombed core, and the panels were trimmed to assume their final dimensions.

Probable Assignee: SUPRACOR INC

Earliest Publication Date: 19910813

WHEELCHAIR

Abstract: The **wheel chair** has drive unit between the rear wheels with at least one electric motor and at least one drive wheel (9) carried by a rocker arm (11) pivotable relative to the chair frame (3) about two transverse axes (B1,B2), one in front of and one behind the rear wheel axles (DH) and above the drive wheel axle (DA). Each pivot axis can pivot about the other pivot axis and their pivoting motion is limited by stop arrangements.

Probable Assignee: REHATECHNIK HEYMER GMBH

Earliest Publication Date: 20010809

VEHICLE WITH CENTRAL WHEEL DRIVE, IN PARTICULAR A WHEELCHAIR OR STAND-UP WHEELCHAIR

Abstract: Source: US2011215540A The vehicle, for example a stand-up wheelchair, comprises a frame (11) and, arranged on the latter, a seat device (19). On each side of the frame (11), the central wheel (13), which can be driven by a motor (27), and the front wheel (15) are operatively connected to each other by an endless chain (45). The frame (11) has a front part (21) and a rear part (23), which are connected to each other in an articulated manner by way of a joint (25). In the sitting position, the front wheels (15) are not in contact with the ground, which means that they do not obstruct the manoeuvring of the vehicle in a confined space. In the standing position, the front wheels (15) are in contact with the ground, but the central wheels (13) are not. The user, in the standing position, is thus able to turn about the axis of the vehicle, without the central wheels (13) having a blocking action.

Probable Assignee: LEVO WOHLIN

Earliest Publication Date: 20090305

MECHANISM AND APPARATUS FOR WHEELCHAIR RECONFIGURATION

Abstract: Source: US2017172822A Embodiments according to the present invention include a load transitioning mechanism which enables attachment and release of at least one ground-contacting adaptive implement, such as a multi-terrain caster wheel assembly, a motorized wheel, or a ski; embodiments further enable reversible reconfiguration of the wheelchair by a user between a.) an original load-bearing configuration utilizing the conventional forward caster wheels of the wheelchair, and b.) a modified load-bearing configuration utilizing the ground-contacting adaptive implement.

Probable Assignee: GOLDEN JR STEPHEN C

Earliest Publication Date: 20170622

STANDING MOBILITY AND/OR TRANSFER DEVICE

Abstract: Source: US2012255118A The present invention provides a standing mobility and/or transfer device for handicapped users including an articulating foot platform system effective to move a foot platform between a rearwardly tilted user-receiving condition located close to the floor and an elevated, forwardly tilted condition for user transport at a standing-prone angle. Bilateral lift arms move in concert with the raising and lowering function of the foot platform to elevate the person to a standing-prone position from a seated position. In a raised position, the lift arms are located alongside a user to provide additional posture control. Optional motors associated with one or more wheels of the device may be controlled by the user with a joystick for self-propelled standing mobility.

Probable Assignee: STANDING NORMAL LLC

Earliest Publication Date: 20121011

UNIT FOR VERTICAL AND HORIZONTAL PERSONAL TRANSPORT

Abstract: Source: US4202064A A coordinate-type hoist device for lifting a handicapped person and allowing the person to move throughout a room. The device consists of two fixed rails disposed parallel to each other and presumably near the ceiling of the room. Two transverse rails ride along the fixed rails, and a "crab" rides along the two parallel transverse rails. The crab contains a motor arrangement for raising and lowering at least two hoisting straps. By using the apparatus, a handicapped person can sit or lie in a device to which the hoisting straps can be attached. Thereafter the crab motor can raise the hoisting straps to lift the patient, who can then move about the room by moving the crab along the transverse rails, and/or moving the transverse rails along the fixed rails. Alternatively, these crab and rail movements can be motor controlled. Limit switches are provided to prevent jamming and overloads, and a low voltage control system is utilized of safety purposes.

Probable Assignee: JORGENSEN GUNNAR

70) Family number: 18960480 (WO9011742A2)

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GAIT AND LOCOMOTION AID

Abstract: A gait and locomotion aid for handicapped persons (2) comprises two sleeves (6, 14) which can be attached to the parts of the body (3, 4/3, 5) on both sides of the joint (1), at least one force generator in the form of a gas pressure spring (7) and/or a manually operated hydraulic cylinder (8) arranged between the two sleeves (6, 14), and two supporting disks (10, 11/12, 13) interconnected at a multipoint joint (9) and each fastened to a sleeve (6, 14). The force generator (7/8) is hingedly mounted on either side of the multipoint joint (9). The gait and locomotion aid also possesses a bogie wagon (27) with a platform (28) and four wheels (29, 30). The two front wheels (29) are fastened eccentrically to a common axle (31) and are mutually offset in their eccentric position by 180 DEG C. The two rear wheels (30) are each mounted centrally on their own axle (32) and the distance of the rear wheels and their axle (32) from the front axle (31) can be varied telescopically.

Probable Assignee: HESSABI IRADJ DIPL ING 4811 OERLINGHAUSEN DE**Earliest Publication Date:** 19901011**71) Family number: 41844059** (US2010071129A)

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BED, AND METHOD FOR TRANSFERRING CARE-NEEDING PERSON FROM THE BED

Abstract: Source: US2010071129A A bed having a purpose of transferring a care-requiring person lying in bed from the bed, the bed having a structure in which there are provided arranged a main bed and a position adjustment bed supported collectively movably up and down, and a suspending equipment below the main bed, and at a further lower position with an auxiliary bed which makes a swing movement, the main bed having a function of moving-away swing movement, the main bed and the position adjustment bed adjacent thereto each having a sheet with its one end fixed to the adjoining sides of the beds and the other end mounted to a sheet-fixing bar of a swing arm at the main bed side and the position adjustment bed side, the swing arms having a rotation axis near the adjoining parts of the beds.

Probable Assignee: YOKOTA OSAMU**Earliest Publication Date:** 20080529**72) Family number: 51040914** (BRMU8902225U)

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**DISPOSICAO CONSTRUTIVA EM CADEIRA DE RODAS
CONSTRUCTIVE HAND IN A WHEELCHAIR (MACHINE TRANSLATION)**

Abstract: Source: BRMU8902225U DISPOSICAO CONSTRUTIVA EM CADEIRA DE RODAS. e descrita uma disposicao construtiva em cadeira de rodas que compreende uma estrutura tubular (10) que configura um encosto (II) e um assento (12), dito assento (12) posicionado sobre uma estrutura de apoio que inclui uma suspensao com ajuste de altura (20) dotada de um par de rodas (21) e uma viga estrutural (22) disposta entre a suspensao (20) e a face inferior do assento (12), com a extremidade disposta frontal da moldura tubular (10) do assento (12) apresentando uma estrutura em formato de "U" (30) atraves de um elemento de articulacao (31), na porcao intermediaria da moldura tubular (10) do encosto (11) sendo disposto um braco (111) que se estende paralelo ao assento (12), dito braco (111) fixado a moldura tubular (10) atraves de um elemento de articulacao (112), na regio posterior do encosto (11) sendo disposta uma alca (60) que compreende uma estrutura em "U" com extremidades fixadas na estrutura modular (10) do encosto (11).

Machine translation: HAND CONSTRUCTION OF WHEELCHAIR. and described a willingness constructive wheelchair comprising a tubular structure (10) that sets a backrest (II) and a seat (12), said seat (12) positioned on a support structure that includes a suspension with height adjustment (20) having a pair of wheels (21) and a structural beam (22) disposed between the suspension (20) and the underside of the seat (12), arranged with the end of the front tubular frame (10) of the seat (12) having a shaped structure of the "U" (30) through a joint element (31) in the intermediate portion of the tubular frame (10) of the backrest (11) is arranged an arm (111) which extends parallel to the seat (12), said arm (111) secured to tubular frame (10) through a joint element (112) in the posterior region of the backrest (11) being arranged one alkaline (60) comprises a structure in which "U" with ends fixed in modular structure (10) of the backrest (11).

Probable Assignee: SERVICO NAC DE APRENDIZAGEM IND SENAI**Earliest Publication Date:** 20120424**73) Family number: 53009968** (BRPI1004332A)

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**DISPOSITIVO PARA TESTES DE PNEUS E RODAS DE CADEIRA DE RODAS
DEVICE FOR TESTING TIRES AND WHEELS OF A WHEELCHAIR (MACHINE TRANSLATION)**

Abstract: Source: BRPI1004332A DISPOSITIVO PARA TESTES DE PNEUS E RODAS DE CADEIRA DE RODAS O objeto de pleito da presente invencao apresenta uma nova solucao para teste de pneus para cadeira de rodas. Este equipamento possibilita o levantamento das propriedades mecanicas do pneu auxiliando assim no desenvolvimento de novos modelos de cadeira de rodas. Este dispositivo permite o usuario testar varios tipos de pneus com diferentes tipos de piso possibilitando assim uma melhor adequacao do tipo de pneu mais proximo das necessidades do usuario

Machine translation: DEVICE FOR TESTING OF TIRES AND WHEELS FOR WHEELCHAIR The object of the present invention election presents a new solution to test tires for wheelchairs. This equipment allows the removal of the mechanical properties of the tire thus assisting in the development of new models of wheelchair. This device allows the User to test various types of tires with different tread thus enabling a better adequacy of the type of tire nearest the needs of the User

Probable Assignee: UNICAMP**Earliest Publication Date:** 20130205**74) Family number: 16448501** (GB1546130A)

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DEVICE FOR TRANSPORTING PERSONS AND/OR GOODS ON STAIRWAYS AND SLOPES

Abstract: Source: GB1546130A The vehicle has a crawler drive with two crawler belts (3), each crawler belt (3) being deflected at one end of the chassis (1) by means of a running wheel (17) and at the other end by means of a freely moving wheel spider (5) with rotating rollers (6). By means of the aforesaid arrangement, travel over stairs is possible. The upper part (10) which is arranged on the chassis (1) receives interchangeable attachments for example seat (12) or transport container (14) in order to be able to transport persons or goods. The upper part (10) is supported on the chassis (1) by means of a tilting and sliding mechanism (8, 9) which is intended to move the upper part (10) with attachment and useful load out of the loading position into the travel position or unloading position, the centre of gravity of the loaded vehicle in every oblique position in the travel position lying between running wheels (17) and rollers (6), as a result of which it is made possible to maintain this position. The vehicle can be designed for user control and in this embodiment is particularly suitable for transporting persons with walking difficulties, for example in a wheelchair.

Probable Assignee: AUER P

Earliest Publication Date: 19770707

75) Family number: 16922921 (FR2738147A)

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WHEELCHAIR WITH INTERCHANGEABLE REAR WHEELS

Abstract: The wheelchair comprises a support frame (1) with, at least, a seat (2), a seat back (3), one, preferably two, front wheels (4) with connecting elements (7). It has either demountable manually controlled rear wheels (8), or demountable rear wheels (10) with an electric motor drive (20), that is gearless, that has rechargeable and/or exchangeable power source (40). The motor drive has a housing (21), that is rotatably fixed to the wheel rim of the rear wheels, whilst a rotatable attachable hub bearing holder (22) is axially fitted to the **wheel chair** support frame. The motor may be a collector-less rotary current motor, and may have, at the hub bearing holder, a stator with a magnetic rotational field producing coil. A rotor (27) with a permanent magnet may be present at the motor housing.

Probable Assignee: INVACARE DEUTSCHLAND GMBH

Earliest Publication Date: 19961128

76) Family number: 11630582 (DE4404770A1)

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WHEELCHAIR WITH SIDE PAIR OF STEERING AND DRIVE WHEELS

Abstract: Source: DE4404770A1 The wheelchair (1) is propelled by the user. In addition to a frame and a seat there are two footrests (8) functionally coupled each to a drive bar (10) movable between a front and rear position parallel to the travel direction. Each drive bar is coupled to a drive wheel (2), via a drive linkage. The coupling is such that during the drive bar motion in the travel direction, ie. from rear to front, the associated drive wheel is driven forward, while simultaneously the other drive bar is retracted in an idle stroke from the front to the rear, i.e. against the travel direction. Pref. the drive wheels are interconnected by a common shaft with a crank device.

Probable Assignee: GREINER ERNST

Earliest Publication Date: 19950817

77) Family number: 34667410 (ES1050125Y)

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DISPOSITIVO ELEVADOR PARA PERSONAS DISCAPACITADAS.

Abstract: Source: ES1050125U 1. Dispositivo elevador para discapacitados, que estando previsto para permitir el traslado de un lugar a otro de un discapacitado, y poderlo mover desde una silla de ruedas a la cama, al baño u otro lugar, y viceversa, evitando los esfuerzos para el cuidador, se caracteriza porque se constituye a partir de un rail debidamente fijado entre dos soportes, a una altura elevada, sobre cuyo rail desliza una carcasa en la que va integrado un moto-reductor que acciona una correa, por un extremo fijado a un anclaje y por otro relacionado con una polea, de manera que el giro en un sentido u otro del moto-reductor lleva consigo el enrollamiento/desenrollamiento de la correa y por lo tanto la disminucion o aumento de la amplitud del bucle que forma la misma, estando fijado sobre el extremo inferior del bucle que forma la correa, y a traves de una polea de apoyo sobre la misma, un soporte con ganchos para el enganche de arneses de adaptacion a cuerpo y piernas de la persona discapacitada, con la particularidad de que en el interior de la carcasa general que alberga el moto-reductor, poleas y demas componentes, se ha previsto una rigida placa soporte del propio moto-reductor y en la que van fijadas unas robustas pletinas de fijacion para sendas ruedas deslizantes por el rail establecido a una determinada y elevada altura, permitiendo el deslizamiento de todo el conjunto y con el, la persona discapacitada relacionada con el mismo a traves de los correspondientes arneses. 1. Lifting device for the disabled, that being provided to allow the transfer from one place to another of a disabled person, and be able to move from a **wheel chair** to the bed, bathroom or other place, and vice versa, thereby preventing the efforts for the caregiver, characterized in that it is constituted from a duly fixed rail between two supports, at a high altitude, rail on which slides a housing in which is integrated a gearmotor which actuates a belt, one end fixed to an anchor and the other associated with a pulley, so that the rotation in one direction or another of the gearmotor carries the winding / unwinding of the belt and thus the decrease or increase On the extent of the loop forming the same, being fixed on the lower end of the loop forming the strap, and through a pulley support thereon, a support with hooks for engagement of harnesses of adaptation to the body and legs of the disabled person, with the particularity that in the interior of the housing that houses the motor reducer, pulleys and other components, is provided a rigid support plate of the gearmotor itself and in which are fixed a robust fixing plates for respective sliding wheels by the rail set at a determined and high altitude, allowing the sliding of the whole and with it, the disabled person related With the same through the corresponding harnesses.

Probable Assignee: ZUGASTI EGUREN MARTIN

Earliest Publication Date: 20020301

78) Family number: 62679159 (FR3029881A)

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**CARROSSERIE VOITURE TOURISME AVEC SES PARTIES INTERDEPENDANTES INDISSOCIABLES: RENFORT CIRCULAIRE MOBILE, FILET PROTECTION ACCIDENTS, SECURITE CONDUITE ET LIBERTE TOTALE POUR SORTIES HANDICAPES
TOURISM BODY CAR WITH ITS PARTS INTERDEPENDENT INDISSOCIABLE: RENFORT CIRCULAR MOBILE PERSONAL ACCIDENT THREAD, SAFETY AND DRIVING FREEDOM TOTAL OUTPUT FOR DISABLED (MACHINE TRANSLATION)**

Abstract: Source: FR3029881A Tout en etant revolutionnaire, les elements de mon invention globale sont simples, purement mecaniques, sans gadgets, sans electronique, sans informatique. Il faut de l'utile, j'en ai tenu compte dans mon travail, les fonctionnalites de mes innovations sont facile a comprendre. Les dessins parlent pour eux. Il faut observer librement, sans idees preconcuces. Ces dernieres sont parfois opposees a mes developpements. En y regardant de plus pres, on decouvre l'utile. Dans le dernier contexte, mon travail est base sur le marche. Pour ma voiture specifiquement, il y a deux parties dont la concurrence ne s'occupe pas. Le premier est le creneau des handicapes en fauteuil roulant. Ils sont emprisonnes dans leur habitation car a l'exterieur ils ont besoin d'aide. Ma voiture leurs permet de pouvoir conduire mais aussi de pouvoir y entrer/sortir sans aide\hydrauliquemen] assis dans leur fauteuil. Un miracle pour une voiture de 4 metres!Les handicapes n'ont pas d'idees preconcuces, ils veulent de l'utile, ils veulent rouler, rouler!, Le second groupe est le marche d'automobilistes, ils seront reticents devant ma voiture trop revolutionnaire. L'utile ne penetrera que lentement chez eux. Chez les jeunes peut etre jamais, mais les seniors finiront par commencer a reflechir. Ce courant travaille deja dans leur subconscient: Trop hippie, trop de gadget, trop d'informatique, cogner la tete, le corps plus raide... Pour l'industrie francaise, une possibilite de bonne augmentation de ventes en Europe se pointe a l'horizon. Pour le groupe des handicapes, ce creneau est 100 percent sur a obtenir en Europe. Si l'on estime le second groupe. tres prudemment, a seulement 5 percent du marche grand public en Europe While being revolutionary, the elements of my overall invention are simple, purely mechanical, no gadgets, no electronics, no computer. It must be useful, I have given in my work, the functionalities of my innovations are easy to understand. The pictures speak for themselves. We must observe freely, without preconceived ideas. These last are sometimes opposed to my developments. In looking more closely, we discover useful. In the latter context, my work is based on the market. Specifically for my car, there are two parts, the competition is not involved. The first is the niche of the disabled in wheelchairs. They are imprisoned in their homes because on the outside they need help. My car allows them to be able to drive, but also to be able to enter / exit without assistance \ hydrauliquemen | sitting in their chair. A miracle for a car of 4 meters! The disabled have no preconceived ideas, they want useful, they want to ride, ride!, The second group is the march of motorists, they will be reluctant to my car too revolutionary. The useful penetrate only slowly home. Among youth may be forever, but seniors will eventually start thinking. This current already working in their subconscious: too hippie, too many gadgets, too many computers, banging the head, the body stiffer... For the French industry, a good opportunity to increase sales in Europe has the edge 'horizon. For the disabled group, this niche is 100 percent on a secure Europe. If we estimate the second group. very cautiously, only 5 percent of the market mainstream in Europe

Probable Assignee: VERHOEFF ANTON

Earliest Publication Date: 20160617

79) Family number: 180204 (AU199062830A)

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TRANSPORT APPARATUS

Abstract: Source: AU199062830A (Claim 1) 1. Transport apparatus including:- a frame assembly; wheeled support means for supporting said frame assembly in an operating attitude and including a steerable drive wheel and a supporting wheel, and stabilizer means for provide support to said frame assembly upon inclination of said frame assembly beyond said operative attitude.

Probable Assignee: WILLIAM BARRY KILBURN

Earliest Publication Date: 19910408

80) Family number: 23010141 (US3346268A)

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VEHICLE WITH CLIMBING WHEELS

Abstract: Source: US3346268A ABSTRACT OF THE DISCLOSURE The device disclosed is a vehicle with wheels to roll on level ground and with climbing feet which can be brought into use to climb up and down terraced inclines. The vehicle has a cab frame providing a support for a seat. This frame is supported by wheels which can be hand or power operated. A second frame at each side of the vehicle, referred to as a chassis frame, carries front and rear climbing wheels including step engaging feet to support the vehicle on steps. The device has connections between the cab frame and the chassis frame operable to raise and lower the chassis frame to bring either the cab frame wheels or the chassis frame wheels into support position. These connections include links connecting the cab frame with the chassis frames and a rail and roller arrangement at each side wherein the rail is on an incline on the cab frame from the lower end of the link rearwardly and the roller is on the chassis frame and spaced rearwardly from the link connection to the chassis frame.

Probable Assignee: RICHMAN ROBERT W

Earliest Publication Date: 19671010

81) Family number: 32287194 (EP1584312A1)

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MOTORDRIVEN WHEELCHAIR

Abstract: The wheelchair is electrically driven and equipped with at least one wheel positioned in front of the driven pair and at least one supporting wheel at the back which can be vertically moved. The supporting wheel is connected to a power transmission unit in the shape of intermediate wheels activated only when the chair is lifted at the front and driven until the obstacle is overcome or the step mounted. The wheel is kept in a raised position when the chair is moved across level ground.

Probable Assignee: DEGONDA REHAB SA

Earliest Publication Date: 20051012

82) Family number: 17984668 (DE19500589A1)

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GEARLESS ELECTRIC WHEEL-HUB MOTOR E.G. FOR **WHEEL-CHAIR**

Abstract: An electric wheel-hub motor, not using a gear, and having an external rotor and an electromagnetic ventilated spring-pressure brake and an electromagnetic ventilated spring-pressure brake. A stationary central part (1) as used in general to form the structure of the motor and the spring-pressure brake and is provided with an axial recess or groove (1,1), with a solenoid (3) accommodated in it, on its end-face facing the external rotor (2), the solenoid (3) forming the magnetic system of an electromagnetic ventilated spring-action brake.

Probable Assignee: KOERGEN HEINZ NORBERT DIPL IN

Earliest Publication Date: 19960718

TRANSPORT APPARATUS

Abstract: The transport apparatus (10) is disclosed including a rear frame (11) and a front frame (12). A pair of support wheels (17) are mounted for rotation about a common transverse axis at the rear of the rear frame (12), and a pair of stabilizer wheel supports (20) extend forwardly and outwardly from a central tube (13) to carry stabilizer wheels (21) in castoring wheel carriers (22). The front frame (11) includes a vertical steering bearing (23) within which a steering frame (24) is supported. A drive wheel (25) carried within the steering frame (24) is powered through a reduction drive (26) from an electric motor (27) also mounted to the steering frame (24). On level ground, all the weight of the front portion of the transport apparatus (10) is applied to the drive wheel (25) to enhance traction, while the transport apparatus (10) cannot rotate more than a small angle about an overturning axis before contact occurs between the ground and a stabilizer wheel (21), preventing further rotation.

Probable Assignee: KILBURN WILLIAM BARRY

Earliest Publication Date: 19910321

STOEL MET EEN INRICHTING VOOR HET OVERBRENGEN VAN EEN PATIENT VAN EEN BED NAAR DE STOEL. CHAIR WITH SYSTEM FOR TRANSFERRING PATIENT TO AND FROM BED, HAS SEAT AND BACKREST WITH MOVABLE UPPER SURFACES

Abstract: The chair sections (3-6), preferably the seat and backrest, form the actual transfer system and have preferably flat upper surfaces (14) which are movable, preferably in the horizontal direction. These sections are supported (11) in parallel. The movable surfaces are formed by conveyor belts. The chair frame (1) is a movable one wheels and at least two pivotally connected chair sections are mounted on it. The angle of these sections can be altered to convert the chair into a bed.

Probable Assignee: AMMERBEL BELEGGINGS MIJ B V

Earliest Publication Date: 20060419

A CHAIR FOR DISABLED OR NON SELF-SUFFICIENT PEOPLE PROVIDED WITH AUTOMATIZED LIFTING OF THE SEAT.

Abstract: The present invention concerns a wheelchair (1) having a frame (2) and a seat (3) arranged on the frame (2). In accordance with the invention, the seat (3) is detachable from the frame (2) so that it can be separated from it. In such a manner, with an appropriate lifting device (21, 40; 240) it is possible to lift the patient while he remains comfortably seated. In particular, the lifting device is mounted in a sliding manner with respect to the frame (2) and is activated by means of activation means (22, 23, 25). The lifting device (21, 40; 240) further comprises a support element (50) that connects rigidly the lifting device (21, 40; 240) to the seat (3) so that, as a consequence of a sliding of the lifting device with respect to the frame, the seat is lifted/lowered from/towards the frame itself through the support element (50).

Probable Assignee: CIOTTI GIANCARLO

Earliest Publication Date: 20120614

TRANSFER DEVICE FOR MOVING RECUMBENT PERSON

Abstract: Source: US4680818A A device for moving a recumbent person comprises a baseplate, an insertion plate formed integrally of two flat plates stacked vertically with a small gap therebetween and attached to the baseplate to be horizontally extensible and retractable with respect thereto, a pair of rollers disposed one above the other at the proximal end of the baseplate, a first belt fixed to the upper of said pair of rollers at one end so as to be windable thereon, passed outward across the upper surface, around the distal edge and back along the lower surface of the upper flat plate of the insertion plate, and fixed to the lower of said pair of rollers at the other end so as to be windable thereon, and a second belt encircling the lower flat plate of the insertion plate and having its opposite ends fixed to the baseplate near the distal end thereof. When a recumbent person is to be moved, the insertion plate is inserted under the person while the first belt is simultaneously fed out from the lower roller so that the during the insertion of the insertion plate the first belt remains stationary. The upper and lower rollers are then rotated to draw in the belt together with the insertion plate, thus transferring the recumbent person onto the device proper.

Probable Assignee: AGENCY OF INDUSTRIAL SCIENCE AND TECHNOLOGY MINIST

Earliest Publication Date: 19870721

HAND-PEDALLING ATTACHMENT FOR WHEEL-CHAIRS

Abstract: Source: US4720117A A pedalling attachment for wheelchairs, to form a composite vehicle therewith, which includes an attachment frame with a pedalling mechanism and novel attachment means thereon. The attachment frame has two slidably and rotatably adjustable frames slidably insertable therein, with attachment means located at the ends thereof which grip appropriate portions of the wheelchair side frames. The attachment means are adjustable with respect to each other, to the attachment frame and to the wheelchair frames, so that a wide variety of sizes, configurations and styles of wheelchairs can be accommodated. The pedalling attachment, when attached to the wheelchair, makes the composite vehicle rigid enough to use safely on streets and highways, and to travel at highway speeds thereon for long distances.

Probable Assignee: SUNRISE MEDICAL HHG INC

Earliest Publication Date: 19880119