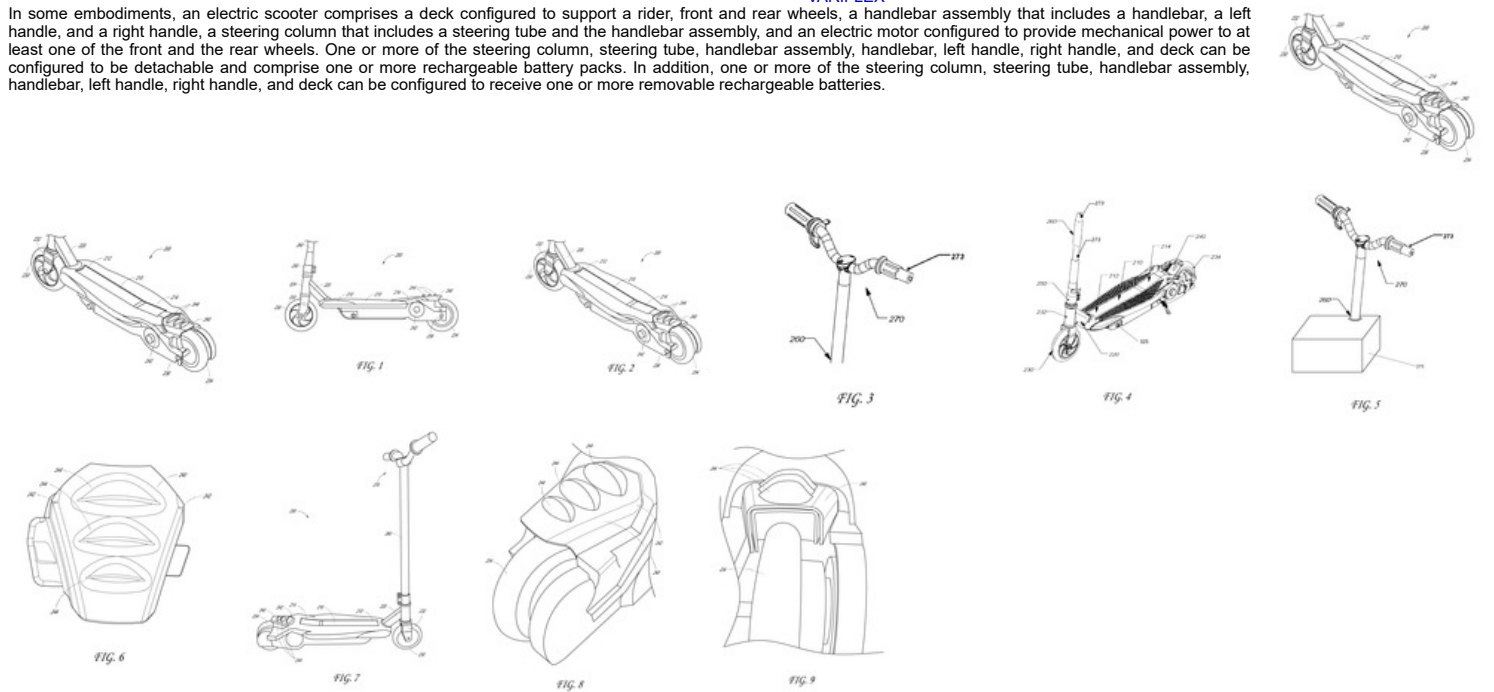
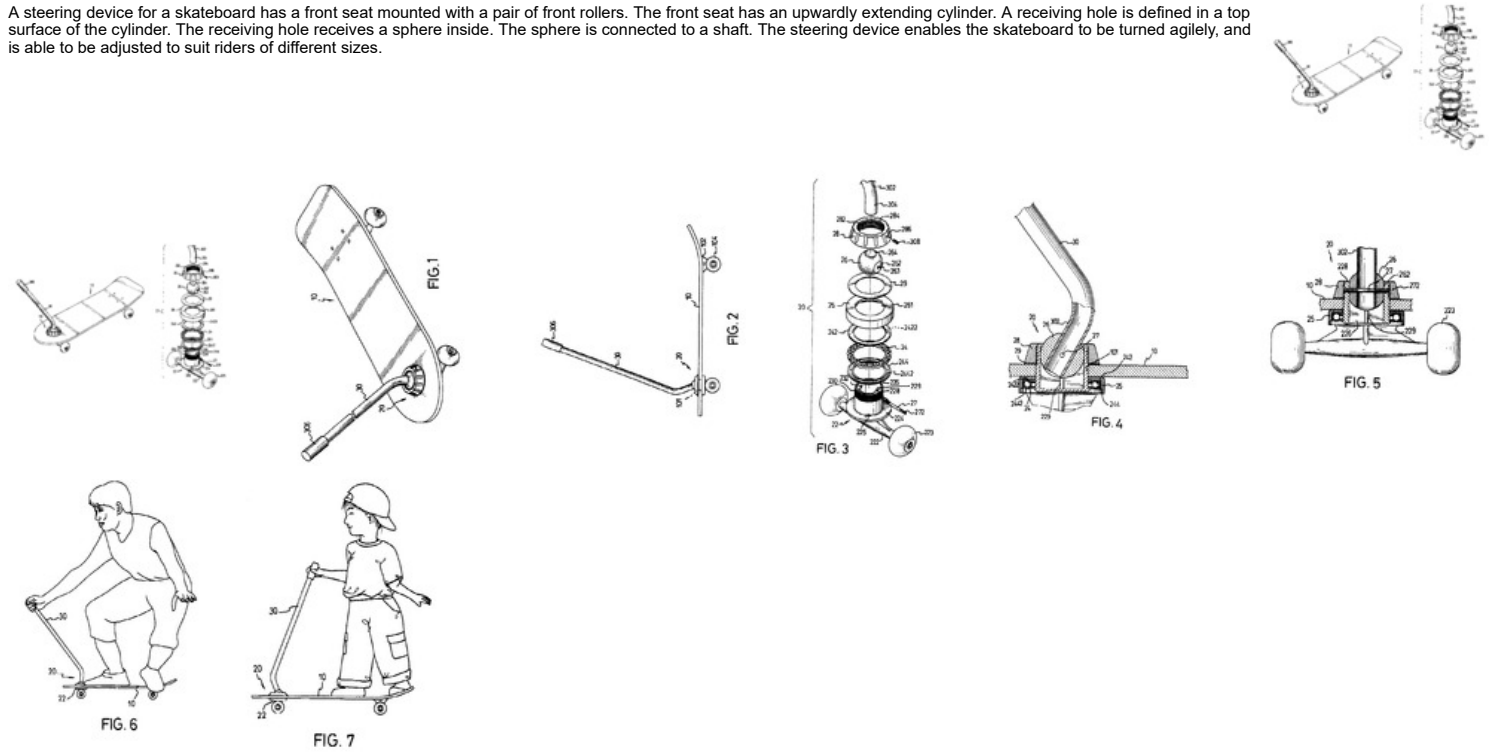


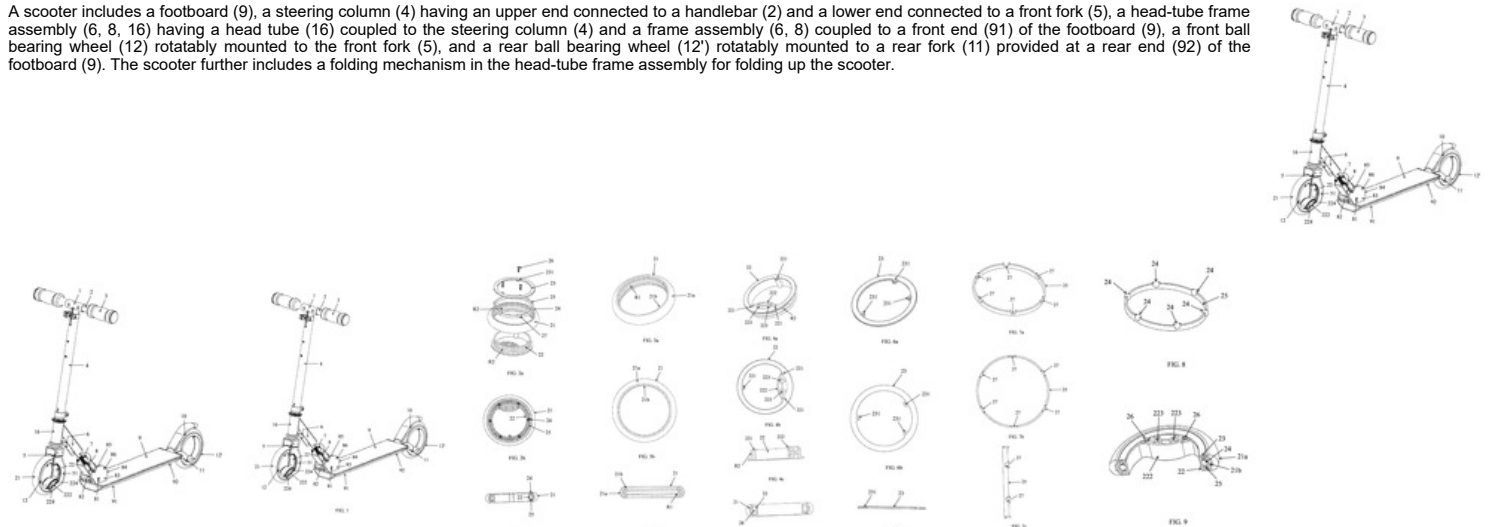
In some embodiments, an electric scooter comprises a deck configured to support a rider, front and rear wheels, a handlebar assembly that includes a handlebar, a left handle, and a right handle, a steering column that includes a steering tube and the handlebar assembly, and an electric motor configured to provide mechanical power to at least one of the front and the rear wheels. One or more of the steering column, steering tube, handlebar assembly, handlebar, left handle, right handle, and deck can be configured to be detachable and comprise one or more rechargeable battery packs. In addition, one or more of the steering column, steering tube, handlebar assembly, handlebar, left handle, right handle, and deck can be configured to receive one or more removable rechargeable batteries.



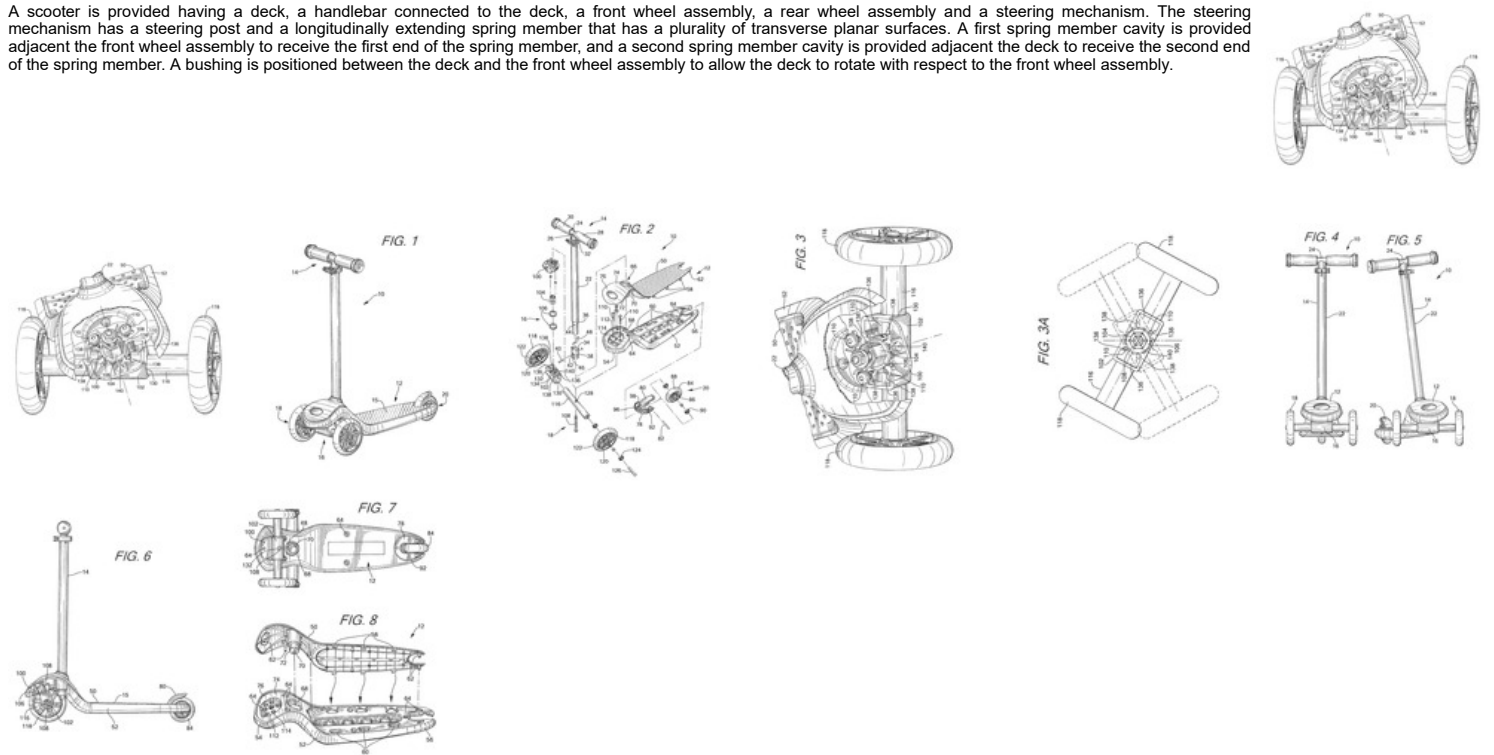
A steering device for a skateboard has a front seat mounted with a pair of front rollers. The front seat has an upwardly extending cylinder. A receiving hole is defined in a top surface of the cylinder. The receiving hole receives a sphere inside. The sphere is connected to a shaft. The steering device enables the skateboard to be turned agilely, and is able to be adjusted to suit riders of different sizes.



A scooter includes a footboard (9), a steering column (4) having an upper end connected to a handlebar (2) and a lower end connected to a front fork (5), a head-tube frame assembly (6, 8, 16) having a head tube (16) coupled to the steering column (4) and a frame assembly (6, 8) coupled to a front end (91) of the footboard (9), a front ball bearing wheel (12) rotatably mounted to the front fork (5), and a rear ball bearing wheel (12') rotatably mounted to a rear fork (11) provided at a rear end (92) of the footboard (9). The scooter further includes a folding mechanism in the head-tube frame assembly for folding up the scooter.



A scooter is provided having a deck, a handlebar connected to the deck, a front wheel assembly, a rear wheel assembly and a steering mechanism. The steering mechanism has a steering post and a longitudinally extending spring member that has a plurality of transverse planar surfaces. A first spring member cavity is provided adjacent the front wheel assembly to receive the first end of the spring member, and a second spring member cavity is provided adjacent the deck to receive the second end of the spring member. A bushing is positioned between the deck and the front wheel assembly to allow the deck to rotate with respect to the front wheel assembly.



2/8/2018

7.

Articulated vehicle for use as e.g. supermarket trolley, has telescopic handle fixed with respect to front end that is not integrated to support part, where part is inclined with respect to axle to modify orientation of wheels with ground

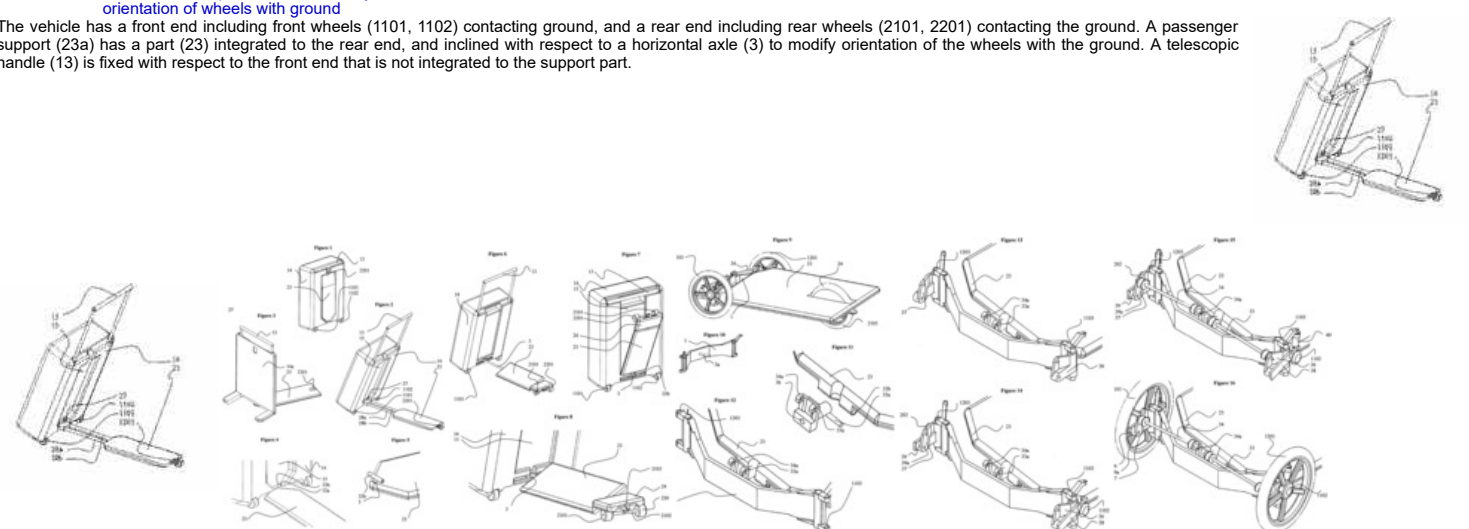
FR2905658

2006-09-07

DELSOL ARMAND;GUIGAN FRANCK
ANDRE MARIE

2008-03-14 2008-03-14

The vehicle has a front end including front wheels (1101, 1102) contacting ground, and a rear end including rear wheels (2101, 2201) contacting the ground. A passenger support (23a) has a part (23) integrated to the rear end, and inclined with respect to a horizontal axle (3) to modify orientation of the wheels with the ground. A telescopic handle (13) is fixed with respect to the front end that is not integrated to the support part.



8.

Brake assembly and scooters and skateboards including the same

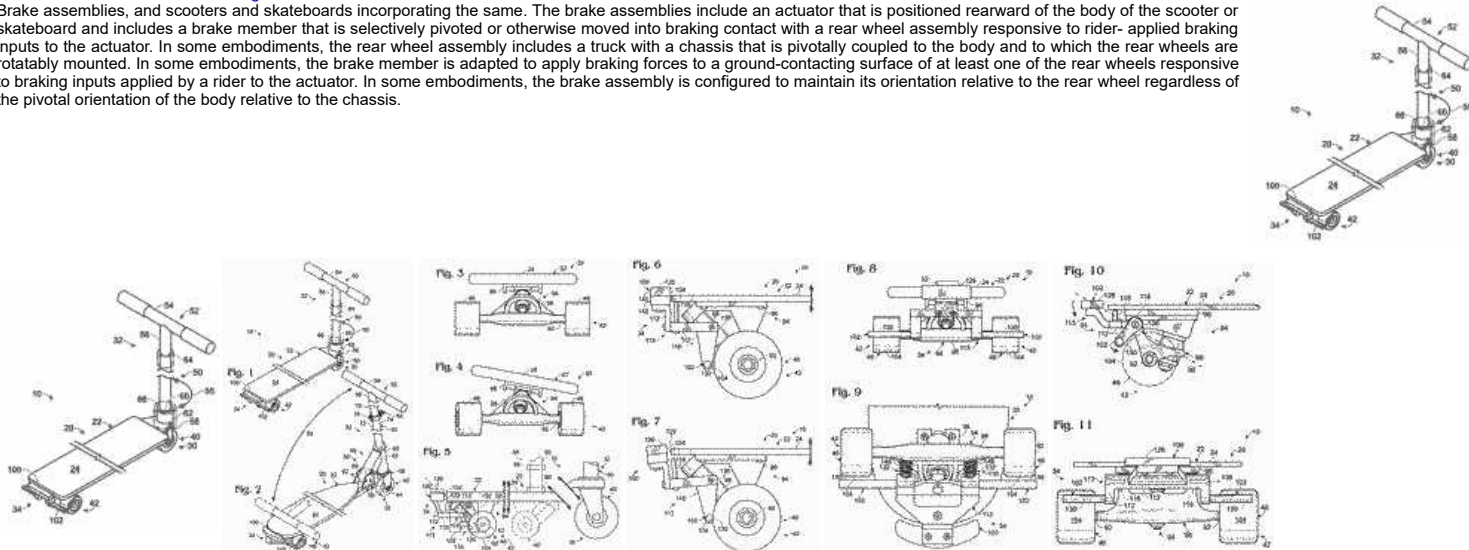
US20070235970

2006-04-05

ACORN PRODUCTS*

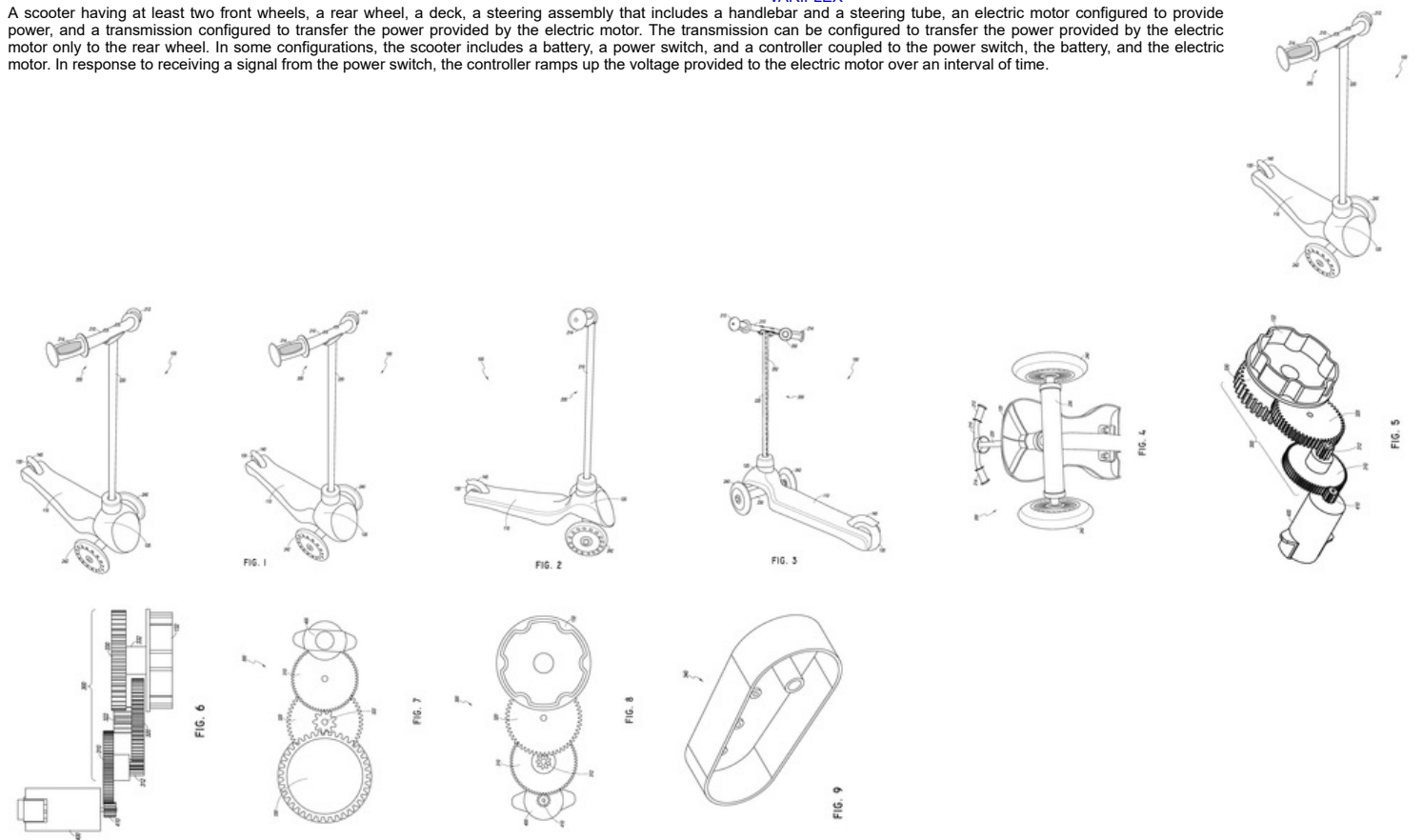
2007-10-11 2007-10-11

Brake assemblies, and scooters and skateboards incorporating the same. The brake assemblies include an actuator that is positioned rearward of the body of the scooter or skateboard and includes a brake member that is selectively pivoted or otherwise moved into braking contact with a rear wheel assembly responsive to rider- applied braking inputs to the actuator. In some embodiments, the rear wheel assembly includes a truck with a chassis that is pivotally coupled to the body and to which the rear wheels are rotatably mounted. In some embodiments, the brake member is adapted to apply braking forces to a ground-contacting surface of at least one of the rear wheels responsive to braking inputs applied by a rider to the actuator. In some embodiments, the brake assembly is configured to maintain its orientation relative to the rear wheel regardless of the pivotal orientation of the body relative to the chassis.

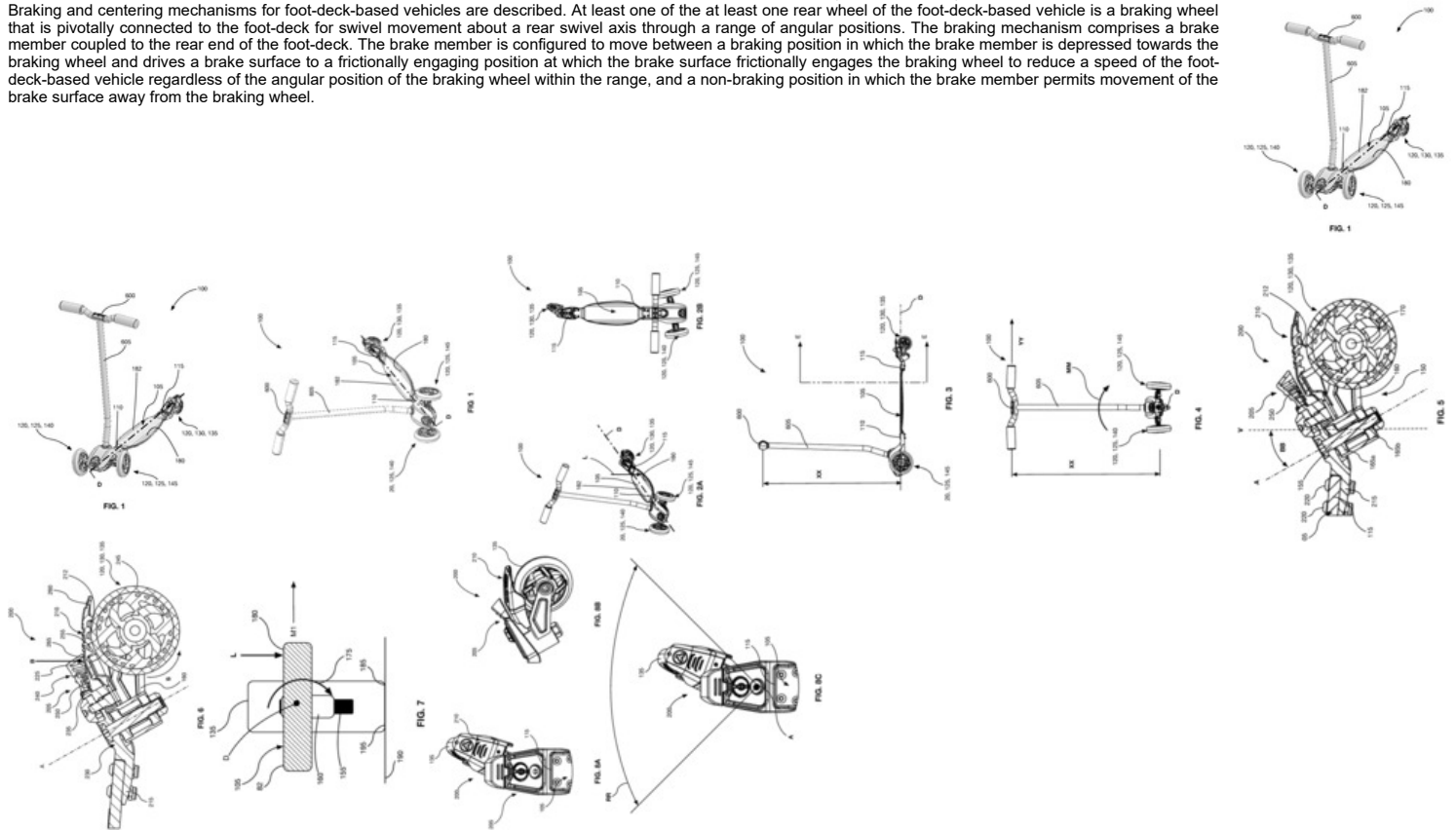


4/12

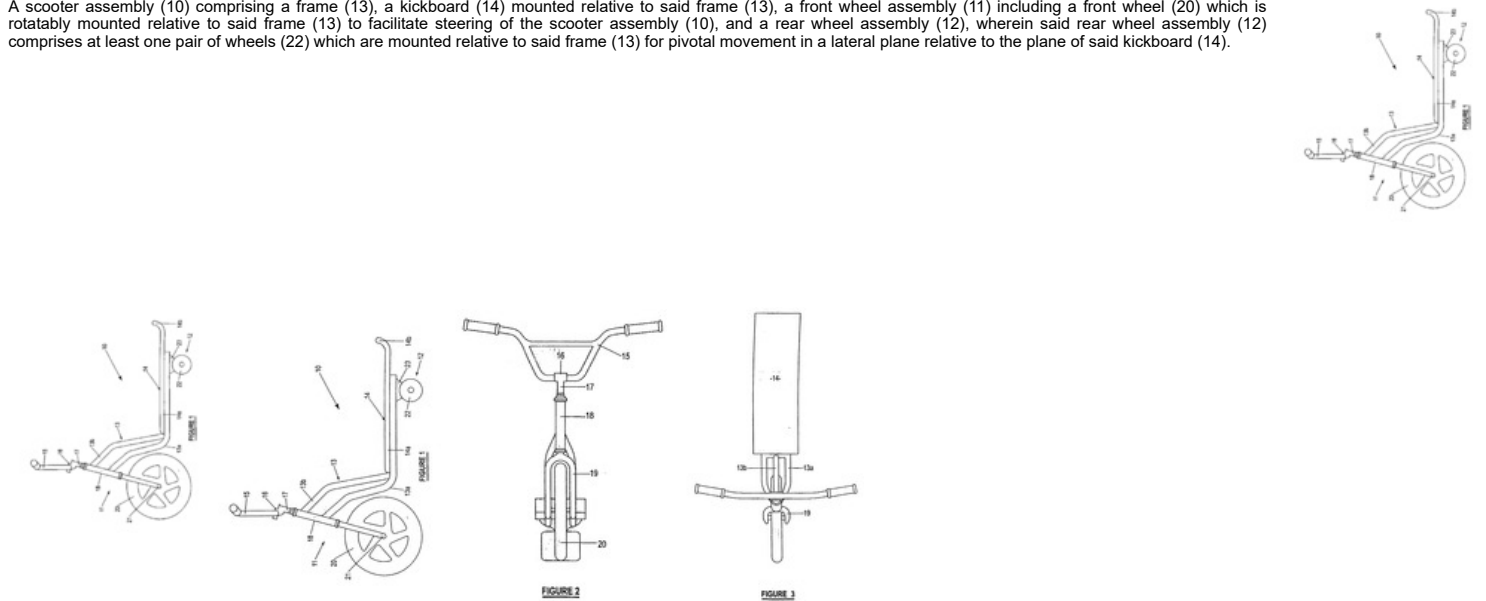
A scooter having at least two front wheels, a rear wheel, a deck, a steering assembly that includes a handlebar and a steering tube, an electric motor configured to provide power, and a transmission configured to transfer the power provided by the electric motor. The transmission can be configured to transfer the power provided by the electric motor only to the rear wheel. In some configurations, the scooter includes a battery, a power switch, and a controller coupled to the power switch, the battery, and the electric motor. In response to receiving a signal from the power switch, the controller ramps up the voltage provided to the electric motor over an interval of time.



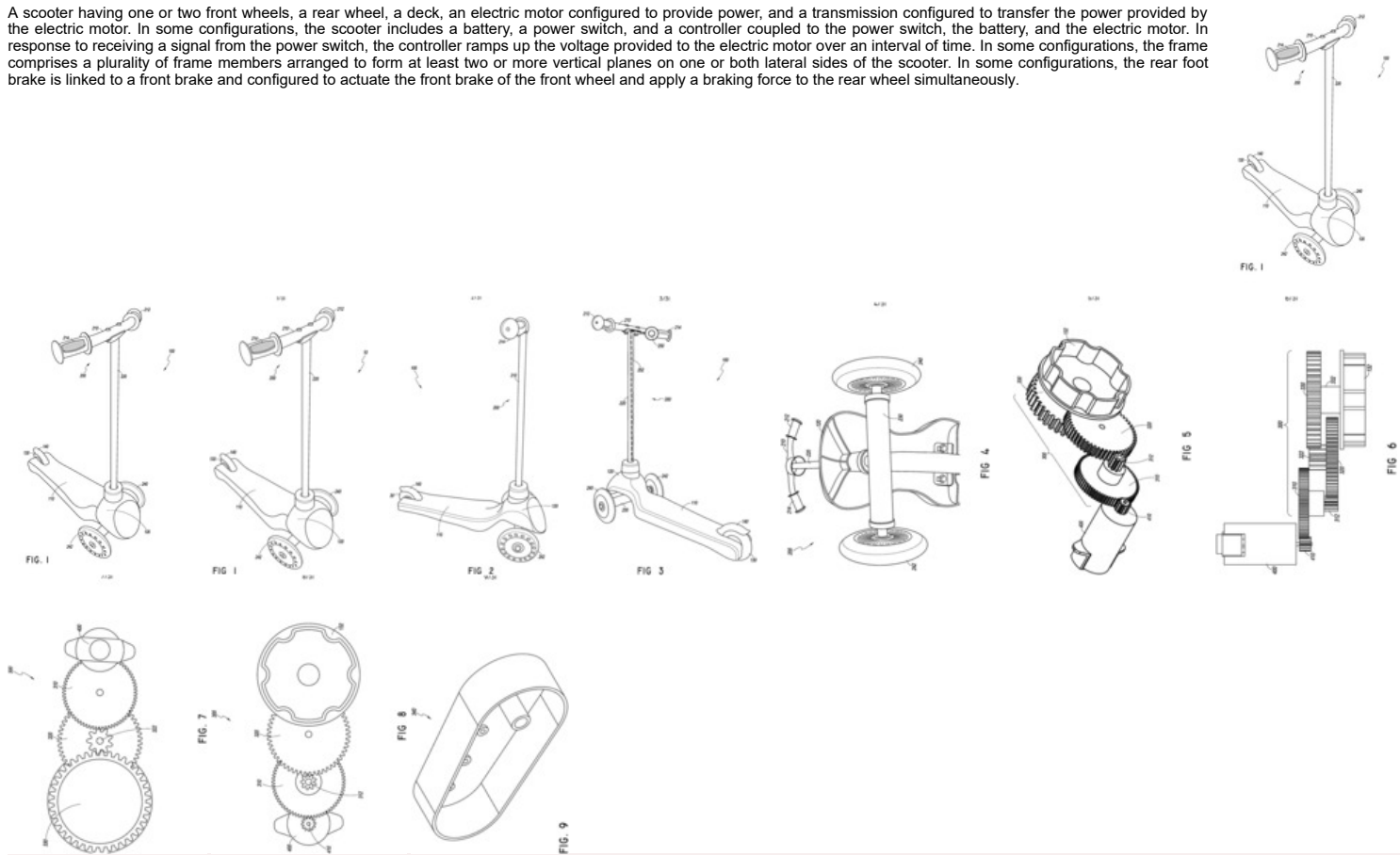
Braking and centering mechanisms for foot-deck-based vehicles are described. At least one of the at least one rear wheel of the foot-deck-based vehicle is a braking wheel that is pivotally connected to the foot-deck for swivel movement about a rear swivel axis through a range of angular positions. The braking mechanism comprises a brake member coupled to the rear end of the foot-deck. The brake member is configured to move between a braking position in which the brake member is depressed towards the braking wheel and drives a brake surface to a frictionally engaging position at which the brake surface frictionally engages the braking wheel to reduce a speed of the foot-deck-based vehicle regardless of the angular position of the braking wheel within the range, and a non-braking position in which the brake member permits movement of the brake surface away from the braking wheel.



A scooter assembly (10) comprising a frame (13), a kickboard (14) mounted relative to said frame (13), a front wheel assembly (11) including a front wheel (20) which is rotatably mounted relative to said frame (13) to facilitate steering of the scooter assembly (10), and a rear wheel assembly (12), wherein said rear wheel assembly (12) comprises at least one pair of wheels (22) which are mounted relative to said frame (13) for pivotal movement in a lateral plane relative to the plane of said kickboard (14).



A scooter having one or two front wheels, a rear wheel, a deck, an electric motor configured to provide power, and a transmission configured to transfer the power provided by the electric motor. In some configurations, the scooter includes a battery, a power switch, and a controller coupled to the power switch, the battery, and the electric motor. In response to receiving a signal from the power switch, the controller ramps up the voltage provided to the electric motor over an interval of time. In some configurations, the frame comprises a plurality of frame members arranged to form at least two or more vertical planes on one or both lateral sides of the scooter. In some configurations, the rear foot brake is linked to a front brake and configured to actuate the front brake of the front wheel and apply a braking force to the rear wheel simultaneously.



2/8/2018

13.

Wheeled vehicle, notably for children

EP3156311

2015-10-16

ID DEVELOPMENT

X DEVELOPMENT*

2017-04-19 2017-04-19

This vehicle is equipped with front and rear wheels and comprises a platform, a foldable/unfoldable steering column and a locking mechanism. According to the invention: the platform includes a cylindrical well (13), the axis of which is tilted according to an angle from 30° to 60° towards the rear of this platform (2). The steering column has a lower bent portion, connected to a cylindrical base (22) intended to be engaged into the well (13) with pivoting capability, the axis of this base (22) forming, with the axis according to which the remainder of the steering column (5) extends longitudinally, an angle complementary to 180° with the angle formed by the axis of the well (13). The locking mechanism includes a first device (16, 17; 27, 32) for angularly blocking the base (22) in the well (13), in the unfolding position of the steering column, and a second device (16, 18; 27, 32) for angularly blocking the base (22) in the well (13), in the folding position of the steering column.

(From US2017106932 A1)

14.

Tri-axial control device

US20070096410

2005-11-03

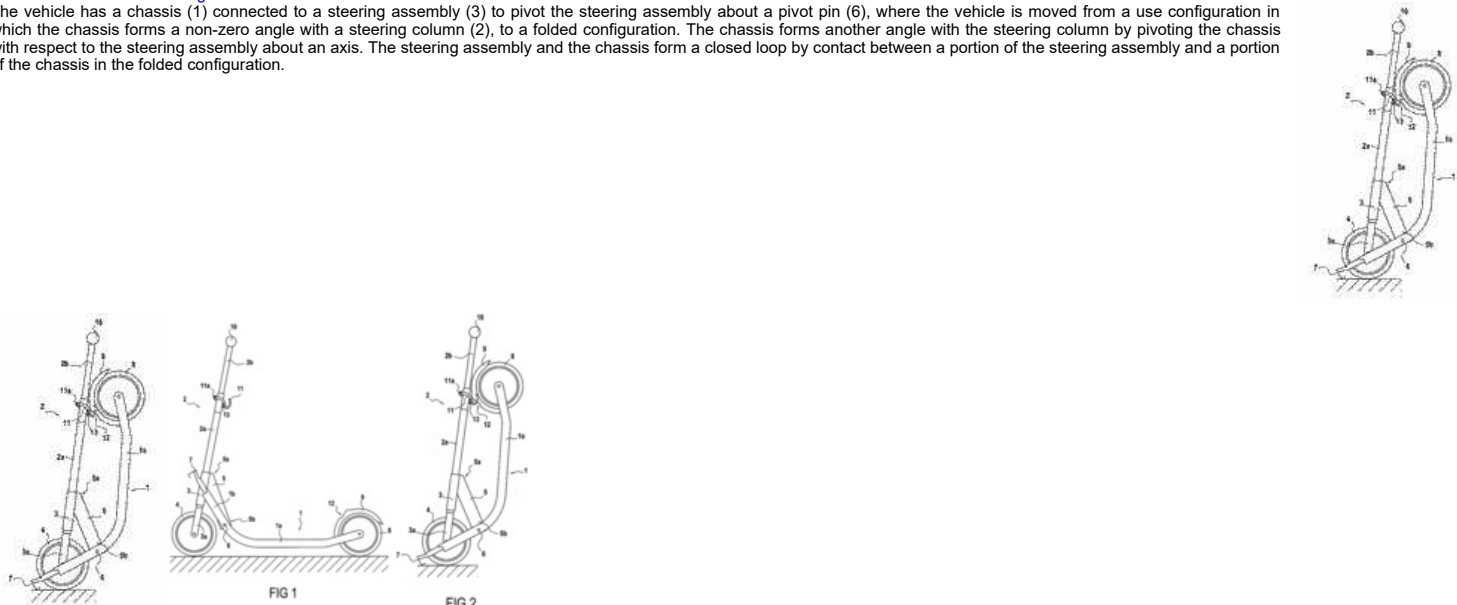
OHSKI 3773 DOGWOOD AVE PARKER*

2007-05-03 2007-05-03

A person rides the Tri-Axial Control Device standing on pedal assemblies. The pedal assemblies are attached to a control axial member thus forming the Tri-Axial Control Device. The control axial member on the vertical stick, can rotate fore and aft, and turns the front skis and/or wheels. Changing the angle of the vertical stick side-to-side changes the pedal angle. If the rider falls forward the front stick can rotate away. Various torsion controls rod assemblies and pedal assemblies can be utilized to create a unique tri axial device. The device can be folded, is lightweight and can be manufactured without welding. No special equipment or training is required to operate the device. In addition to its entertainment uses, the mounting device for portable electronics can also be used for added safety by adding a global positioning system or other electronic signal device, allowing safety personnel to locate the rider.

7/12

The vehicle has a chassis (1) connected to a steering assembly (3) to pivot the steering assembly about a pivot pin (6), where the vehicle is moved from a use configuration in which the chassis forms a non-zero angle with a steering column (2), to a folded configuration. The chassis forms another angle with the steering column by pivoting the chassis with respect to the steering assembly about an axis. The steering assembly and the chassis form a closed loop by contact between a portion of the steering assembly and a portion of the chassis in the folded configuration.



16.

Portable collapsible scooter

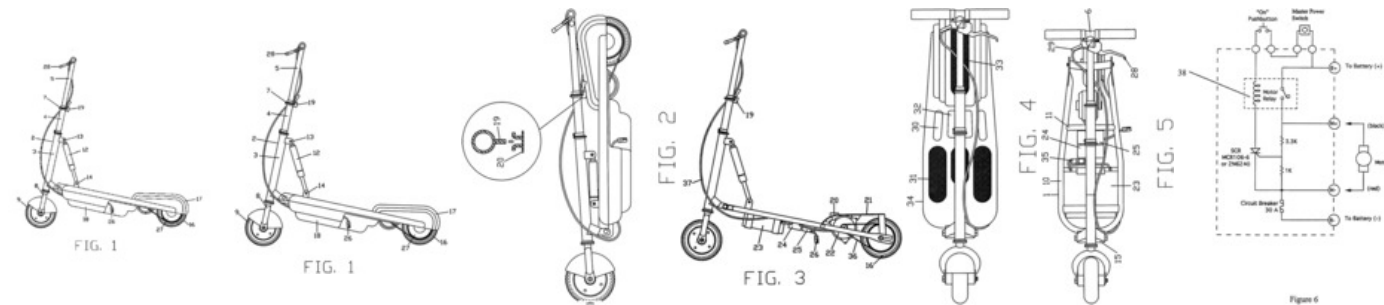
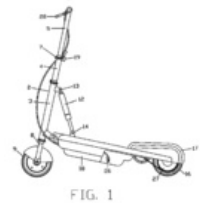
WO9846475

1997-04-16

ZAP
ZAP POWER SYSTEMS*
ZAP POWER SYSTEMS SEBASTOPOL

1998-10-22 1998-10-22

An improved lightweight, durable collapsible scooter which is safe to operate and is easy and convenient to collapse, transport and store. The scooter has a steering assembly which is pivotally secured to the front portion of a frame assembly. A front wheel is rotably secured to the steering assembly and a rear wheel is rotably secured to the rear portion of the frame assembly. A hydraulic gas spring strut is pivotally secured at one end to the steering assembly and at the other end to the frame assembly. When extended the collapsible stretch releasably lock the steering assembly in an upright operating position for operation by a rider, and when the strut is in a compressed or collapsed position, it releasably locks the steering assembly in a position generally parallel to and adjacent to the frame assembly, for storing or transporting the scooter. For ease in carrying the collapsed scooter, carrying handles are provided to permit the scooter to be carried in a balanced, horizontal position, and the collapsed scooter may also be pushed or pulled by holding onto a handlebar and rolling the scooter on the front wheel. When the scooter is stored, it remains in a relatively compact, stable and horizontal position. In operation a motorized version of the scooter provides a motor controller which provides a push-and-go feature which enables a rider, when first starting to operate the scooter, to push the scooter and establish his or her balance before the motor is activated at a pre-determined rotational rate.



17.

Vehicle has wheels, scooter type

FR3042467

2015-10-16

ID DEVELOPMENT*

2017-04-21 2017-04-21

This machine (1) comprises a platform (3) equipped with front and rear wheels (5, 25) and a steering column (2) which can be folded/unfolded. According to the invention: - the vehicle comprises pivoting means arranged such that the pivoting that they make it possible takes place along an axis (A) contained in a median plane of the vehicle (1) fore and aft, this axis (A) being inclined towards the rear of the vehicle (1); - the vehicle (1) comprises means for actuating the platform (3) the pivoting movement allowed by the pivoting means, tending to bring the platform in said (3) folding position; and - the locking mechanism of the platform (3) with respect to the steering column (2) comprises first means for angular locking of the platform (3) in the position of unfolding and second means for angular locking of the platform (3) in the position of folding.

18.

Three- or four-wheeled, pedal-powered vehicle

FR2848152

2002-12-10

ESCARGUEL HUGUES

2004-06-11 2004-06-11

The invention relates to a three- or four-wheeled, pedal-powered vehicle. According to the invention, the chassis (3) of the vehicle comprises a central beam (10) and at least one horizontal frame (11, 12) which is fixed to the front of the beam (10). Moreover, the aforementioned beam (10) comprises different elements of the vehicle, in particular the steering column (45) and a crankset (27) support (18) which is disposed level with, or slightly in front of or behind, the axle for the two front wheels (2) and which is mounted such that each pedal is located on one side of the beam (10). Said beam (10) is also connected to the rear wheel(s) (2). The frame(s) (11, 12) are dimensioned such that the user's feet and part of his/her legs are positioned inside the frame(s) during pedalling, said frame(s) forming on either side two stacked horizontal side members, to which one of the front wheels(s) (2) of the vehicle is mounted.

19.

Self-propelled vehicle that can be driven while seated or standing

WO2014016174

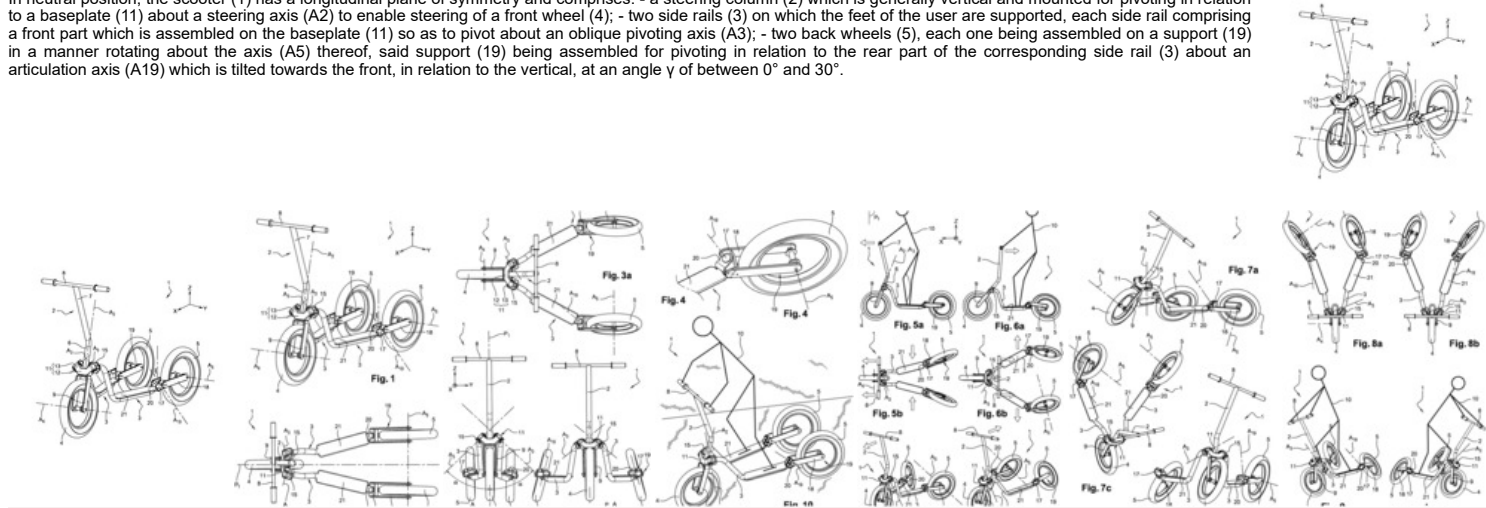
2012-07-26

COBRANE DESIGN
PLANETE CHAUFFAGE*

2014-01-30 2014-01-30

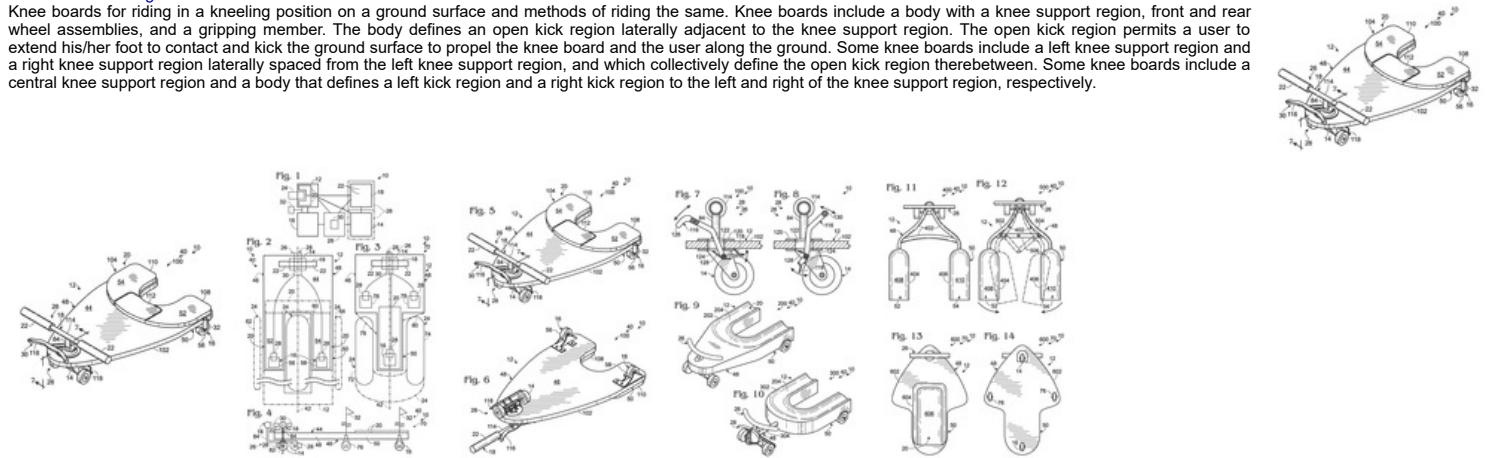
The invention relates to a self-propelled vehicle (100) to be driven by a person, comprising a rigid chassis (10) on which a front end axle (22) is mounted such as to pivot about a single, substantially horizontal pivot shaft (24) in a vertical plane of symmetry (XZ) of the vehicle (100). Each front wheel (21) of the front end is mechanically linked to the chassis (10) so as to be oriented individually such as to curve the path of the vehicle on the side on which the chassis is inclined. The vehicle preferably comprises a saddle (14), a handlebar (151) and a footrest (27) in order to form a seated/standing driver area. In one embodiment of the invention, the vehicle takes the form of a tricycle including a rear wheel (30).

In neutral position, the scooter (1) has a longitudinal plane of symmetry and comprises: - a steering column (2) which is generally vertical and mounted for pivoting in relation to a baseplate (11) about a steering axis (A2) to enable steering of a front wheel (4); - two side rails (3) on which the feet of the user are supported, each side rail comprising a front part which is assembled on the baseplate (11) so as to pivot about an oblique pivoting axis (A3); - two back wheels (5), each one being assembled on a support (19) in a manner rotating about the axis (A5) thereof, said support (19) being assembled for pivoting in relation to the rear part of the corresponding side rail (3) about an articulation axis (A19) which is tilted towards the front, in relation to the vertical, at an angle γ of between 0° and 30°.



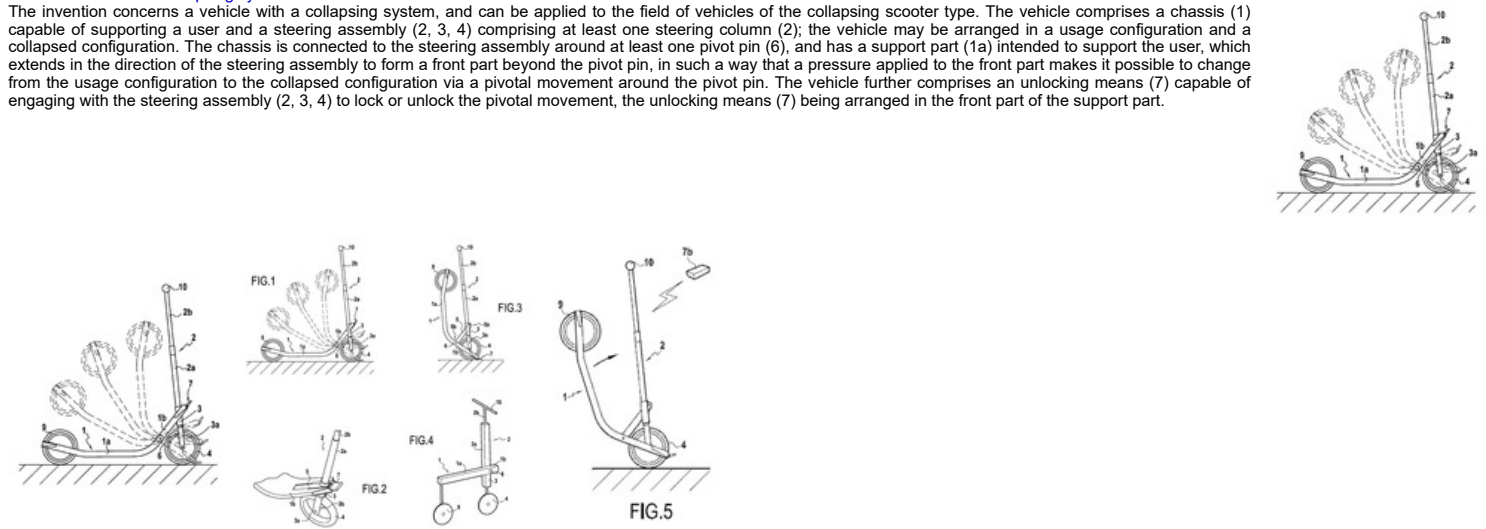
21. Children's knee boards and methods of riding the same US20100096823 2009-10-19 ACORN PRODUCTS* 2010-04-22 2010-04-22

Knee boards for riding in a kneeling position on a ground surface and methods of riding the same. Knee boards include a body with a knee support region, front and rear wheel assemblies, and a gripping member. The body defines an open kick region laterally adjacent to the knee support region. The open kick region permits a user to extend his/her foot to contact and kick the ground surface to propel the knee board and the user along the ground. Some knee boards include a left knee support region and a right knee support region laterally spaced from the left knee support region, and which collectively define the open kick region therebetween. Some knee boards include a central knee support region and a body that defines a left kick region and a right kick region to the left and right of the knee support region, respectively.

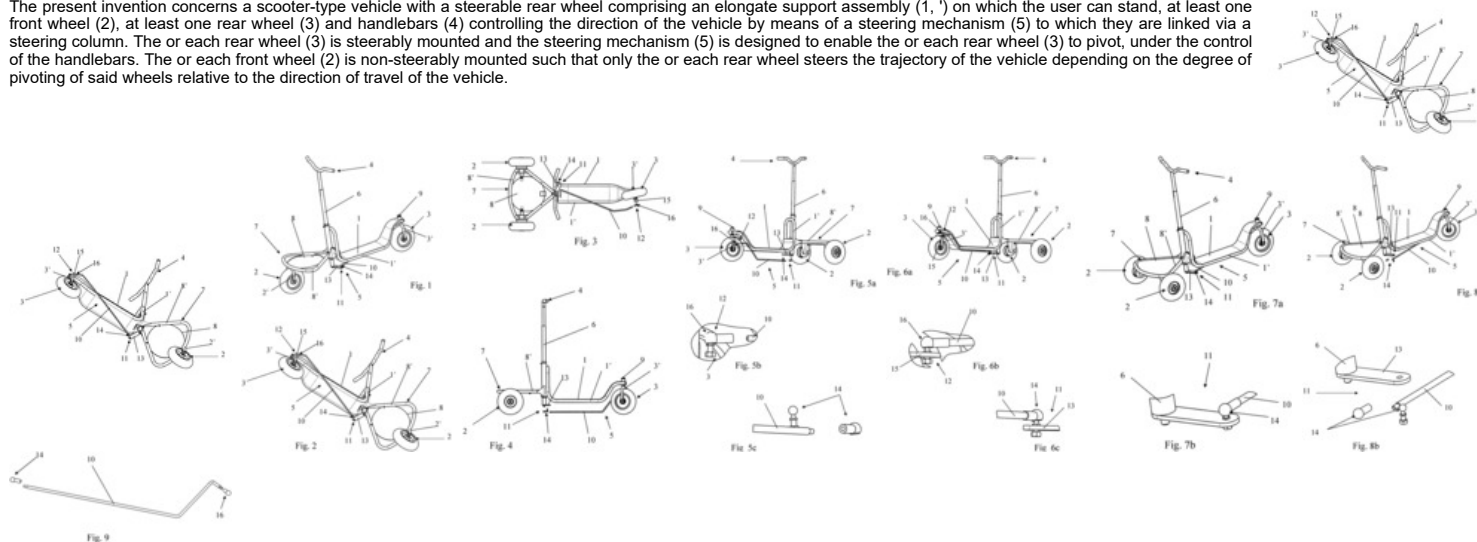


22. Vehicle, for example of the scooter type, with a collapsing system CN102897262 2011-07-26 DECATHLON* 2013-01-30 2013-01-30

The invention concerns a vehicle with a collapsing system, and can be applied to the field of vehicles of the collapsing scooter type. The vehicle comprises a chassis (1) capable of supporting a user and a steering assembly (2, 3, 4) comprising at least one steering column (2); the vehicle may be arranged in a usage configuration and a collapsed configuration. The chassis is connected to the steering assembly around at least one pivot pin (6), and has a support part (1a) intended to support the user, which extends in the direction of the steering assembly to form a front part beyond the pivot pin, in such a way that a pressure applied to the front part makes it possible to change from the usage configuration to the collapsed configuration via a pivotal movement around the pivot pin. The vehicle further comprises an unlocking means (7) capable of engaging with the steering assembly (2, 3, 4) to lock or unlock the pivotal movement, the unlocking means (7) being arranged in the front part of the support part.

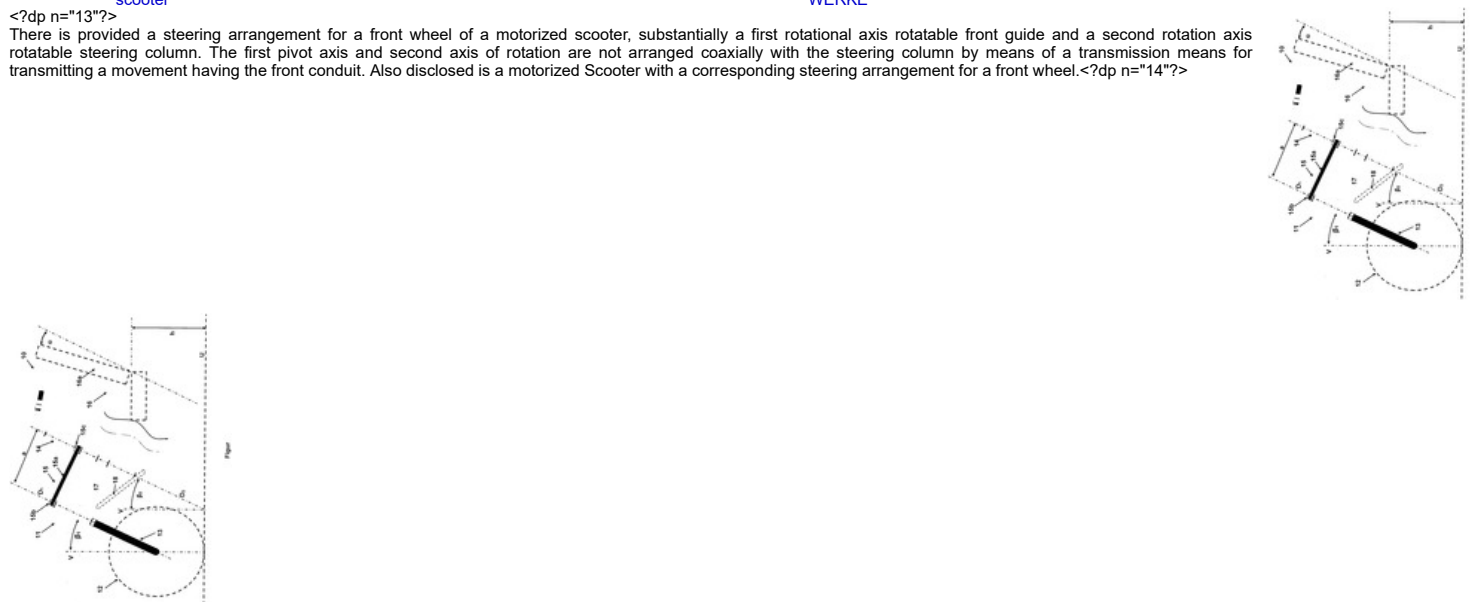


The present invention concerns a scooter-type vehicle with a steerable rear wheel comprising an elongate support assembly (1, ') on which the user can stand, at least one front wheel (2), at least one rear wheel (3) and handlebars (4) controlling the direction of the vehicle by means of a steering mechanism (5) to which they are linked via a steering column. The or each rear wheel (3) is steerably mounted and the steering mechanism (5) is designed to enable the or each rear wheel (3) to pivot, under the control of the handlebars. The or each front wheel (2) is non-steerably mounted such that only the or each rear wheel steers the trajectory of the vehicle depending on the degree of pivoting of said wheels relative to the direction of travel of the vehicle.



<?dp n="13"?>

There is provided a steering arrangement for a front wheel of a motorized scooter, substantially a first rotational axis rotatable front guide and a second rotation axis rotatable steering column. The first pivot axis and second axis of rotation are not arranged coaxially with the steering column by means of a transmission means for transmitting a movement having the front conduit. Also disclosed is a motorized Scooter with a corresponding steering arrangement for a front wheel.



A skateboard (40) is disclosed that includes a rear wheel system (44) and a front wheel system (46). The rear wheel system includes a pair of rear wheels (48) that are mounted on a rear axle (70) that is coupled to a rear truck (50) that is attached to an underside of a rear portion of a board (42). The rear wheel system permits each of the pair of rear wheels to alternately move toward a front portion of the board responsive to a force alternately urging each of the pair of rear wheels toward the underside of the board. The front wheel system includes a pair of front wheels (54) that are mounted on a front axle (72) that is rotatably attached to a mid-truck (56) such that the front axle is movable about a first axis of rotation (84). The mid-truck is rotatably attached to an attachment base (60) that is secured to an underside of the front portion of the board.

