



New connection on: : 16-03-2018 : 01:27:55 - Last disconnection on: : 16-03-2018 : 01:27:45

V 4.0.0.44358(LP,U,linux) (Rev:43856 2017-04-27 09:03:29 +0200#(D201802)) (RPM D201802)

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[EPODOC: SS 22] ..fi EPODOC

 Database: EPODOC

[EPODOC: SS 22] (scooter or (vehicle and (kick and scooter)))and(assembly)and(joint or cardan or steering or column or inclin+ or pivot+)

Results in EPODOC 422

[SS 23] ..li



1/422 © EPODOC / EPO

PN - [WO2018045218](#) A1 20180308

PR - US201662383273P 20160902

AP - WO2017US49706 20170831

DT - **

CUI - [B62K3/002](#) ; [B62K15/006](#)

PA - RAZOR USA LLC [US]

TI - ANTI-RATTLE FOLDING **SCOOTER**

AB - A variety of scooters are disclosed. In some embodiments, a **scooter** can include a **pivot assembly** that allows the **scooter** to move between a folded and unfolded configuration. The **pivot assembly** can include a knob that frees a pin from a bracket to allow the **scooter** to fold. Turning the knob increases compressive forces on elements of the **pivot assembly** to reduce rattling noise and wobbling movement when the **scooter** is in use. Some embodiments of the **scooter** can include a center stand that can be deployed from either side of the **scooter** deck to stabilize the **scooter** when the **scooter** is stationary. Certain embodiments have an ergonomic handgrip.

2/422 © EPODOC / EPO

PN - [US2018065702](#) A1 20180308

PR - US201715692276 20170831; US201662383273P 20160902

AP - US201715692276 20170831

DT - *; Rep
 CUI - [B62K3/002](#) ; [B62K15/006](#)
 PA - RAZOR USA LLC [US]
 TI - ANTI-RATTLE FOLDING **SCOOTER**
 AB - A variety of scooters are disclosed. In some embodiments, a **scooter** can include a **pivot assembly** that allows the **scooter** to move between a folded and unfolded configuration. The **pivot assembly** can include a knob that frees a pin from a bracket to allow the **scooter** to fold. Turning the knob increases compressive forces on elements of the **pivot assembly** to reduce rattling noise and wobbling movement when the **scooter** is in use. Some embodiments of the **scooter** can include a center stand that can be deployed from either side of the **scooter** deck to stabilize the **scooter** when the **scooter** is stationary. Certain embodiments have an ergonomic handgrip.

3/422 © EPODOC / EPO

PN - [US2018037297](#) A1 20180208
 PR - US201715651113
 20170717; US201514726508
 20150530; US201462005641P
 20140530
 AP - US201715651113 20170717
 DT - **
 CCI - [B62M1/28](#) ; [B62K3/002](#)
 CQI - [B62M9/04](#) ; [B62K5/02](#)
 CQA - [B62K2005/001](#)
 PA - PASTILHA ADELINO F [US]
 TI - Stepper Exercise **Scooter** and Vehicle Holder
 AB - A stepper **scooter** provides step pads that are connected to a laterally arranged rocker bar **assembly**. Vertical movement of the step pads causes the rocker bar **assembly** to reciprocally **pivot** which translates drive chains which cause rotation of the drive wheel or wheels. The rocker bar **assembly** comprises two four bar linkages between a center fork and each step pad. An alternate embodiment uses the rocker bar to reciprocally rotate a gear axle which drives a bevel gear arrangement to rotate the drive wheel or wheels via one-way bearings. Another

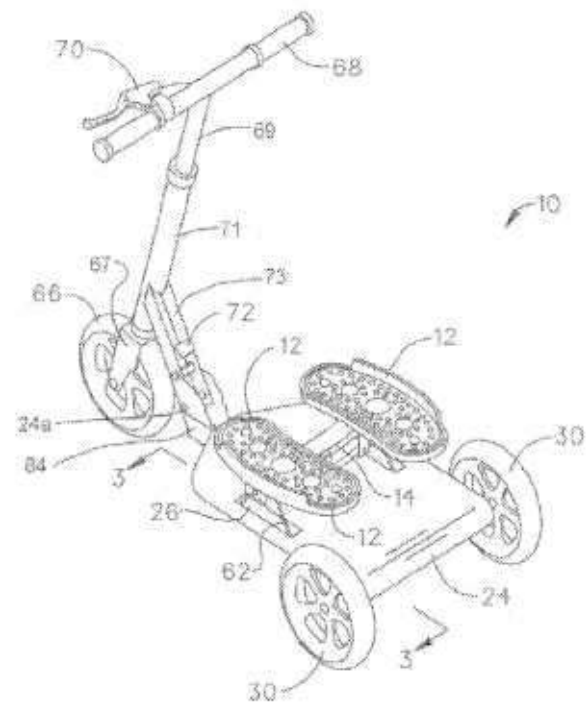


FIG.1

embodiment incorporates a chain and sprocket drive between the bevel gear arrangement and the drive wheel or wheels, wherein the one-way bearings are replaced with a one-way sprocket drive. A stand is provided that is useful with any of the above **scooter** embodiments. The stand lifts the wheels of the **scooter** off the ground or floor by supporting a rear sprocket tube of the **scooter** to render the **scooter** effectively immobile during use. The **scooter** can be used as a stationary exercise device.

4/422 © EPODOC / EPO

- PN - [WO2017219714](#) A1 20171228
- PR - CN20162639203U 20160624
- AP - WO2017CN76538 20170314
- DT - *; Rep
- CT - |CN| ISR (A1)
[CN205924930U](#) U 20170208 [PX] (SHENZHEN FEILIANG INTELLIGENT TECH CO LTD)
 [PX] 1-10
 * , claims 1-10 *;
[CN206125268U](#) U 20170426 [E] (SHENZHEN CANAIDI TECH CO LTD)
 [E] 1-10
 * , description, paragraphs [0022]-[0043], and figures 1-4 *;
[JP2005094898](#) A 20050407 [X] (NAT INST OF ADV IND & TECHNOL)
 [X] 1-3, 5-9
 * , description, paragraphs [0018]-[0033], and figures 1 and 2 *;
[CN204236719U](#) U 20150401 [A] (TIANJIN XIANFEI TECHNOLOGY CO LTD)
 [A] 1-10
 * , the whole document *;
[CN103600801](#) A 20140226 [A] (UNIV SHANGHAI JIAOTONG)
 [A] 1-10
 * , the whole document *;
[CN103600799](#) A 20140226 [A] (UNIV SHANGHAI JIAOTONG)
 [A] 1-10
 * , the whole document *;
[CN105460130](#) A 20160406 [A] (LIU HAIBO)
 [A] 1-10
 * , the whole document *
- CUI - [B62K3/00](#) ; [B62K21/00](#)
- PA - SHENZHEN FL-SMART TECH CO LTD [CN]

TI - TWO-WHEELED ELECTRIC **SCOOTER**

AB - An electric self-balancing two-wheeled **scooter** comprises a foot platform main body (10), a **steering** mechanism (20), a power supply **assembly** (30), two wheel-hub motor wheels (40), a sensor apparatus, and an electric self-balancing controller apparatus (50), wherein the **steering** mechanism (20) comprises an elastic component supporting the foot platform main body (10); the foot platform main body (10) comprises an upper housing and a bottom housing; the bottom housing is mounted on the **steering** mechanism (20); front and rear foot platforms and the sensor apparatus are disposed on the upper housing; the sensor apparatus and the electric self-balancing controller apparatus (50) are both electrically connected to the power supply **assembly** (30); when the sensor apparatus detects that feet of a rider deflect towards the left or right at a corresponding angle, the electric self-balancing controller apparatus (50) performs electronic speed differential driving control on the two wheel-hub motors, thereby realizing the **steering** function. The two-wheeled electric **scooter** enables a rider to steer simply by deflecting their feet towards the left or right, thus realizing a more convenient, safer and easier **steering**.

5/422 © EPODOC / EPO

PN - [US2017369117](#) A1 20171228

PR - US201715457469
20170313; US201414574154
20141217; US201361917885P
20131218

AP - US201715457469 20170313

DT - **

CCI - [B62K3/002](#) ; [B62K9/02](#)

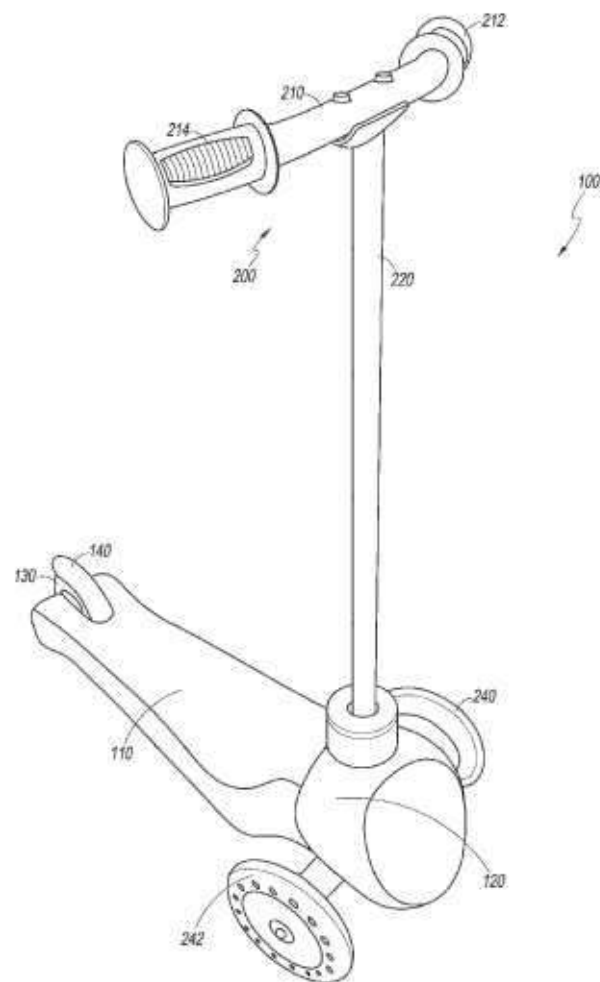
CQI - [B62K5/05](#)

CCA - [B62K2204/00](#) ; [B62K2208/00](#)

PA - BRAVO SPORTS [US]

TI - THREE-WHEELED
ELECTRIC **SCOOTER**

AB - 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.

6/422 © EPODOC / EPO

PN - [US2017355421](#) A1 20171214
 PR - DE201610210107 20160608
 AP - US201715600426 20170519
 DT - **
 CT - || R141 (A1)
[US2012256386](#) A1 20121011 [] (BENARROUCH JACQUES [FR]);
[US2014196968](#) A1 20140717 [] (BIELER THIERRY [CH], et al);
[US8720918](#) B2 20140513 [] (LIAO HSUEH TSAN [CN]);
[US9718512](#) B2 20170801 [] (MEI CHENGZHAI [CN], et al);
[US5848660](#) A 19981215 [] (MCGREEN JAMES R [US]);
[US2017259871](#) A1 20170914 [] (DELGATTY GRANT [US], et al);
[US2017106932](#) A1 20170420 [] (MAZOYER JOSEPH [FR]);
[US9376158](#) B1 20160628 [] (MCCORMICK ROBERT [US], et al);
[US2011148061](#) A1 20110623 [] (JOHNSON MARK [US], et al);
[US864202](#) A 19070827 [] (SIMMONS JAMES [US]);
[US2016318572](#) A1 20161103 [] (OH STEVE [US])
 CCI - [B62M6/60](#) ; [B62M6/65](#) ; [B62M6/90](#) ; [B62K3/002](#) ; [B62K15/00](#)
 CUI - [B62M6/40](#) ; [B62M6/75](#) ; [B60L11/1877](#) ; [B62K11/00](#) ; [B62K21/12](#)
 PA - MAGNA EXTERIORS GMBH [DE]
 TI - Electric-Motorized Kick- **Scooter**
 AB - A kick-**scooter** having an electric-motorized drive, a footboard, a rear wheel arranged on the footboard, a **steering assembly**, and a front wheel connected to the **steering assembly** to **pivot** in unison with the **steering assembly** about an **inclined steering assembly** axis.

7/422 © EPODOC / EPO

PN - [US2017341703](#) A1 20171130
 PR - US201715674631 20170811; US201615144035 20160502
 AP - US201715674631 20170811
 DT - *; Rep
 CUI - [B62M1/26](#) ; [B62M1/28](#) ; [B62K3/002](#) ; [F16H37/122](#)
 CUA - [B62K21/12](#) ; [B62K23/06](#)
 PA - HSIN LUNG ACCESS CO LTD [TW]
 TI - DIRECT-DRIVE DOUBLE WING **SCOOTER**

AB - A direct-drive double wing **scooter** includes a frame, an actuation **assembly**, a drive **assembly**, and a transmission **assembly**. The actuation **assembly** includes left and right swing wings each **pivoted** close to a front end of the frame through a **pivot**. The drive **assembly** includes a first turning shaft and a second turning shaft penetrating two sides of the frame. A distance between the first turning shaft and the **pivot** is defined as a first distance. A distance between a rear end of the right swing wing is defined as a second distance, or a distance between a rear end of the left swing wing is defined as a second distance. The first distance is in the range of 0.10-0.65 times the length of the second distance. The direct-drive double wing **scooter** provides a simple and reliable drive way and has transportation, amusement and fitness effects.

8/422 © EPODOC / EPO

PN - [CN107380320](#) A 20171124

PR - CN20171581809 20170717

AP - CN20171581809 20170717

DT - I

CNOI - [B62K5/027](#) ; [B62K21/00](#)

CNOA - [B62K2202/00](#) ; [B62K2204/00](#)

PA - SHENZHEN GAUSSTOP TECH CO LTD

TI - Electric **scooter**

AB - The invention discloses an electric **scooter**. The electric **scooter** comprises a pedal, a **steering** rod and a driving **assembly**. One end of the pedal is provided with a **steering** installing part, and the **steering** rod is installed on the **steering** installing part; the driving **assembly** comprises a first driving wheel and a second driving wheel, wherein the first driving wheel and the second driving wheel are connected with the two sides of the pedal; a **steering** markunit is arranged on the **steering** rod, and a **steering** sensing unit used for sensing the location of the **steering** mark unit is arranged on the **steering** installing part; or the **steering** mark unit is arranged on the **steering** installing part, and the **steering** sensing unit used for sensing the location of the **steering** mark unit is arranged on the **steering** rod; the driving **assembly** further comprises a controlling module which is connected with the pedal; the controlling module is used to obtain a **steering** signal from the **steering** sensing unit and control the first driving wheel and the second driving wheel to rotate at different speeds according to the **steering** signal, so that **steering** of the electric **scooter** is achieved. According to the electric **scooter**, swerving is stable, abrasion of the driving wheels is small, and the fact that connecting parts of the driving wheels and driving shafts are subjected to great force is avoided.

9/422 © EPODOC / EPO

PN - [MX2017003730](#) A 20170727

PR - FR20140058938
20140923; WO2015FR52493
20150917

AP - MX20170003730 20150917

DT - I

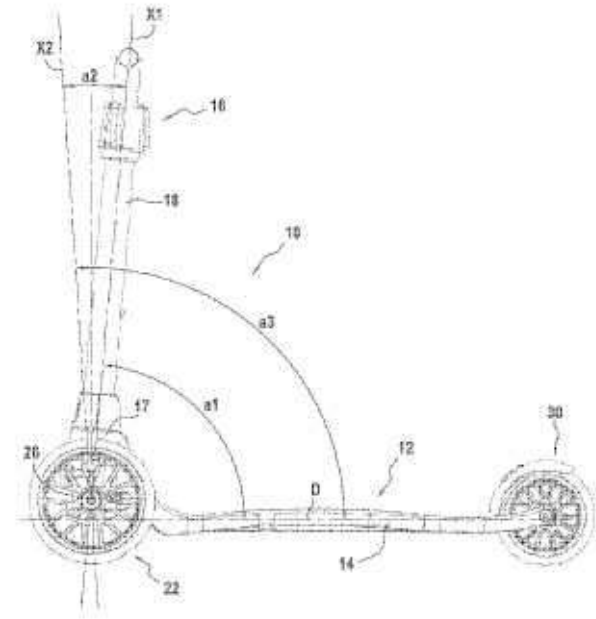
CCI - [B62K3/002](#) ; [B62K5/05](#) ;
[B62K21/00](#)

CUI - [B62K5/08](#) ; [B62K21/18](#) ;
[F16D3/38](#)

PA - DECATHLON SA [FR]

TI - VEHICLE WITH **INCLINED STEERING COLUMN**.

AB - The invention relates to a vehicle (10), for example of the **scooter** type, comprising: - a plate (12), - a rear axle **assembly** (30) comprising a single means of contact (32), - a **steering assembly** (16) comprising at least a **steering column** (18) having a first axis (X1), the first axis and the support plane forming a first angle (a1), - a front axle **assembly** (22), - the front axle **assembly** being mounted with the ability to **pivot** with respect to the plate about a second axis (X2), - the **steering column** being arranged so that the **pivoting** thereof about the first axis causes the **pivoting** of the front axle **assembly** about the second axis, - the first axis and the second axis being **inclined** with respect to one another defining a second angle (a2). The invention is characterized in that the first angle (a1) is fixed when the vehicle is in use.



10/422 © EPODOC / EPO

PN - [CN107161263](#) A 20170915

PR - CN20161128133 20160307

AP - CN20161128133 20160307

DT - I

PA - ZHOU AIQUN

TI - Folding mechanism and swinging exercise **scooter** with handlebars provided with folding mechanism

AB - The invention discloses a folding mechanism which is suitable for a **steering** lever of a folding **scooter** and connects the **steering** lever with a footboard and a front wheel **assembly**. The folding mechanism comprises an upper rotation support, a lower rotation support, a pop-up button and a connecting hole arranged at the front wheel **assembly**, wherein the pop-up button is mounted in the **steering** lever; one end of the upper rotation support is sleeved on the **steering** lever and provided with a locking hole which is matched with the pop-up button, and the other end of the upper rotation support is **pivotaly** connected to the lower rotation support; the lower rotation support is connected to the footboard; the pop-up button is selectively inserted in the connecting hole or the locking hole so that the **steering** lever can be selectively connected to the front wheel **assembly** or the upper rotation support; and the connection of the **steering** lever with the upper rotation support allows the **steering** lever to be rotated and folded together with the upper rotation support around the lower rotation support. When the pop-up button is engaged with the locking hole of the upper rotation support, the upper rotation support rotates around the lower rotation support to fold the **steering** lever, and the folding is convenient and the structure is compact. The invention also discloses a swinging exercise **scooter** with handlebars provided with the folding mechanism.

11/422 © EPODOC / EPO

PN - [CN107161254](#) A 20170915

PR - CN20171371938 20150929; CN20151627860 20150929

AP - CN20171371938 20150929

DT - I

PA - GEYUNLONG

TI - Z-shaped folding sitting-type three-wheel **scooter** and **assembly** method thereof

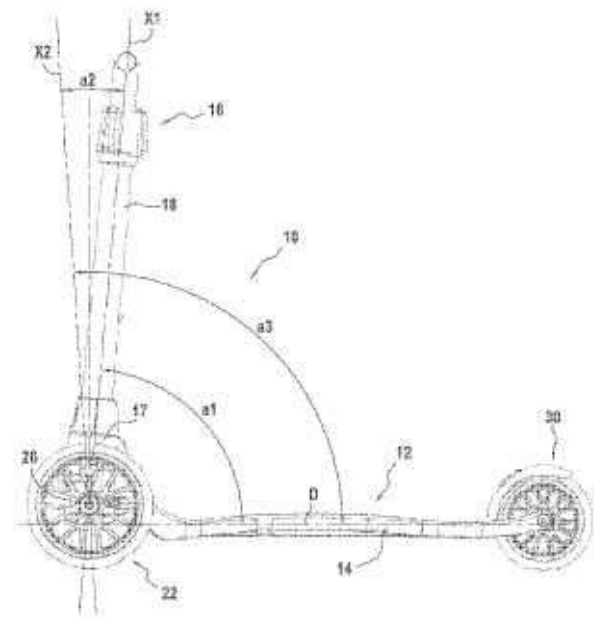
AB - Disclosed are a Z-shaped folding sitting-type three-wheel **scooter** and an **assembly** method thereof. The Z-shaped folding sitting-type three-wheel **scooter** comprises a vehicle bottom frame, a folding frame, a handlebar, a saddle, a **steering** shaft, a cover shell, two front wheels and a back wheel. The vehicle bottom frame is welded by a longitudinal beam tube, a rotating drum, a back fork and a connecting sheet. The folding frame is connected by a base, a top base, a front rod, a back rod and a lock-connecting part. The base is welded to the longitudinal beam tube. The cover shell is connected with the connecting sheet. The top base is welded to the back lower portion of the handlebar. The lock-connecting part is located on the lower part of the front rod and connected with a U-shaped opening of the base in a locked mode. The back end of the handlebar is connected with the saddle. The **steering** shaft comprises a front shaft tube, a front wheel shaft and a tension spring. The front shaft tube is rotationally connected with the rotating drum. The front wheel shaft penetrates through the front shaft tube. The front wheels are connected with the two ends of the front wheel shaft. The tension spring is connected with a front lug sheet of the **steering** shaft and a back lug sheet on the vehicle bottom frame. The back wheel is arranged on the back fork.

12/422 © EPODOC / EPO

PN - [RO132091](#) A2 20170830
 PR - RO20160000076 20160202
 AP - RO20160000076 20160202
 DT - I
 PA - DINUȚ TITEL [RO]
 TI - FOLDING **SCOOTER**
 AB - The invention relates to a simple or electric folding **scooter** meant for urban transportation. According to the invention, the **scooter** comprises two aligned wheels (1 and 2), a platform (3), two rear forks (4 and 5), a flap (6), a sliding and **pivoting** folding system (7), a button (8) for releasing or stopping the system (7), a handle bar (9), a handle-bar base (10), a front fork (11), where the back wheel (2) is attached to the platform (3) by means of two forks, the fork (5) which rotates about a shaft clamped to the platform and the fork (4) which slides through an edge within the platform, so that the back wheel (2) rotates and gets above the platform (3), the fork (4) being maintained in the horizontal operating position by means of the flap (6) which is horizontally pushed towards the back wheel (2) by a spring, the **assembly** containing the front wheel (1) folding, in its turn, by the sliding of the **pivoting** folding system (7), along some edges provided in the platform, and being maintained in a fixed position by the button (8) pushed outwards by a spring, where, by pressing the button (8), the **pivoting** folding system (7) can slide along with the **assembly** containing the front wheel (1), passing to the folding position, and the fork (4) may optionally contain a damper (12).

13/422 © EPODOC / EPO

PN - [CN107074317](#) A 20170818
 PR - FR20140058938
 20140923; WO2015FR52493
 20150917
 AP - CN2015851052 20150917
 DT - I
 CCI - [B62K3/002](#) ; [B62K5/05](#) ;
[B62K21/00](#)
 CUI - [B62K5/08](#) ; [B62K21/18](#) ;
[F16D3/38](#)
 CNOI - [B62K5/05](#)
 PA - DECATHLON SA
 TI - Vehicle with **inclined steering column**
 AB - The invention relates to a vehicle (10), for example of the **scooter** type, comprising: a plate (12), a rear axle **assembly** (30) comprising a single means of contact (32), a **steering assembly** (16) comprising at least a **steering column** (18) having a



first axis (X1), the first axis and the support plane forming a first angle (a1), a front axle **assembly** (22), the front axle **assembly** being mounted with the ability to **pivot** with respect to the plate about a second axis (X2), the **steering column** being arranged so that the **pivoting** thereof about the first axis causes the **pivoting** of the front axle **assembly** about the second axis, the first axis and the second axis being **inclined** with respect to one another defining a second angle (a2). The invention is characterized in that the first angle (a1) is fixed when the vehicle is in use.

14/422 © EPODOC / EPO

PN - [CN106989100](#) A 20170728

PR - CN20171257396 20170419

AP - CN20171257396 20170419

DT - I

CNOI - [F16C11/0619](#)

CNOA - [F16C2223/12](#) ; [F16C2223/18](#)

PA - JIANGSU CCVI BEARING CO LTD

TI - **Steering** lower ball pin connector

AB - The invention provides a **steering** lower ball pin connector and relates to the technical field of ATVs, UTVs and snow **scooter steering** systems, in particular to the technical field of **steering** lower ball pin connectors. The **steering** lower ball pin connector comprises a ball seat connector body, a ball pin, an upper ball seat, a lubricating cover, a lower ball seat and a dust prevention cover. An **assembly** seat hole is formed in the ball seat connector body, and the lower ball seat, the lubricating cover, the ball pin and the upper ball seat are sequentially mounted into the **assembly** seat hole in order; one end of the **assembly** seat hole is provided with a blind hole block edge, the other end of the **assembly** seat hole is provided with a riveting block edge, two swing arm radius circular arc supporting seats are arranged on the **assembly** seat hole, and each swing arm radius circular arc supporting seat is connected with a damper supporting support; and the periphery of the riveting block edge is provided with the dust prevention cover for sealing. According to the **steering** lower ball pin connector, the purposes that mounting is convenient, the overall manufacturing cost is low, the strength is high, vehicle travelling is more stable, and comfort is better are achieved.

15/422 © EPODOC / EPO

PN - [CN206344952U](#) U 20170721

PR - CN201621492755U 20161231

AP - CN201621492755U 20161231

DT - I

PA - SHENZHEN YIKABEN INTELLIGENT TECH CO LTD

TI - Damper suitable for electric **scooter** wheel

AB - The utility model relates to a children are with electric **scooter**'s technical field, and it relates to a damper suitable for electric **scooter** wheel, including the wheel, the wheel carrier, the **pivot** subassembly, fixing base and turn to the adapter sleeve, it is connected with the **steering** tube to turn to between adapter sleeve and the **pivot** subassembly, damper arrange in turn to in adapter sleeve and the fixing base and with the connection of **pivot** subassembly, damper include through fixed seat and stretching into turn to the adapter sleeve and with turn to the shock attenuation overcoat that the adapter sleeve tip was contradicted, arrange the damping spring in the shock attenuation overcoat in, the damping spring cover is located outside the **steering** tube, be equipped with spacing fender seat on the shock attenuation overcoat inner wall, it is equipped with spacing seat circle on the adapter sleeve tip inner wall to turn to, damping spring's one end and spacing fender seat are contradicted, the other end and spacing seat circle are contradicted, the axostylus axostyle portion of **pivot** subassembly stretches into interior and the spacing fender seat conflict of shock attenuation overcoat, the utility model discloses fit because damper's part is small in quantity, improved the convenience that **assembly** and later stage maintenance were dismantled greatly.

16/422 © EPODOC / EPO

PN - [CN206344925U](#) U 20170721

PR - CN201621135194U 20161018

AP - CN201621135194U 20161018

DT - I

PA - MICRO TRADE (SHANGHAI) CO LTD

TI - Shock -proof **scooter**

AB - The utility model discloses a shock -proof **scooter**, the weight scale comprises a pedal, back wheelset, the fore carriage, front wheel and turn to handlebar **assembly**, back wheelset, the fore carriage sets up respectively at the footboard both ends, the front wheel sets up on the fore carriage, it is connected with the fore carriage to turn to handlebar **assembly**, the fore carriage passes through slewing mechanism and rotates the setting at the footboard front end, and slewing mechanism disposes positioning mechanism, the front wheel is through moving away to avoid possible earthquakes the establishment of institution on the fore carriage, the fore carriage is the fork **column** structure, it includes that two distribute at the yoke of fore carriage both sides respectively, preceding **pivot** is worn to be equipped with by front wheel center department, preceding **pivot** both ends set up on the yoke through elastic buffering mechanism respectively, formation is to the elasticity of the front wheel bearing structure that moves away to avoid possible earthquakes, effectively alleviate the impact load of vertical direction to turning to handle and staff, guarantee safe in utilization and increase the comfort level, show reduction load simultaneously and

striking the automobile body, increasing the life of **scooter** to make nimble convenience, the stability controlled more of **scooter** higher.

17/422 © EPODOC / EPO

PN - [CN206327519U](#) U 20170714

PR - CN201621390442U 20161219

AP - CN201621390442U 20161219

DT - I

PA - YANJIANWEN

TI - Leisure **scooter**

AB - The utility model discloses a leisure **scooter**, its technical scheme main points are: which comprises a vehicle rack, the frame front end is equipped with front wheel **assembly**, frame the back -end is equipped with the rear wheel **assembly**, the rear wheel **assembly** is including the in -wheel motor who installs at frame the back -end, fix and to drive the driven flywheel of in -wheel motor **pivoted** to the side of in -wheel motor, wear to be equipped with the axis of rotation parallel with the axis of driven flywheel on the frame, be equipped with in the axis of rotation and be used for driving driven flywheel **pivoted** initiative flywheel, be equipped with the linkage piece that is used for transmitting power between initiative flywheel and the driven flywheel, the tip of axis of rotation still is equipped with and is used for driving the pedal portion of axis of rotation **pivoted**. It is trampled pedal portion and utilize the flywheel to carry out the helping hand when meeting battery low or going up a slope, makes leisure **scooter** normally travel, and is simple to use, convenient, simultaneously energy -conserving and environment -protective.

18/422 © EPODOC / EPO

PN - [US2017190335](#) A1 20170706

PR - US201715451405
20170306; US201313872054
20130426

AP - US201715451405 20170306

DT - **

CCI - [B60K7/0007](#) ; [B60K17/30](#)

CUI - [A63C17/014](#) ; [A63C17/12](#) ;
[B60W50/082](#) ; [B60K31/0058](#) ;
[B60B19/003](#) ; [B60L11/1822](#) ;
[B62J99/00](#) ; [B62K5/08](#) ;
[B62K11/02](#) ; [B62K17/00](#) ;
[B62K21/12](#) ; [B62K21/26](#) ;
[B62K23/02](#) ; [B62K25/02](#) ;
[G05D1/0016](#) ; [G05D1/0088](#) ;
[G05D1/0231](#) ; [G05D1/0257](#) ;
[G05D1/0276](#) ; [G05D1/0278](#) ;
[B62K11/007](#)

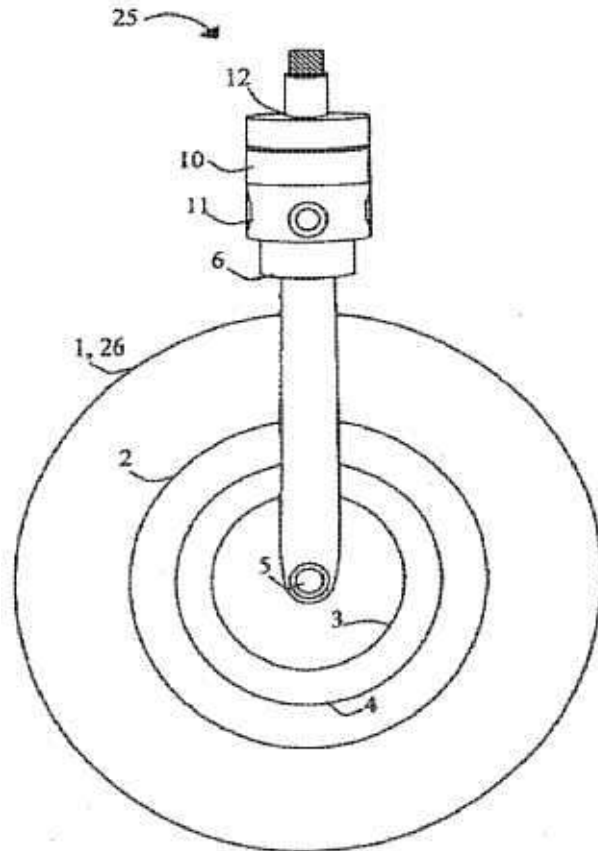
CCA - [B60K2007/0038](#) ;
[B60K2007/0092](#)

CUA - [B62J2099/004](#) ; [A63C2203/12](#) ;
[B60L2200/12](#) ; [B60W2420/52](#) ;
[B60W2710/20](#) ; [B60Y2200/91](#) ;
[B62K2207/00](#) ; [B62K2207/02](#) ;
[B62K2207/04](#) ; [B62K2700/22](#) ;
[G05D2201/0206](#) ;
[B62K2204/00](#) ; [B62J2099/0013](#)

PA - GILLET CARLA R [US]

TI - Vehicle Comprising
Autonomous **Steering Column**
System

AB - The present invention is an
electric mobility vehicle such as
a powered knee walker, **scooter**,
bicycle and a multi-passenger
vehicle comprising a
unique **steering column assembly**
capable of being manually
steered also autonomously
steered by means of **steering**
actuators. The vehicle user can
select a manual drive mode
option to operate the vehicle
physically or the user can select
an autonomous drive mode each
mode allows the vehicle to
operate more efficiently both



indoors and outdoors. The vehicle is configured with a platform for standing, sitting and leaning, and the framework is configured with a front and rear drive system, the front drive system incorporates the **steering column** and one or more **steering** actuator which control front and rear propulsion systems. The propulsion includes; a DC powered truck module, a fork module, or a cantilever module, and each respectively comprise a drive motor, brake, sensor and accelerometers for self-balancing control. The **steering column** controlling system is the main driving force of the vehicle and utilizes wireless interface communication linked to short range proximity sensors including LIDAR or laser sensor unit, cameras, and handlebar throttles comprising grip force sensor to control speed and braking, and other vehicle devices. The **steering column** and framework contain an array of USB power cabling interconnecting electrical components to an IO communication network and to an electrical control system and battery bank.

19/422 © EPODOC / EPO

- PN - [US2017190374](#) A1 20170706
- PR - US201715397316 20170103; US201662274343P 20160103
- AP - US201715397316 20170103
- DT - *; Rep
- CCI - [B62L3/02](#) ; [B62K3/002](#) ; [B62K5/02](#) ; [B62K15/006](#)
- CQI - [B62L1/02](#) ; [B62K5/06](#) ; [B62K15/008](#)
- PA - EDGE BRANDS LTD [CN]; EDGE BRANDS LTD [CN]
- TI - Engagement Mechanism **Assembly** for a **Scooter**
- AB - A **scooter** may include a front wheel **assembly**, a **steering column**, a first bracket, a reconfigure **assembly**, a pair of legs, and a pair of rear wheel assemblies. The **steering**

column may be mounted to the front wheel **assembly** and partially disposed within a **steering column** housing. The first bracket may extend from the **steering column** housing and include a lock mechanism to engage the **steering column** housing in an upright position and a stowed position. Each of the pair of legs may be mounted to the reconfigure **assembly** for selective **pivotal** movement. The lock mechanism, reconfigure **assembly**, and legs may be arranged with one another such that the **steering column** may transition between at least a stowed position and an upright position and such that the legs may transition between an open position and a closed position.

20/422 © EPODOC / EPO

PN - [CN106882312](#) A 20170623

PR - CN20171201972 20170330

AP - CN20171201972 20170330

DT - I

CNOI - [B62K3/002](#) ; [B62K15/008](#)

PA - XIN SHENG

TI - Folding structure of **scooter**

AB - The invention provides a folding structure of a **scooter**. The folding structure comprises handles, a vertical **column** and pedal plates. The handles and the vertical **column** are connected through a **steering** gear, the bottom end of the vertical **column** is connected with a front wheel and connected with the front pedal plate through a folding **assembly**, the front pedal plate is hinged to the rear pedal plate through a hinge, a rear wheel is installed at the tail end of the rear pedal plate, the vertical **column** is of a sleeve structure and can stretch out and draw back, the handles on the two sides of the vertical **column** are controlled by the **steering** gear to be linked, the handles on the two sides can be bent downwards by 90 degrees to be parallel to the vertical **column**, and can drive the vertical **column** to rotate by 90 degrees, therefore, the front wheel is driven to rotate by 90 degrees, the vertical **column** can be bent to be parallel to and draw close to the front pedal plate through the folding **assembly**, the rear pedal plate can be bent to draw close to the front pedal through the hinge, the front wheel and the rear wheel are overlapped, and the axis of a front wheel rotary shaft is vertical to that of a rear wheel rotary shaft. The folding structure has the advantages that a folded plate surface, handles and wheel set are nested, so that the size is reduced. Meanwhile unfolding and storing steps are simplified through a linkage mechanism.

21/422 © EPODOC / EPO

PN - [CN206265235U](#) U 20170620

PR - CN201621178894U 20161103

AP - CN201621178894U 20161103

DT - I

PA - ZHEJIANG GEELY MING IND CO LTD

TI - Electric **scooter** direction **assembly** device

AB - The utility model discloses an electric **scooter** direction **assembly** device, include left arm and the right right arm of connecting of taking turns be connected with the revolver to reach and go up yoke plate and lower yoke plate, characterized by last yoke plate,

down the yoke plate both ends is connected with the upper and lower both ends of left arm, right arm through the bulb connector respectively, go up and be equipped with the bumper shock absorber between yoke plate and time yoke plate, it passes yoke plate and lower yoke plate to be equipped with the orientation post to be equipped with the **steering column** between left arm and right arm. Overall structure's self equilibrium has been guaranteed to each part of symmetrical arrangement, arranging of four corners bulb connector makes **steering** mechanism action accuracy in a flexible way, the design of upper and lower double -deck yoke plate provides structural strength such as the sufficient bearing of this device, antitorque, resistance to compression, anti striking, and messenger product security is reliable.

22/422 © EPODOC / EPO

PN - [CN206243335U](#) U 20170613
 PR - CN201621370456U 20161214
 AP - CN201621370456U 20161214
 DT - I
 PA - LOU JINGJING
 TI - Slide convertible car of learning to walk
 AB - The utility model discloses a slide convertible car of learning to walk, including handlebar subassembly, quick detach tube bank, preceding car body **assembly**, back vehicle body components, positioning bayonet lock subassembly, quick detach bolt and quick detach nut. Compared with the prior art, back vehicle body components front end with preceding car body **assembly's** head tube position pin **joint** to the handlebar subassembly can be dismantled, and it is rotatory that back vehicle body components can follow **pivot** position after the handlebar subassembly is dismantled, and rotatory to preceding car body **assembly** opposite side, load onto the handlebar subassembly alright change between with completion **scooter** and walker, thereby **scooter** and walker function can be realized to a platform truck, and the simple structure dependable performance is convenient for use widely in a large number.

23/422 © EPODOC / EPO

PN - [CN106793640](#) A 20170531
 PR - CN201611217729 20161226
 AP - CN201611217729 20161226
 DT - I
 CNOI - [H05K5/061](#)
 PA - YU PEIRAN
 TI - **Scooter** controller waterproof shell structure
 AB - The invention provides a **scooter** controller waterproof shell structure which comprises a shell and a base with a projection. The shell is provided with a groove matched with the projection, or the inner side face of the shell is provided with a projection matched with a groove in the outer side face of the base, and a waterproof sealing pad is arranged on the contact surface of the shell and the base. The **scooter** controller waterproof shell structure has the advantages that the shell is structurally connected with the base by the aid of the projection and the groove, reliability is greatly improved,

the waterproof structure replaces bolts, use of shell parts is decreased, **assembly** time and material cost are reduced, about 90 seconds of **assembly** time is saved, the sealing pad is arranged at the **joint** of the shell and the base, so that the shell closely contacts with the base, and the waterproof performance of the shell is guaranteed.

24/422 © EPODOC / EPO

PN - [US2017137082](#) A1 20170518

PNFP - US9809269 B2 20171107

PR - US201715419652
20170130; US201213521689
20120711; WO2011US20897
20110111; US20100293774P
20100111

AP - US201715419652 20170130

DT - **

CT - || R141 (A1)
[US2006192358](#) A1 20060831 [
] (CHEN TING-HSING [TW]);
[USD529565S](#) S 20061003 [
] (WARNER HARRY S [US], et al);
[US4133548](#) A 19790109 [
] (SMITH GERALD E);
[US5354081](#) A 19941011 [
] (HUFFMAN MICHAEL L [US], et
al);
[USD365377S](#) S 00000000 [
];
[US5816592](#) A 19981006 [
] (HORTON II EDWARD N [US], et
al);
[US5927734](#) A 19990727 [
] (HORTON EDWARD N II [US], et
al);
[USD446260S](#) S 20010807 [
] (BANG RICHARD MICHAEL [US]);
[US6367828](#) B1 20020409 [
] (MANDIC LES [US]);
[US6386562](#) B1 20020514 [
] (KUO HUI SHAN [TW]);
[US6406042](#) B1 20020618 [
] (TSAI SHUI-TE [TW]);
[US6644672](#) B2 20031111 [
] (DESJARDINS YVON [CA], et al);
[US6685201](#) B1 20040203 [
] (SMITH III CHARLES T [US]);
[US6805368](#) B1 20041019 [
] (CHEN TING-HSING [TW]);
[US7083177](#) B1 20060801 [
] (CHEN TING-HSING [TW]);

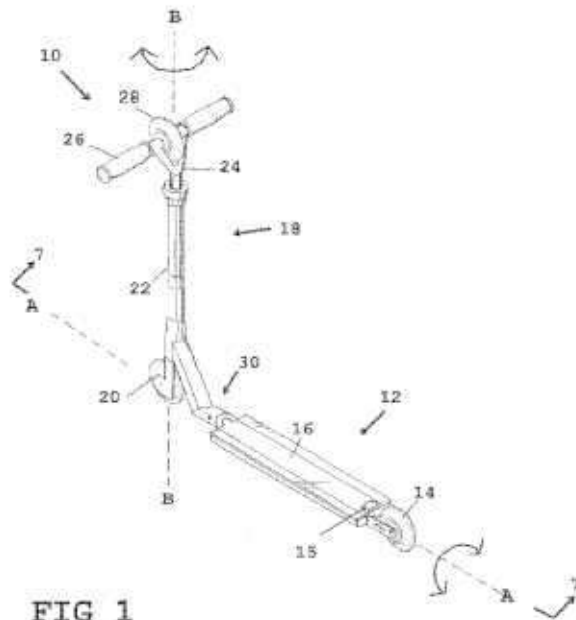


FIG 1

[US7213823](#) B1 20070508 [
] (VUJTECH JAMES A [US]);
[US7226081](#) B2 20070605 [
] (CHEN TING-HSING [TW]);
[US2008197594](#) A1 20080821 [
] (LING CHING-CHIH [TW]);
[US2009029511](#) A1 20090129 [
] (WU KOUCHENG [TW]);
[US2010059955](#) A1 20100311 [
] (STEINBACH ROBERT [AT]);
[US2010117316](#) A1 20100513 [
] (WEINER JASUN [US], et al);
[US2012018968](#) A1 20120126 [
] (JOSLIN NICK [GB], et al);
[US2012104714](#) A1 20120503 [
] (SAPIR RICCARDO NIMROD [IL]);
[US9555851](#) B2 20170131 [
] (BELLON MICHAEL [US]);
[WO2009141629](#) A1 20091126 [
] (RE CREATION GROUP PLC [GB],
 et al)
 - || STSE (B2)
[US4133548](#) A 19790109 [
] (SMITH GERALD E);
[US5354081](#) A 19941011 [
] (HUFFMAN MICHAEL L [US], et
 al);
[USD365377S](#) S 00000000 [];
[US5816592](#) A 19981006 [
] (HORTON II EDWARD N [US], et
 al);
[US5927734](#) A 19990727 [
] (HORTON EDWARD N II [US], et
 al);
[USD446260S](#) S 20010807 [
] (BANG RICHARD MICHAEL [US]);
[US6367828](#) B1 20020409 [
] (MANDIC LES [US]);
[US6386562](#) B1 20020514 [
] (KUO HUI SHAN [TW]);
[US6406042](#) B1 20020618 [
] (TSAI SHUI-TE [TW]);
[US6644672](#) B2 20031111 [
] (DESJARDINS YVON [CA], et al);
[US6685201](#) B1 20040203 [
] (SMITH III CHARLES T [US]);
[US6805368](#) B1 20041019 [
] (CHEN TING-HSING [TW]);
[US7083177](#) B1 20060801 [

] (CHEN TING-HSING [TW]);
[USD529565S](#) S 20061003 [
] (WARNER HARRY S [US], et al);
[US7213823](#) B1 20070508 [
] (VUJTECH JAMES A [US]);
[US7226081](#) B2 20070605 [
] (CHEN TING-HSING [TW]);
[US9555851](#) B2 20170131 [
] (BELLON MICHAEL [US]);
[US2006192358](#) A1 20060831 [
] (CHEN TING-HSING [TW]);
[US2008197594](#) A1 20080821 [
] (LING CHING-CHIH [TW]);
[US2009029511](#) A1 20090129 [
] (WU KOUCHENG [TW]);
[US2010059955](#) A1 20100311 [
] (STEINBACH ROBERT [AT]);
[US2010117316](#) A1 20100513 [
] (WEINER JASUN [US], et al);
[US2012018968](#) A1 20120126 [
] (JOSLIN NICK [GB], et al);
[US2012104714](#) A1 20120503 [
] (SAPIR RICCARDO NIMROD [IL]);
[WO2009141629](#) A1 20091126 [
] (RE CREATION GROUP PLC [GB],
 et al)

- | | |
|-----|---|
| CCI | - B62B17/065 ; B62B19/04 ;
B62K3/002 ; B62K13/00 ;
B62K17/00 |
| CUI | - B62B17/08 ; B62K13/08 ;
B62K19/38 |
| CUA | - A63C17/01 |
| PA | - (A1 B2)
BELLON MICHAEL [US] |
| TI | - (A1)
SCOOTER WITH ROTATABLE
PLATFORM
- (B2)
Scooter with rotatable platform |
| AB | - (A1 B2)
A scooter having a riding
platform rotationally engaged to
a front steering assembly is
provided which significantly
increases the ability of riders to
perform tricks. The riding
platform is rotationally engaged
to the steering column which |

itself may be employed as a riding platform. An optional mechanism may be employed whereby the riding platform is rotated by a spin of the **steering column** with the handlebars. The **scooter** may also be equipped with skids to allow employment in the snow or on ice.

25/422 © EPODOC / EPO

- PN - [CN206171685U](#) U 20170517
- PR - CN201621214402U 20161110
- AP - CN201621214402U 20161110
- DT - I
- PA - LIFAN IND (GROUP) CO LTD
- TI - Motorcycle direction is integrated configuration suitable for **scooter** and camber beam car
- AB - The utility model discloses a motorcycle direction is integrated configuration suitable for **scooter** and camber beam car, including the hand (hold) pipe of a horizontal setting and the person in charge of a vertical setting, hand (hold) pipe middle part position has the undercut and is used for and is responsible for the recess of connecting the upper end, is responsible for the lower extreme and is connected with the directional lock piece, and be responsible for hypomere circumference and be provided with orientation support connection hole in the place ahead position on the surface, its characterized in that, the clamping that a whole is horizontal plate is upward installed to the last yoke plate that person in charge upper end fixed mounting has a whole to set up along the level above the yoke plate, hand (hold) pipe recess by the **joint** between last yoke plate and clamping and lean on the vertical clamping that passes of fixing bolt to fasten with firm and hard existing connection of the first line of a couplet. The utility model has the advantages of can convenient and fast ground do not adjust the hand (hold) tube side to taking advantage of and drive the travelling comfort, simple structure, convenient **assembly** in order improving different navigating mate.

26/422 © EPODOC / EPO

- PN - [CN206155697U](#) U 20170510
- PR - CN201621187424U 20161104
- AP - CN201621187424U 20161104
- DT - I
- PA - SHI KANGSHUAI
- TI - Novel take **scooter** of suitcase
- AB - The utility model discloses a novel take **scooter** of suitcase, including **scooter** handrail **assembly**, the fixed external member of suitcase, suitcase, the support post that sets up of wooden handcart handrail **assembly** bottom on be provided with the fixed external member of suitcase, the activity is provided with the suitcase in the fixed

external member of suitcase, simultaneously, the support post bottom is through **pivot** structure and **scooter** folding spindle stand top swing **joint**, **scooter** folding spindle stand bottom is connected with **scooter** bottom sliding plate **assembly** top, support post suitcase loop bar mounting, suitcase mounting can set up and construct the mode into the movable buckle fixed knot of arbitrary structure form. The beneficial effect of the utility model: this device simple structure, low in production cost, the unity of **scooter** with the suitcase function has been realized to this patent device, greatly satisfies travel demand, the **scooter** is beta structure, effectively saves the parking space, simultaneously, the suitcase is fixed for buckle structure with the **scooter**, dismantles convenient and fast.

27/422 © EPODOC / EPO

PN - [CN206155693U](#) U 20170510

PR - CN201621107518U 20160930

AP - CN201621107518U 20160930

DT - I

PA - KAIPING ZETAZS ELECTROMECHANICAL TECH CO LTD

TI - Folding **scooter**

AB - The utility model discloses an easy operation is swift, convenient easy -to -use folding **scooter**, including automobile body and handlebar **assembly**, the automobile body is including the footboard and connect before the automobile body, front wheel, the rear wheel at back both ends, the handlebar **assembly** lower extreme is provided with articulated seat, be provided with the locking piece on the footboard, articulated seat is articulated through a **pivot** with the locking piece, the locking piece is provided with corresponding handlebar **assembly** and opens or receive opening the draw -in groove, receiving the stacking groove of the state of folding, articulated seat is connected with the fixture block, the fixture block is connected with reset spring and goes into to open the draw -in groove or receive the stacking inslot in order to promote its one end card, the fixture block is connected with the clockwork spring, and the clockwork spring is connected with the cable, the other end and the hand subassembly fixed connection of cable.

28/422 © EPODOC / EPO

PN - [CA2961853](#) A1 20160331

PR - FR20140058938
20140923; WO2015FR52493
20150917

AP - CA20152961853 20150917

DT - I

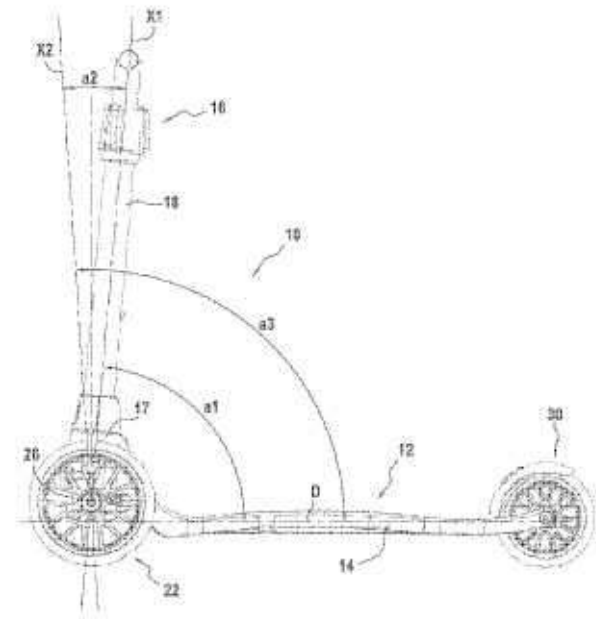
CCI - [B62K3/002](#) ; [B62K5/05](#) ;
[B62K21/00](#)

CUI - [B62K5/08](#) ; [B62K21/18](#) ;
[F16D3/38](#)

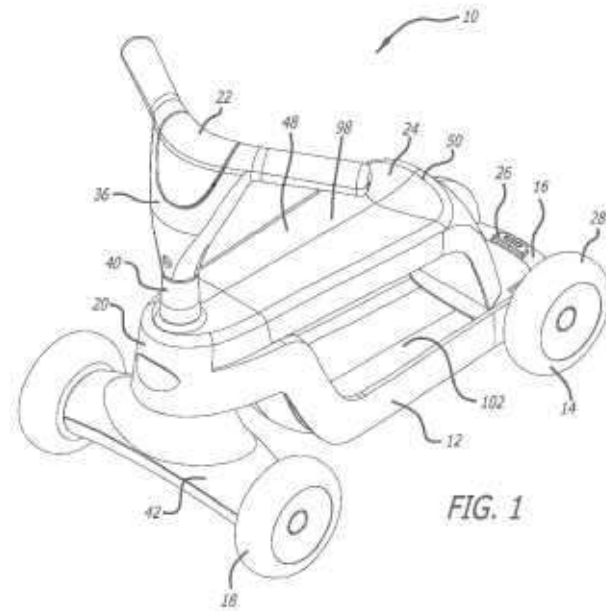
PA - DECATHLON SA [FR]

TI - A VEHICLE WITH A
SLOPING **STEERING COLUMN**

AB - The invention relates to a vehicle (10), for example of the **scooter** type, comprising: - a plate (12), - a rear axle **assembly** (30) comprising a single means of contact (32), - a **steering assembly** (16) comprising at least a **steering column** (18) having a first axis (X1), the first axis and the support plane forming a first angle (a1), - a front axle **assembly** (22), - the front axle **assembly** being mounted with the ability to **pivot** with respect to the plate about a second axis (X2), - the **steering column** being arranged so that the **pivoting** thereof about the first axis causes the **pivoting** of the front axle **assembly** about the second axis, - the first axis and the second axis being **inclined** with respect to one another defining a second angle (a2). The invention is characterized in that the first angle (a1) is fixed when the vehicle is in use.



PN - [US2017101153](#) A1 20170413
 PNFP - US9796443 B2 20171024
 PR - US201615287374
 20161006; US201562239049P
 20151008
 AP - US201615287374 20161006
 DT - **
 CT - || R141 (A1)
[US1379305](#) A 19210524 [
] (LUTHER JOHNS);
[US2013082451](#) A1 20130404 [
] (LIN HENKEL [TW]);
[US8500134](#) B2 20130806 [
] (TZOREFF MISHAEL [IT]);
[US9545969](#) B2 20170117 [
] (BYRNE EMILY [US], et al)
 - || STSE (B2)
[US1379305](#) A 19210524 [
] (LUTHER JOHNS);
[US8500134](#) B2 20130806 [
] (TZOREFF MISHAEL [IT]);
[US9545969](#) B2 20170117 [
] (BYRNE EMILY [US], et al);
[US2013082451](#) A1 20130404 [
] (LIN HENKEL [TW])
 CCI - [B62J1/08](#) ; [B62K3/002](#) ;
[B62K9/00](#) ; [B62K13/08](#)
 CCA - [B62K21/00](#)
 PA - (A1 B2)
 RADIO FLYER INC [US]
 TI - (A1)
 CONVERSION **SCOOTER**
 - (B2)
 Conversion **scooter**
 AB - (A1 B2)
 A conversion **scooter** is provided
 that converts from a stand-up
 mode to a sit-down mode. The
 conversion **scooter** has a frame,
 a seat, a **steering assembly** at the
 forward portion of the frame,
 and a rear wheel coupled to the
 rear portion of the frame. The
 seat has a first coupling member
 at the first end of the seat and
 the second end of the seat, and a



second coupling member at the first end of the seat and the second end of the seat. The frame has a receiver at the forward portion of the frame to secure the first coupling member of the seat to the forward portion of the frame, and a locking **assembly** at the rear portion of the frame to secure the seat to the rear portion of the frame.

30/422 © EPODOC / EPO

PN - [WO2017062716](#) A1 20170413

PR - US201615287374
20161006; US201562239049P
20151008

AP - WO2016US55904 20161007

DT - *; Rep

CT - |US| ISR (A1)
[KR20130002375U](#) U 20130419
[YA] (NONAKA WORKS CO.)
[Y] 12-14, 18, & 19
* ; abstract, page 13, paragraphs 1, 3, page 14, paragraph 3, paragraph 6 to page 15, paragraph 1, page 15, paragraph 4 to page 16, paragraphs 1, 3, page 17, paragraphs 4, 5, figures 1-5, 7, 8, 11, 12, 14 *
[A] 1-11 & 15-17;

[US2014217685](#) A1 20140807
[YA] (BYRNE EMILY [US], et al)
[Y] 12-14, 18, & 19
* ; figures 1-7, paragraphs [0031] -[0036] *

[A] 1-11 & 15-17;
[US2013082451](#) A1 20130404
[Y] (LIN HENKEL [TW])
[Y] 14

* ; figures 4, 5, paragraphs [0025], [0041] *;
[US2005206114](#) A1 20050922
[A] (MICHELAU FREDERICK J [US])
[A] 1-19
* ; figures 1-4, paragraphs [0021] -[0026], [0033], [0034] *

CCI - [B62J1/08](#) ; [B62K3/002](#) ;

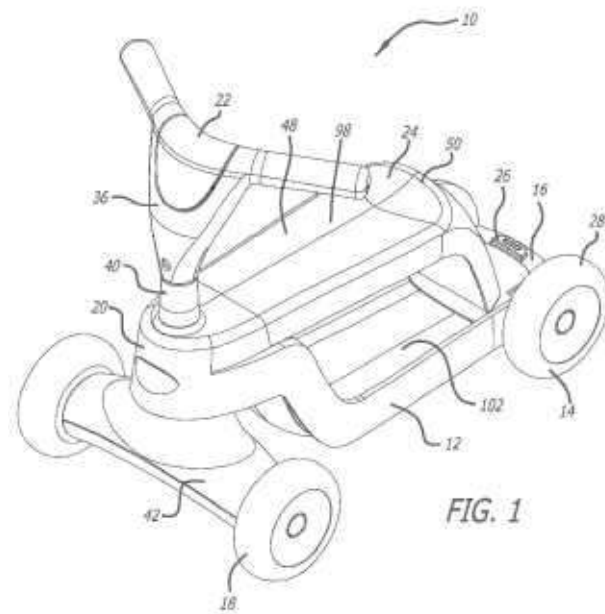


FIG. 1

[B62K9/00](#) ; [B62K13/08](#)

- CCA - [B62K21/00](#)
- PA - RADIO FLYER INC [US]
- TI - CONVERSION **SCOOTER**
- AB - A conversion **scooter** is provided that converts from a stand-up mode to a sit-down mode. The conversion **scooter** has a frame, a seat, a **steering assembly** at the forward portion of the frame, and a rear wheel coupled to the rear portion of the frame. The seat has a first coupling member at the first end of the seat and the second end of the seat, and a second coupling member at the first end of the seat and the second end of the seat. The frame has a receiver at the forward portion of the frame to secure the first coupling member of the seat to the forward portion of the frame, and a locking **assembly** at the rear portion of the frame to secure the seat to the rear portion of the frame.

31/422 © EPODOC / EPO

- PN - [CN106515959](#) A 20170322
- PR - CN201611198614 20161222
- AP - CN201611198614 20161222
- DT - I
- CNOI - [B62K3/00](#) ; [B62K5/02](#) ; [B62K13/00](#) ; [B62K17/00](#)
- PA - YE ZONGYAO
- TI - Two-wheel/ three-wheel convertible **scooter**
- AB - The invention discloses a two-wheel/ three-wheel convertible **scooter**, and relates to a **scooter**. The two-wheel/ three-wheel convertible **scooter** comprises a T-shaped pipe, a supporting pipe, a double-front-wheel mounting base, a single-front-wheel mounting base, a rear-wheel mounting frame and a pedal **assembly**, wherein the T-shaped pipe comprises a horizontal pipe and a vertical pipe which form an integral body by injection molding; the supporting pipe and the vertical pipe are connected in a sleeving manner and fitted in a sliding manner; a first fixing member is connected to the vertical pipe in a sleeving manner; two front wheels are respectively mounted at both ends of the double-front-wheel mounting base; one front wheel is mounted on the single-front-wheel mounting base; the pedal **assembly** comprises a pedal panel and a pedal bracket; the pedal panel comprises a first flat plate part and a first tubular part which form an

integral body by injection molding; the pedal bracket comprises a second flat plate part and a second tubular part which form an integral body by injection molding; and one end, away from mounting pipes, of the second flat plate part, is **pivoted** with a rear wheel. According to the two-wheel/three-wheel convertible **scooter** disclosed by the invention, a single front wheel and double front wheels are arranged, so that conversion between a two-wheel **scooter** and a three-wheel **scooter** can be realized.

32/422 © EPODOC / EPO

PN - [CN106515967](#) A 20170322
 PR - CN201611244841 20161229
 AP - CN201611244841 20161229
 DT - I
 CNOI - [B62K15/006](#)
 PA - CHENFULONG
 TI - **Scooter** more convenient to fold
 AB - The invention relates to a **scooter** more convenient to fold. The **scooter** more convenient to fold comprises a base plate, a rear wheel, a branch pipe, a handle rod, a **steering** rod, a front wheel **assembly** and a folding structure. The branch pipe comprises a sleeve part and an oblique pipe part communicating with the sleeve part. The folding structure comprises a button, a push rod, a push rod restoration spring, a movable block, a movable block restoration spring, a linkage sleeve and a complete folding and unfolding pin, wherein the push rod restoration spring is used for making the push rod restore upwards. When the **scooter** is folded, a rider can act on the linkage sleeve through the push rod by pressing the button simply with one hand, then the movable block in the branch pipe is pushed by the linkage sleeve to slide along the oblique pipe part, and the **scooter** can be folded or unfolded when the complete folding and unfolding pin on the movable block leaves a complete unfolding groove or a complete folding groove. Therefore, the **scooter** is more reasonable in structure and more convenient to fold.

33/422 © EPODOC / EPO

PN - [US2017073032](#) A1 20170316
 PNFP - US9718512 B2 20170801
 PR - CN20152710681U 20150914; CN20152884014U 20151106
 AP - US201615049138 20160221
 DT - *; Rep
 CT - || R141 (A1)
[US6012539](#) A 20000111 [] (PATMONT STEVEN J [US]);
[US2012018968](#) A1 20120126 [] (JOSLIN NICK [GB], et al);
[US8801009](#) B2 20140812 [] (SAPIR RICCARDO NIMROD [IL]);
[US2015266536](#) A1 20150924 [] (YAP FOOK FAH [SG]);
[US2017066496](#) A1 20170309 [] (OCHNER UDO [DE], et al)
 - || STSE (B2)
[US6012539](#) A 20000111 [] (PATMONT STEVEN J [US]);
[US8801009](#) B2 20140812 [] (SAPIR RICCARDO NIMROD [IL]);

[US2012018968](#) A1 20120126 [] (JOSLIN NICK [GB], et al);
[US2015266536](#) A1 20150924 [] (YAP FOOK FAH [SG]);
[US2017066496](#) A1 20170309 [] (OCHNER UDO [DE], et al)

- CCI - [B62K3/002](#) ; [B62K15/008](#)
- CQI - [B62J25/00](#) ; [B62K11/02](#) ; [B62K21/02](#) ; [B62K21/12](#)
- CQA - [B62K2202/00](#) ; [B62K2700/34](#) ; [B62K2700/56](#)
- PA - (A1 B2)
 MEI CHENGZHAI [CN]; MEI CHENGLONG [CN]
- TI - (A1)
 FOLDABLE **SCOOTER** AND METHOD OF FOLDING SAME
- (B2)
 Foldable **scooter** and method of folding same
- AB - (A1 B2)
 A foldable **scooter** is provided, including: a supporting base being capable of carrying goods; a front wheel **assembly** hinged to a front end of the supporting base via a front rotation **assembly**, comprising a front fork and a front wheel **pivoted** to the front fork; a rear wheel **assembly** provided hinged to a rear end of the supporting base via a rear rotation **assembly**, and comprising a rear fork and a rear wheel **pivoted** to the rear fork; a **steering** bar located at a top end of the front wheel **assembly**; and a handlebar is fixed at a top end of the **steering** bar. The front wheel **assembly** and the rear wheel **assembly** are capable of rotating and then flipping to be folded onto a top surface of the supporting base.

PN - [US2017066494](#) A1 20170309

PR - US201615357813
20161121; US201615053882
20160225; US201514645735
20150312; US201314072449
20131105; US201213633242
20121002; US20090397145
20090303; US20070713947
20070305

AP - US201615357813 20161121

DT - **

CT - || R141 (A1)
[US9533728](#) B2 20170103 [
] (WERNLI BRADLEY E [US])

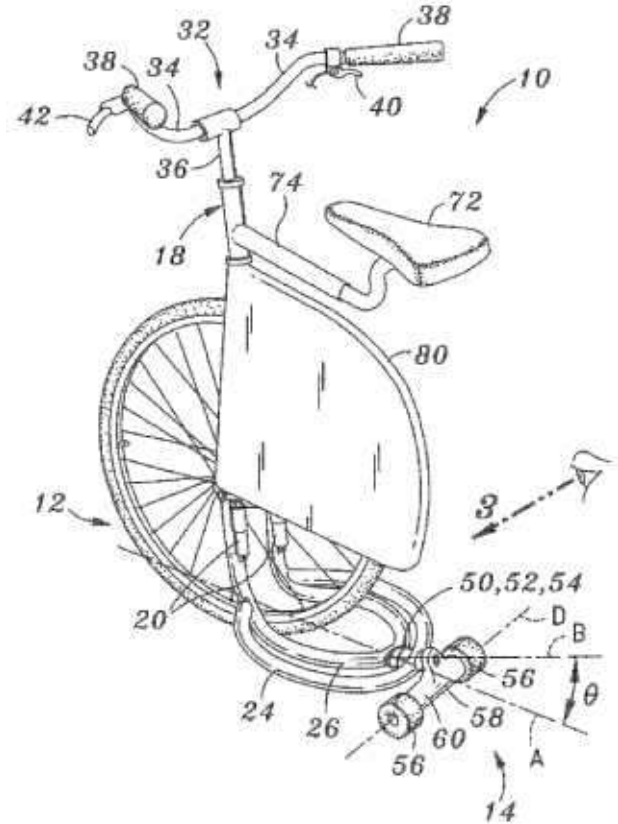
CCI - [B62K3/002](#)

CUI - [B62M6/00](#) ; [B62K5/02](#) ;
[B62K5/027](#) ; [B62K5/06](#) ;
[B62K5/08](#)

PA - SBYKE USA LLC [US]

TI - THREE-WHEELED REAR **STEERING**
SCOOTER

AB - A three wheeled **scooter**
comprises a chassis having
forward and aft ends with a front
wheel non-**pivotaly** mounted to
the forward end and a pair of
rear wheels coaxially mounted
to the aft end. The chassis
defines a longitudinal axis and
includes a support **assembly** and
a handle **assembly** extending
upwardly from the
support **assembly**. The rear
wheels are configured to be
angularly yawable relative to the
longitudinal axis between a
neutral position and a yawed
position. **Steering** of the **scooter**
is thereby effectuated by angular
yawing of the rear wheels
relative to the longitudinal axis
such as by asymmetric loading
of one of opposing sides of the
support **assembly**.



PR - CN20162722310U 20160701

AP - CN20162722310U 20160701

DT - I

PA - HU XINXIAO

TI - Novel it is folding device

AB - The utility model discloses a novel it is folding device, including the upset seat, the upset lock, upset seat hypomere is the invertible head, the upper segment is the connector, the invertible head has articulated portion, the recess is established at invertible head loop type outside middle part, radial opening is established to the bottom, the upset lock is including tapered end and lock seat, the lock seat is equipped with the radial groove of slitting in the position fovea superior that corresponds radial opening, the tapered end inlays at the radial inslot that slits through the support that the hypomere can radially be passed, tapered end upper segment middle part has the notch, it is protruding that both sides have the card, the protruding thickness adaptation of card slides in the recess, the tapered end is established to push away on the position of the outside with the protruding homonymy of one side card middle part and is tied and tie the protruding probe of establishing of outer fringe that **inclines** located in pushing away, the lock seat is established the spring cavity and placed reset spring in the spring cavity on the position that corresponds the probe, reset spring replace at the bottom of the spring cavity chamber with the probe between, invertible head rear portion indent is L type ka tai. The utility model discloses thereby the **assembly** the **scooter** with it supporting locomotive frame go up collapsible rudderstock be convenient for the transportation with receive and keep, simple structure, the easy **assembly**, with low costs.

36/422 © EPODOC / EPO

PN - [CN205759584U](#) U 20161207

PR - CN20162454064U 20160518

AP - CN20162454064U 20160518

DT - I

PA - NINGBO WONDER POWER TECH CO LTD

TI - Electric **scooter**

AB - The utility model discloses an electric **scooter**, including the slide, the front wheel subassembly, the rear wheel subassembly, and a control system, rear - wheel drive mechanism and driving system, driving system and control system connect, control system and rear - wheel drive mechanism are connected, the rear wheel subassembly includes two rear wheels, rear - wheel drive mechanism is the brushless dual output motor of thoughts, thoughts are brushless, and the dual output motor includes outer rotor **assembly**, stator module, hall board and **pivot**, stator module includes that stator hall board installs on the stator, the stator sets up in outer rotor **assembly**, **pivot** and outer rotor **assembly** fixed connection, one end an organic whole of **pivot** is provided with a motor output shaft, other end an organic whole of **pivot** is provided with the 2nd motor output shaft, a motor output shaft and the 2nd motor output shaft are connected with two rear wheel one -to -ones, the advantage is that the cost is lower, and just absolute synchronous the rotation can be realized to two rear wheels, and the equilibrium is good.

37/422 © EPODOC / EPO

PN - [CN205989783U](#) U 20170301
PR - CN20162865814U 20160811
AP - CN20162865814U 20160811
DT - I
PA - CHENG DAN
TI - **Scooter** folding mechanism
AB - The utility model provides a **scooter** folding mechanism that high, the ability reinforce of combatting drop of intensity. Including connecting at the footboard pipe chute between running -board and the frame head pipe, be equipped with between the front end of footboard pipe chute and frame head are managed and make frame head pipe take the folding mechanism who buckles the riser to close up to the running -board direction. But adopt front side fixed connection on frame head pipe for the folding head pipe of solid with can with other part cards of folding head pipe most likely put providing in the holding cavity of before pedal pipe chute tip can be with folding locking bearing pin and the clearance elimination **pivoted** locking **Assembly** of head pipe locking at the set position, the connection structure in the time of can making frame head pipe be in non - fold condition with the pedal pipe chute is like integrated into one piece. Adopt this folding mechanism's sports **scooter**, when carrying out fall - off experiment, its each part that results in on this sports **scooter** is excellent. This folding mechanism adopts steerable locking bearing pin's the slide opening structure of dialling the handle with can making the locking bearing pin back -and -forth movement, can realize folding function again very lightly.

38/422 © EPODOC / EPO

PN - [CN106394759](#) A 20170215
PR - CN20161907871 20161018
AP - CN20161907871 20161018
DT - I
CNOI - [B62K25/04](#) ; [B62K3/002](#)
PA - MAIGU TRADING (SHANGHAI) CO LTD
TI - Suspension **scooter**
AB - The invention discloses a suspension **scooter**. The suspension **scooter** comprises a pedal, a rear wheel set, a front wheel carrier, a front wheel and a **steering** handle **assembly**. The rear wheel set and the front wheel carrier are arranged at the two ends of the pedal respectively, the front wheel is arranged on the front wheel carrier, the **steering** handle **assembly** is connected to the front wheel carrier, the front wheel carrier is arranged at the front end of the pedal in a rotating mode through a rotating mechanism, the rotating mechanism is provided with a locating mechanism, the front wheel is arranged on the front wheel carrier through a suspension mechanism, the front wheel carrier is of a fork structure and comprises two fork arms distributed on two sides of the front wheel carrier respectively, a front rotating shaft is arranged in the center of the front wheel in a penetrating mode, the two ends of the front rotating shaft are arranged on the fork arms through elastic buffering mechanisms to form an elastic

central frame **assembly** (140) extends between the front frame **assembly** and the rear wheel **assembly**. A forward hinge coupling (142) enables relative **pivoting** of the front frame **assembly** and the central frame **assembly** about a front frame **pivot** axis extending at an acute angle relative to a rear vertical transverse plane and at an acute angle relative to a horizontal plane orthogonal to both a rear vertical longitudinal plane and the rear vertical transverse plane. A rearward hinge coupling (144) enables relative **pivoting** of the central frame **assembly** and the rear wheel **assembly**.

41/422 © EPODOC / EPO

PN - [CN205891119U](#) U 20170118

PR - CN20162803331U 20160728

AP - CN20162803331U 20160728

DT - I

PA - YONGKANG TANGSHENG IND & TRADE CO LTD

TI - Folding structure of **scooter**

AB - The utility model discloses a folding structure of **scooter**, including the riser, the footboard, the apparatus further comprises a rotating shaft, collude the piece, the setting element, be equipped with the connecting pipe on the riser, be equipped with the connecting seat on the footboard, the connecting pipe rotates with the connecting seat to be connected, be equipped with the arc hole on the connecting seat, arc hole both ends are equipped with the expansion locating hole, folding locating hole, still include the locating part, button **assembly**, the touching -type roller button further comprises elastic components, the locating part is located on the inner wall of connecting pipe, it is located the connecting pipe to collude the piece, it is formed with and matches according to the splenium and with the locating part to collude the piece top, it is formed with location portion to collude the piece bottom, the pressing hole that the splenium corresponds that presses who is equipped with on the connecting pipe and colludes the piece, button **assembly** locates on the connecting pipe and presses down the splenium of pressing that colludes the piece through pressing hole, the setting element passes the arc hole, the connecting pipe is connected with the location portion of colluding the piece, elastic component one end is connected with the **pivot**, the elastic component other end is connected with the location portion of colluding the piece. The utility model discloses the center of rotation is kept away from in connecting pipe department to the folding operational site that reaches the expansion, reduces to

be pressed from both sides the risk of hindering.

42/422 © EPODOC / EPO

PN - [US2017008589](#) A1 20170112

PNFP - US9771115 B2 20170926

PR - US201615205392
20160708; US201414522295
20141023; US201313826484
20130314; US201261616121P
20120327

AP - US201615205392 20160708

DT - **

CT - || STSE (B2)
[US7549655](#) B2 20090623 [
] (FAN JEENG-NENG [TW]);
[US7597334](#) B2 20091006 [
] (CHEN SHANE [US]);
[US2007182123](#) A1 20070809 [
] (BRYANT ROBERT H [US]);
[US2011127740](#) A1 20110602 [
] (YAMABE HIDEYASU [JP])

CCI - [B62K3/002](#)

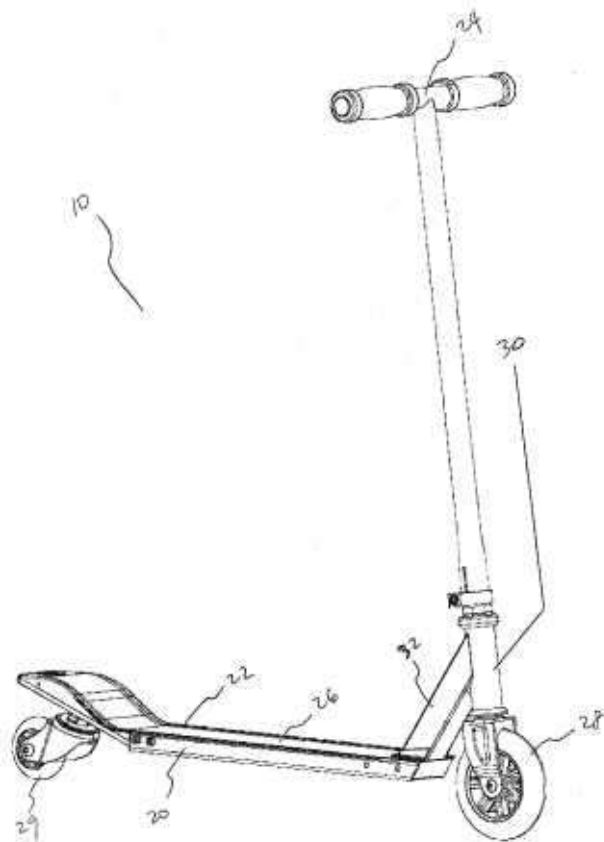
CUI - [B62L1/04](#) ; [B62L3/04](#) ;
[B62K21/12](#)

CQI - [B62B3/001](#)

PA - (A1 B2)
RAZOR USA LLC [US]

TI - (A1)
**SCOOTER WITH REAR SWIVEL
WHEEL**
- (B2)
Scooter with rear swivel wheel

AB - (A1 B2)
A personal mobility vehicle
or **scooter** includes a least one
swivel caster wheel supported at
the rear of the **scooter**.
The **scooter** has a body that
includes a deck and a
handlebar **assembly**. The **scooter**
includes at least one front wheel
with the deck extending between
the at least one front wheel and
the at least one swivel wheel.
The **scooter** can also include an
angled rear portion supporting a



rear swivel caster wheel such that the **pivot** axis of the swivel wheel is **inclined** with respect to the top surface of the deck. Embodiments of the **scooter** also include a swivel braking **assembly** configured to apply a braking force to the at least one swivel wheel.

43/422 © EPODOC / EPO

PN - [CN205854400U](#) U 20170104
 PR - CN20162851582U 20160808
 AP - CN20162851582U 20160808
 DT - I
 PA - LIU KECHEN
 TI - Automatic foldable electric **scooter**
 AB - The utility model relates to an electric motor car technical field especially relates to an automatic foldable electric **scooter**. This electric motor car includes frame, front wheel runner **assembly**, handlebar runner **assembly**, rear wheel runner **assembly**, seat **assembly**, storage battery drivetrain parts and folding control part, the frame is articulated by upper beam, underbeam, left socle and right branch frame and forms, is equipped with the slide rail on the right branch frame, is equipped with telescopic cylinder between underbeam and the right branch frame, folding control partially includes controller, two limit switch that establish at the slide rail both ends, is used for controlling the relay of telescopic cylinder action, is used for driving front wheel runner **assembly**, the first motor of handlebar runner **assembly pivoted** and is used for driving rear wheel runner **assembly pivoted** second motor. The utility model discloses change the frame into parallelogram configuration, both strengthened the intensity of frame, also can hold the large size wheel, improved the comfort level the when electric motor car is ridden, simultaneously, designed electrically controlled device to front wheel, rear wheel and handlebar, realized that the automation of electric motor car is folding and expanded, improved and accommodate efficiency.

44/422 © EPODOC / EPO

PN - [CN205819439U](#) U 20161221
 PR - CN20162719228U 20160708
 AP - CN20162719228U 20160708
 DT - I
 PA - LIU LANG
 TI - Folding **scooter** of multipurpose intelligence four -wheel
 AB - The utility model provides a folding **scooter** of multipurpose intelligence four -wheel, including the slide main part and set up in the roll wheel of slide main part below, be provided with in the slide main part with slide main part swing **joint's** rotor plate, the rotor plate is rotatory around the slide main part through a rotation axis, the inside angle motion detecting device who is provided with battery, main control unit and

control action stationarity of slide main part, angle motion detecting device and main control unit electric connection, through the rotor plate of setting in the slide main part with slide main part swing **joint**, connect a handrail **assembly** on the rotor plate, such structural design has just expanded the function of conventional **scooter**, after with the certain angle of rotor plate rotation, open handrail **assembly**, can become the high **scooter** of practicality fast, thereby obtaining multiple functions in one object, satisfy the user demand that people are different, improve performance price ratio of product, also accord with people's requirement multi -functional to the product, beautiful appearance, it is generous, producing cost is low.

45/422 © EPODOC / EPO

PN - [CN205801369U](#) U 20161214

PR - CN20162732487U 20160701

AP - CN20162732487U 20160701

DT - I

PA - HU XINXIAO

TI - Foldable **scooter**

AB - The utility model discloses a foldable **scooter**, including having the handlebar, the rudderstock, the locomotive frame, the front wheel device, the slide driving license body of footboard and rear wheel device, wherein, be equipped with the folding device on the locomotive frame, the folding device is including the upset seat, the upset lock, the lower extreme of rudderstock is even on the upset seat, be equipped with the projection on the fore carriage, the locomotive has erect the groove, the projection cover is worn in wearing the groove, the locomotive puts up in being equipped with torsion spring seat and torsional spring between two projections, be fixed with the gasket on the projection, the outer collar of rudderstock has the sleeve pipe and be equipped with electrified pond device and switch's audio player on the sleeve pipe, in the sleeve pipe includes, outer sleeve pipe, it is interior, outer cover intertube is equipped with the colored lamp body that links to each other with battery device and switch electrical property. The utility model discloses thereby can fold be convenient for the transportation with receive and keep, simple structure simultaneously, the **assembly** is easy, and is with low costs, has the power -assisted **steering** function moreover, controls laborsavingly, durable lastingly, in addition, plays the function of music color lamp scintillation in addition, recreational showing promotes, the practicality is strong.

46/422 © EPODOC / EPO

PN - [CA2950585](#) A1 20151203
PR - US201462005641P
20140530; WO2015US33435
20150530
AP - CA20152950585 20150530
DT - I
CCI - [B62M1/28](#) ; [B62K3/002](#)
CQI - [B62M9/04](#) ; [B62K5/02](#)
CQA - [B62K2005/001](#)
PA - PASTILHA ADELINO F [US]
TI - STEPPER EXERCISE **SCOOTER**
AB - A stepper **scooter** provides step pads that are connected to a laterally arranged rocker bar **assembly**. Vertical movement of the step pads causes the rocker bar **assembly** to reciprocally **pivot** which translates drive chains which cause rotation of the drive wheel or wheels. The rocker bar **assembly** comprises two four bar linkages between a center fork and each step pad. An alternate embodiment uses the rocker bar to reciprocally rotate a gear axle which drives a bevel gear arrangement to rotate the drive wheel or wheels via one-way bearings. Another embodiment incorporates a chain and sprocket drive between the bevel gear arrangement and the drive wheel or wheels, wherein the one-way bearings are replaced with a one-way sprocket drive.

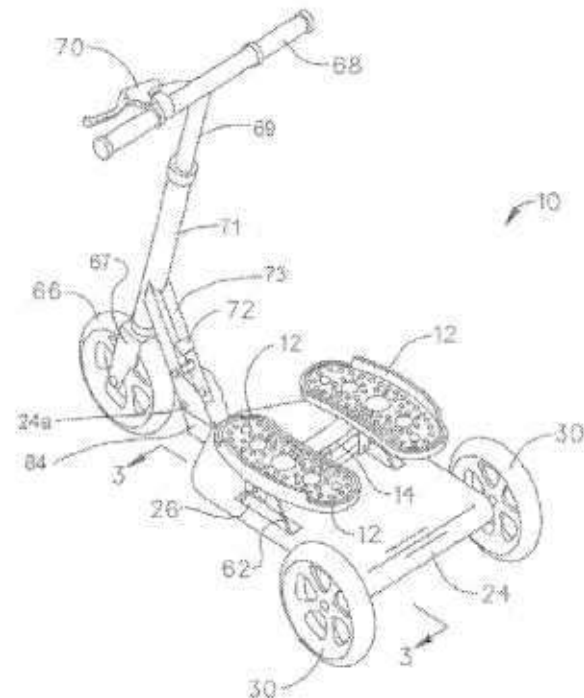


FIG.1

47/422 © EPODOC / EPO
PN - [CN205652266U](#) U 20161019
PR - CN20162310376U 20160414
AP - CN20162310376U 20160414
DT - I
PA - SHI QIN
TI - A frame folding mechanism for folding car

AB - The utility model discloses a frame folding mechanism for folding car, the frame folding mechanism include: with front fork riser fixed connection's connecting piece, the first gear with the relative fixed connection of connecting piece, relative fixed connection with the crossbeam and with first gear engaged with second gear and be connected being used for on the crossbeam and prevent the relative **pivoted** gear locking **assembly** with the second gear of first gear, the connecting piece rotates with the girder to be connected. The utility model discloses can be used to foldable electric **scooter**, folding bicycle, have that bearing capacity is strong, long service life, be difficult for appearing skidding the high advantage of security.

48/422 © EPODOC / EPO

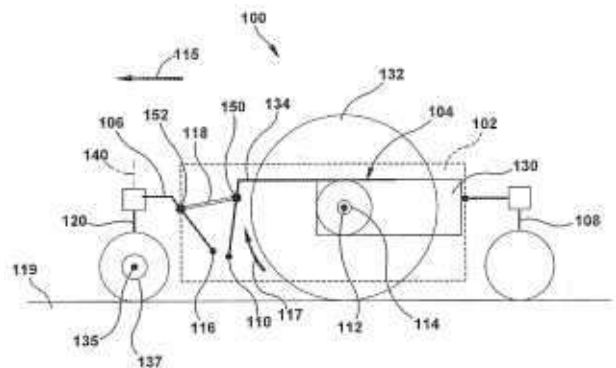
PN - [CN205707078U](#) U 20161123
 PR - CN20162343719U 20160422
 AP - CN20162343719U 20160422
 DT - I
 PA - SHENZHEN ZHISHENGFU TECH CO LTD
 TI - Folding **scooter**

AB - The utility model discloses a folding **scooter**, include: running -board, rotatable coupling at the hand (hold) subassembly of running -board front end, articulate at the rear wheel of running -board rear end, articulate the front wheel in hand (hold) subassembly bottom, the hand (hold) subassembly includes: the top bilateral symmetry be equipped with the handle last pole setting, rotate to connect the folding **assembly** in last pole setting of lower pole setting, the folding **joint** of running -board front end and pole setting down, go up the pole setting and fold to the running -board through folding **assembly** and draw in in. The utility model discloses it is folding effectual, and difficult production the in folding position is rocked when using.

49/422 © EPODOC / EPO

PN - [NZ628837](#) A 20161028
 PR - WO2013US26441
 20130215; US201261598962P
 20120215
 AP - NZ20130628837 20130215
 DT - I
 CCI - [A61G5/043](#) ; [A61G5/045](#) ;
[A61G5/06](#) ; [A61G5/1078](#) ;
[A61G5/1089](#)

CUI - [A61G5/10](#) ; [B60G3/207](#)
 CUA - [B60G2300/24](#)
 PA - INVACARE CORP
 TI - Wheelchair suspension
 AB - A wheelchair or mobility **scooter** suspension includes a frame (502), a drive **assembly pivot** arm (534), a drive **assembly** (504), a



AB - 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**.

51/422 © EPODOC / EPO

PN - [CN106043557](#) A 20161026

PR - CN20161415214 20160614

AP - CN20161415214 20160614

DT - I

CNOI - [B62K15/006](#)

CNOA - [B62K2015/005](#)

PA - MELTON VEHICLE IND CO LTD

TI - **Scooter** provided with dragging wheels

AB - The invention discloses a **scooter** provided with dragging wheels. The **scooter** comprises a pedal, an **inclined** beam, a direction **assembly** mounted on the **inclined** beam, a front wheel mounted at the bottom of the direction **assembly** and a rear wheel connected with the pedal. A **joint** base is arranged on the pedal and hinged to the **inclined** beam. A locking mechanism is arranged between the **joint** base and the **inclined** beam. The diameter ratio of the front wheel to the rear wheel is 0.2-5. The **scooter** further comprises a dragging wheel **assembly** linked with the **inclined** beam or the **joint** base. The **scooter** provided with the dragging wheels has the beneficial effects that by arranging the dragging wheel **assembly**, the **scooter** can be dragged conveniently, stably and easily with less effort after being folded; and meanwhile, the dragging wheel **assembly** is linked with the **inclined** beam or the **joint** base, and normal application of the **scooter** is not disturbed or hindered.

52/422 © EPODOC / EPO

PN - [CN205661591U](#) U 20161026

PR - CN20162495594U 20160528
 AP - CN20162495594U 20160528
 DT - I
 PA - CAI XUEMIN
 TI - Double round electrodynamic balance **scooter**
 AB - The utility model discloses a double round electrodynamic balance **scooter**, including automobile body, pedal **assembly**, motor element, drive wheel and auxiliary wheel, wherein, above -mentioned automobile body is platelike structure, and the top surface of automobile body sets up pedal **assembly** to the user supports, the automobile body bottom surface is close to rear end department and is equipped with the convex installation body that makes progress, should install internal interval and set up two drive wheels, and the **pivot** and the flange that is located automobile body side department of drive wheel rotationally are connected, above -mentioned motor element sets up respectively in the lateral part of two drive wheels to be connected with the **pivot** of drive wheel, so that it is rotatory to drive the drive wheel, above -mentioned auxiliary wheel rotationally interval sets up and is close to front end department in the automobile body bottom surface to support the automobile body. The utility model discloses a two wheel drive structure, double drive wheel forms the three point support structure with the auxiliary wheel, effectively promoted the stable and equilibrium of **scooter**, and power is sufficient.

53/422 © EPODOC / EPO

PN - [US9475543](#) B1 20161025
 PR - TW20150209343U 20150611
 AP - US201514965911 20151211
 DT - **
 CT - || STSE (B1)
[US1799947](#) A 19310407 [] (BENJAMIN WALTER R);
[US2466105](#) A 19490405 [] (HOFFMAN JOSEPH Q);
[US4846488](#) A 19890711 [] (SZADKOWSKI ANDRZEJ [US]);
[US7621547](#) B1 20091124 [] (FAN RONNIE CHEE KEUNG [US]);
[US8210553](#) B2 20120703 [] (FAN JEENG-NENG [TW]);
[US2007024019](#) A1 20070201 [] (TARLOW KENNETH A [US], et al);
[US2012013097](#) A1 20120119 [] (FAN JEENG-NENG [TW])
 CCI - [B62M1/24](#) ; [B62M1/26](#) ; [B62K3/002](#)
 CUI - [B62M9/02](#)
 PA - CHOU SHUI-CHUAN [TW]
 TI - Pedal **scooter** transmission mechanism
 AB - A pedal **scooter** transmission mechanism capable of increasing more motion energy in the pedal **scooter**, comprising a driving chainring **pivotaly** connected to a proximity of a middle section of the deck, wherein the driving chainring is connected with the driven chainring via a transmission element, whereby the rear wheel and the driven chainring are being driven; two pedal mechanisms, every pedal mechanism comprising a pedal which is horizontally installed on both sides the deck near the middle section, and drives the center axle by a driving connecting rod **assembly**, wherein the total length of

driving connecting rod assemblies is different, so that one of the pedal can generate more torque force and make the pedal **scooter** produce more motion energy.

54/422 © EPODOC / EPO

- PN - [US2016297459](#) A1 20161013
- PR - NO20130001459 20131104; WO2014IB65785 20141104
- AP - US201415034397 20141104
- DT - **
- CCI - [B62B1/002](#) ; [B62B1/008](#) ; [B62B1/12](#) ; [B62K3/002](#) ; [B62K15/006](#)
- CUI - [B62B3/022](#)
- CCA - [B62B2206/006](#)
- PA - OPSVIK PETER AS [NO]
- TI - COMBINED **SCOOTER** AND HANDCART
- AB - A combined device is adjusted between a **scooter** position and a handcart position. The combined device includes a front part provided with a **steering assembly** and at least one front wheel, and a rear part provided with at least one rear wheel. The front part is rotatably connected to the rear part in one **pivot joint**, or in a plurality of **pivot** joints having a common axis of rotation, such that on adjustment from **scooter** position to handcart position, the at least one rear wheel and the at least one front wheel are **pivoted** towards and against each other.

55/422 © EPODOC / EPO

- PN - [CN205627013U](#) U 20161012
- PR - CN20162344257U 20160423
- AP - CN20162344257U 20160423
- DT - I
- PA - WANG YILING
- TI - 4 wheel driven **scooter** shock mitigation system
- AB - 4 wheel driven **scooter** shock mitigation system, its characterized in that: the system is by tapered roller bearing, the bearing room, the revolving axle, damping spring, tie bolt, spring holder and slide groove hole constitute, each fixed mounting has a bogie in the both ends bottom surface of footboard, the cross section of bogie is a U type structure that open side down, before the bogie, back plate slope design becomes $45^\circ + \phi$ contained angle with the horizontal plane, $15^\circ \leq \phi \leq 15^\circ$, before the bogie, the welding has the fixed plate between the back plate, before the bogie, the middle position of back plate has the slide groove hole of a rectangular shape, slide groove hole's rectangular shape direction is perpendicular with the crossbeam, the revolving axle passes slide groove hole and two sets of tapered roller bearing's hole on the bogie, crossbeam and bogie **assembly** together, make crossbeam wraparound **pivot** produce the left and right sides and rotate, respectively install a damping spring in the both sides of revolving axle, these two damping spring become splayed.

56/422 © EPODOC / EPO

- PN - [CN205632906U](#) U 20161012

PR - CN20162451654U 20160518
 AP - CN20162451654U 20160518
 DT - I
 PA - CHEN SI
 TI - Installation of **scooter** battery and pole setting hand (hold) device
 AB - The utility model discloses an installation of **scooter** battery and pole setting hand (hold) device, including front fork **assembly**, **column assembly**, handle **assembly**, its top of front fork **assembly** be provided with the connection lock sleeve, connect the lock sleeve and be connected with the direction stand bottom that **column assembly** set up through the outer piece of fixed cover, screw, connect the lock sleeve and set up in direction stand inner wall, outer of fixed cover sets up in direction stand outer wall, the beneficial effect of the utility model: this device simple structure, low in production cost, the battery that this patent device set up is provided with direction stand inner wall, and the battery adopts the hidden design of stand, effectively promotes the wholeness of its outward appearance, simultaneously, internal fixation cover and external fixation cover and screw connection mode are all adopted to each **assembly** junction, and simple structure is reliable, and it is convenient to install, effectively promotes the productivity effect.

57/422 © EPODOC / EPO

PN - [CN205632848U](#) U 20161012
 PR - CN20162396508U 20160503
 AP - CN20162396508U 20160503
 DT - I
 PA - GUANGZHOU HUSKY PRODUCT DESIGN CO LTD
 TI - Structure is decided to car lever lock of **scooter**
 AB - The utility model provides a structure is decided to car lever lock of **scooter**, includes handlebar **assembly**, car pole, footboard and moving part, handlebar **assembly** installs the top at the car pole, car pole bottom is through a **pivot pin joint** in the front end of footboard, the front end spacing portion that has set firmly of footboard, the moving part is installed in car pole bottom and can be followed the direction of height motion of car pole, the moving part has the splenium of receiving and supports the portion that establishes, supports the outside and butt that the portion of establishing is used for motion to spacing portion when pressed down by external force by the splenium in order to prevent that the car pole from rotating outside spacing portion. The utility model discloses a structure is decided to car lever lock of **scooter**, its receipts that make things convenient for the car pole are folded and are carried, and when **scooter** normal use, only need according to moving part on the pole of delaying unloading receive the splenium alright make to support and establish the front end of a butt in the spacing portion of footboard to accomplish the locking of car pole and footboard.

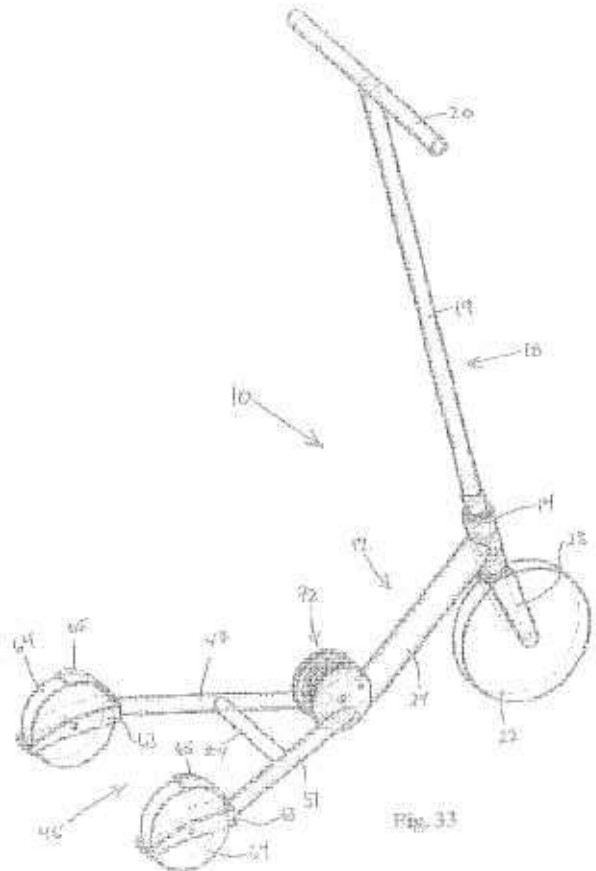
58/422 © EPODOC / EPO

PN - [TW201623081](#) A 20160701
 PNFP - TWI601658B B 20171011
 PR - FR20140058938 20140923

AP - TW20150131291 20150922
DT - I
CCI - [B62K3/002](#) ; [B62K5/05](#) ; [B62K21/00](#)
CUI - [B62K5/08](#) ; [B62K21/18](#) ; [F16D3/38](#)
PA - (A B)
DECATHLON SA [FR]
TI - (A B)
A vehicle with a sloping **steering column**
AB - (A)
The invention relates to a vehicle (10), e.g. of the **scooter** type, comprising: a deck (12); tail gear (30) having single contact means (32); a **steering assembly** (16) comprising at least a **steering column** (18) having a first axis (X1), the first axis and the plane of the support forming a first angle (α_1); nose gear (22); the nose gear being mounted to **pivot** relative to the deck about a second axis (X2); the **steering column** being arranged in such a manner that **pivoting** the **steering column** about the first axis causes the nose gear to **pivot** about the second axis; and, the first and second axes sloping relative to each other, thereby defining a second angle (α_2). The invention is characterized by the fact that the first angle (α_1) is not variable while the vehicle is in use.

59/422 © EPODOC / EPO

PN - [CN105683035](#) A 20160615
PR - NO20130001459
20131104; WO20141B65785
20141104
AP - CN2014860284 20141104
DT - I
CT - || STSE (A)
[WO03093093](#) A1 20031113
[A] (DAHL LARS ERIC [SE])
[A] 1-19
* 全文 *;
[CN201385733Y](#) Y 20100120
[A] (KANG CHEN)
[A] 1-19
* 全文 *;
[DE29610975U](#) U1 19961024
[A] (ITO DESIGN UND MARKETING
GMBH [DE])
[A] 1-19
* 全文 *;
[US8282109](#) B1 20121009
[A] (ARJOMAND HAMID [US], et
al)
[A] 1-19
* 全文 *;
[JP2005199980](#) A 20050728



[A] (KIMURA SHIRO)

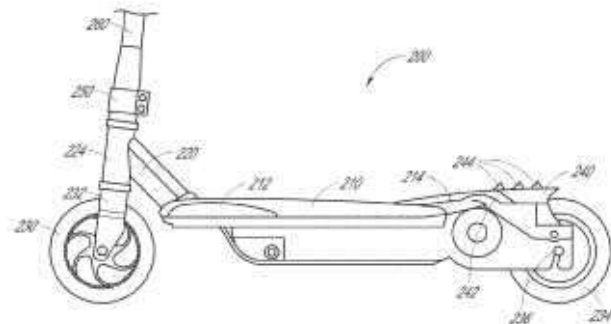
[A] 1-19

* 全文 *

- CCI - [B62B1/002](#) ; [B62B1/008](#) ;
[B62B1/12](#) ; [B62K3/002](#) ;
[B62K15/006](#)
- CUI - [B62B3/022](#)
- CCA - [B62B2206/006](#)
- PA - OPSVIK PETER AS
- TI - COMBINED **SCOOTER** AND
HANDCART
- AB - A combined device (10) is
described for adjustment
between a **scooter** position and a
handcart position. The combined
device (10) comprises a front
part (12) provided with
a **steering assembly** (18) and at
least one front wheel (22), and a
rear part (45) provided with at
least one rear wheel (64). The
front part (12) is rotatably
connected to the rear part (45) in
one **pivot joint** (72), or in a
plurality of **pivot** joints (72)
having a common axis of
rotation (A), such that on
adjustment from **scooter**
position to handcart position,
the at least one rear wheel (64)
and the at least one front wheel
(22) are **pivoted** towards and
against each other.

60/422 © EPODOC / EPO

- PN - [US2016272265](#) A1 20160922
- PR - US201514920835
20151022; US201314043748
20131001; US201261708996P
20121002
- AP - US201514920835 20151022
- DT - **
- CCI - [B62L1/04](#) ; [B62M6/90](#) ;
[B62K3/002](#) ; [B62K21/12](#)
- CUI - [B62K11/00](#)
- CCA - [B62M6/60](#) ; [B62K2202/00](#) ;



[B62K2204/00](#)

CUA - [B62K2208/00](#)

CQA - [B62M7/12](#)

PA - BRAVO SPORTS [US]

TI - ELECTRIC **SCOOTER** ASSEMBLIES

AB - 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.

61/422 © EPODOC / EPO

PN - [CN205554455U](#) U 20160907

PR - CN20162219326U 20160322

AP - CN20162219326U 20160322

DT - I

PA - HUNAN AUTOMOTIVE ENG VOCATIONAL COLLEGE

TI - Tricycle

AB - The utility model relates to a tricycle, including front wheel, rear wheel, frame, fork. Its main points are: the fork two before be equipped with driving gear and intermediate gear on the fork arms, be equipped with drive initiative gear revolve's pedal link **assembly** on the driving gear, pedal link **assembly** comprised connecting rod and

pedal the binding, the rotation axis connection of connecting rod one end and driving gear, the other end are connected with riding, the both ends of the shaft of front wheel are equipped with driven gear, and driving gear, intermediate gear, driven gear mesh the connection in proper order, the frame comprises by connecting the **pivot** connection preceding frame and back frame to set up by gland nut on connecting the **pivot**, be equipped with the trailing axle of taking coaster footboard and two rear wheels on the back frame. The utility model discloses a tricycle, simple structure is compact, and folding convenient, it is little to deposit occupation space, the bicycle can regard as the car of riding instead of walk, recreational vehicle, wheel barrow or **scooter** to use, the gear drive good reliability, the tricycle structure, stability and security are good.

62/422 © EPODOC / EPO

- PN - [CN205524768U](#) U 20160831
- PR - TW20150209343U 20150611
- AP - CN20162216656U 20160321
- DT - I
- CCI - [B62M1/24](#) ; [B62M1/26](#) ; [B62K3/002](#)
- CUI - [B62M9/02](#)
- PA - ZHOU SHUIQUAN
- TI - Can increase go forward drive mechanism of kinetic energy of **scooter**
- AB - The utility model provides a can increase go forward drive mechanism of kinetic energy of **scooter**, including a drive rim plate, the position in neighbouring middle section on the central shaft pin **joint** that should drive the rim plate to the frame of this **scooter**, should drive the passive rim plate that the rim plate established on can the rear wheel through a drive **assembly** and this **scooter** and be connected to drive this passive rim plate and rear wheel, two trample the mechanism, respectively should trample the mechanism and include a pedal, these pedals respectively horizontally the **pivot** establish the left and right sides in neighbouring middle section on this frame, and can drive this central authorities' shaft through a drive linkage respectively, the total length that should drive the linkage is inequality, makes a pedal wherein apply great torsion to this central authorities' shaft, and then makes this **scooter** continuously move along with the bigger kinetic energy that gos forward.

63/422 © EPODOC / EPO

- PN - [CN205524613U](#) U 20160831
- PR - CN20162200024U 20160316
- AP - CN20162200024U 20160316
- DT - I
- PA - JOEWO INTELLIGENT (SUZHOU) CO LTD
- TI - Folding electric **scooter**'s apolegamy formula seat pole
- AB - The utility model discloses a folding electric **scooter**'s apolegamy formula seat pole, be assembled between/be connected between are fixed in folding electric **scooter** and bend on the support of subassembly. Especially, this support has and is suitable for the seat pole to insert U type groove wherein, and the both sides wall in U type groove is equipped with perforation pervious two sets of relatively, this seat pole is equipped

with latching **assembly** with the one end that the subassembly of bending meets, and two location **pivots** of this latching **assembly** run through bores a hole and seat pole location seat pole and support. Use the utility model discloses a seat pole, it can be by user's free configuration option **assembly** as required to the latching **assembly** who adopts pegs graft and fixes a position the convenience, and the firm intensity of structure is big, has promoted folding electric **scooter**'s use impression by a wide margin.

64/422 © EPODOC / EPO

PN - [KR20160087674](#) A 20160722

PR - KR20150006945 20150114

AP - KR20150006945 20150114

DT - I

CNOI - [B62K11/14](#) ; [B62K23/02](#)

PA - KIM JAE GEUN [KR]

TI - **STEERING WHEEL ELECTRIC SCOOTER STEERING ASSEMBLY** FOR EASE OF LAYOUT STRUCTURE

AB - The present invention relates to a handlebar **assembly** with a convenient **steering** layout structure for an electric **scooter**, to form a handlebar in an oval shape on both sides of a handlebar **assembly** body, so as to improve grip convenience and **steering** convenience of the handlebar. According to the present invention, an electric **scooter** as a small transportation means moved by operating a driving motor through power of a battery comprises: a handlebar formed at a predetermined **inclination** angle to control the advancing direction of the electric **scooter** while being symmetrically formed in a semi-oval shape at both sides of a handlebar **assembly** body forming the electronic **scooter**; an electronic brake motor forwarding lever capable of being controlled by the remaining fingers except a thumb in a state of gripping the handlebar while being formed on one upper side of the handlebar **assembly** body; an electronic brake motor rearward lever capable of being controlled by the remaining fingers except the thumb in the state of gripping the handlebar while being formed on the other upper side of the handlebar **assembly** body; an emergency stop lever performing emergency stop of the electric **scooter** with only a pressing action while being formed in the front surface of the **steering** panel forming the upper part of the handlebar **assembly** body; and a speed control dial capable of controlling the speed of the electric **scooter** while being formed in a dial type on the front surface of the **steering** panel forming the upper part of the handlebar **assembly** body.

65/422 © EPODOC / EPO

PN - [CN205396371U](#) U 20160727

PR - CN20162121768U 20160216

AP - CN20162121768U 20160216

DT - I

PA - HUANGDACHENG

TI - Electric **scooter** with expansion can be folded fast to arc

AB - The utility model discloses an electric **scooter** with expansion can be folded fast to arc,

including footboard and footboard locking piece, the one end of footboard is connected with the back wheel casing, the other end of footboard is connected with the headlamp main part through the lock that slides, and the one end that is equipped with the footboard of headlamp main part still is connected with folding pipe **assembly** through the **pivot**, folding pipe **assembly** endotheca is equipped with movable riser, and be equipped with folding latch hook on the activity riser, the footboard locking piece is four, and be hollow structure, two liang of both sides of establishing at the footboard of four footboard locking pieces, this electric **scooter** with expansion can be folded fast to arc, inside integrating into the automobile body with beta structure, it is pleasing to the eye to have kept the automobile body, the operation of no longer need bowing of experience person, straight vertical leg steps on the locomotive beta structure that can release or lock, folds this product. The folding couple of locomotive air traffic control and back chock mud capping be closed realizes folding lock -out state, this product alright utilize the plantago wheel to realize dragging the line, create the more convenient function of carrying.

66/422 © EPODOC / EPO

PN - [CN205396397U](#) U 20160727
 PR - CN20162179232U 20160309
 AP - CN20162179232U 20160309
 DT - I
 PA - LI JIAQUAN
 TI - Electric **scooter**'s brake structure
 AB - The utility model belongs to the electric motor car field relates to an electric **scooter**'s brake structure, and the brake pedal between two wheels links to each other with the bearing footboard through a spring **assembly**, and the other end passes through the connecting rod and links to each other with the brake block, when the footboard when pushing down, the brake block rubs with the **pivot** mutually. Each fixed wheel of **pivot** both sides, the **pivot** was also rotated in step when the wheel rotated, and the dead lever then links to each other with **pivot** both ends respectively, and the other end is then fixed on the bearing footboard.

67/422 © EPODOC / EPO

PN - [CN105775000](#) A 20160720
 PR - CN20161278376 20160501
 AP - CN20161278376 20160501
 DT - I
 CT - || STSE (A)
[US2008236923](#) A1 20081002 [A] (HASEGAWA YOSUKE [JP], et al)
 [A] 1-15
 * 全文 *;
[CN103552645](#) A 20140205 [A] (NANJING LEGWAY INTELLIGENT MACHINE CO LTD)
 [A] 1-15
 * 全文 *;
[CN103707972](#) A 20140409 [X] (JIAXING SIMAILONG ELECTRONIC TECHNOLOGY CO LTD)
 [X] 1-15

* 说明书第[0062]-[0099]段，图1-39 *;

[CN204296960U](#) U 20150429 [A] (YANGYUNQI)

[A] 1-15

* 全文 *;

[CN104787187](#) A 20150722 [A] (ZHEJIANG LINIX MOTOR CO LTD)

[A] 1-15

* 全文 *;

[CN204821899U](#) U 20151202 [A] (QINGAO WALKER INTELLIGENT TECHNOLOGY CO LTD)

[A] 1-15

* 全文 *

CNOI - [B62K11/00](#)

PA - LICHUNLAN

TI - Electric self-driving balance **scooter**

AB - The invention relates to an electric self-driving balance **scooter**. The electric self-driving balance **scooter** comprises a driving wheel, an inner tire of the driving wheel, a wheel hub of the driving wheel, a roller ring, a fixing ring of the roller ring, a roller sleeve cylinder, a roller bolt, a wheel core support seat, a rolling bearing, a motor, a motor gear, a motor base, a brake gear, a brake pad, related fixing parts, a battery, a power source controller, a driven wheel, a headlamp, a back driving indication lamp, a front cover, a back cover, pedal plates, a rotary handlebar, a **steering assembly**, a speed controller, a hand brake, a cushion, an outer casing, a handle bracket, and a control handle of the balance **scooter**. The invention also provides a structure design and manufacturing method of the electric self-driving balance **scooter** and the related parts. The electric self-driving balance **scooter** has the advantage that a motor is controlled by the power source controller through the speed control handle of the balance **scooter**, and the motor gear is driven to drive the wheel hub and the outer tire on the roller sleeve cylinder to realize the movement of the balance **scooter**, so that the entertainment and movement requirements of people are met.

68/422 © EPODOC / EPO

PN - [CN105774995](#) A 20160720

PR - CN20141816673 20141224

AP - CN20141816673 20141224

DT - I

CT - || STSE (A)

[CN2484245Y](#) Y 20020403 [Y] (XIANHAO ELECTRIC TOY CO LTD DO [CN])

[Y] 1-7

* 附图1-6，说明书第2页第15段-第3页第1段，权利要求1-6 *;

[CN2791335Y](#) Y 20060628 [A] (XISHAN SCIENCE TECHNOLOGY CO LT [CN])

[A] 1-7

* 全文 *;

[CN101077712](#) A 20071128 [Y] (SAIC CHERY AUTOMOBILE CO LTD [CN])

[Y] 1-7

* 权利要求1-4，说明书第1页第5-6段、第2页第1段、最后1段，第3页第2段，附图1-4 *;

[CN102189907](#) A 20110921 [A] (SUZHOU EAGLE ELEC VEHICLE MFG)

[A] 1-7

* 全文 *;
[CN202283961U](#) U 20120627 [A] (VERMEIREN MEDICAL EQUIPMENT CO LTD)
 [A] 1-7
 * 全文 *;
[CN202765179U](#) U 20130306 [Y] (MA ZHUANG)
 [Y] 6
 * 附图1, 说明书第19段 *;
[CN203332296U](#) U 20131211 [A] (TIANJIN JIABAO WHEELCHAIR CO LTD)
 [A] 1-7
 * 全文 *;
[CN104070953](#) A 20141001 [Y] (LOUDI DAFENGHE ELECTRIC CAR CO LTD)
 [Y] 1-7
 * 权利要求1-5, 附图1-2, 说明书第43-47段 *;
[US2014353940](#) A1 20141204 [A] (BARTOLOZZI STEFANO [IT], et al)
 [A] 1-7
 * 全文 *;
[CN204309960U](#) U 20150506 [R] (VERMEIREN MEDICAL EQUIPMENT CO LTD)
 [R] 1-7
 * 权利要求1-7 *

PA - VERMEIREN MEDICAL EQUIPMENT CO LTD

TI - **Scooter**

AB - The invention discloses a **scooter** which comprises a **scooter** frame, a seat part installed on the **scooter** frame, a front wheel **assembly** installed below the front side of the **scooter** frame and a rear wheel **assembly** installed below the rear side of the **scooter** frame. The front wheel **assembly** comprises a front wheel support, a **steering** shaft **assembly** extending upwards from the front wheel support, a handlebar **assembly** arranged at the upper end of the **steering** shaft **assembly** and two front wheels, wherein a **steering** linkage mechanism is arranged between the **steering** shaft **assembly** and the front wheels, and a front shock absorption **assembly** and a suspension mechanism are arranged between the front wheel support and the **scooter** frame. The **scooter** is reliable and reasonable in design structure; when the **scooter** encounters pits and jolts in the advancing process, vibration generated by the front wheels is absorbed through elastic stuffing, and oscillation of the seat part is reduced or eliminated; when one of the front wheels encounters a protrusion on a road surface, the corresponding front wheel and the front wheel support can deflect relative to the **scooter** frame through the suspension mechanism, and therefore the deflection range of the seat part on the **scooter** frame is reduced. In conclusion, the **scooter** is similarly suitable for a rugged road segment, and taking safety and comfort can be guaranteed.

69/422 © EPODOC / EPO

PN - [CN205381344U](#) U 20160713

PR - CN20152881129U 20151103

AP - CN20152881129U 20151103

DT - I

PA - HUANG DIANGUI

TI - Biax foldable electric **scooter** frame

AB - Known folding bicycle operates tired lock at present, guides and supports burden after

folding, be not convenient for go out to carry, the utility model provides a: biax foldable electric **scooter** frame. The utility model discloses a design is: frame (7) and back frame (1) before designing one kind before frame (7) lower extreme is equipped with in the front **pivot** cover (6), run through seat pipe (2) on back frame (1), the lower extreme of present pipe (2) is equipped with back **pivot** cover (10) [with preceding **pivot** cover (6) looks isostructure], is equipped with on back **pivot** cover (10) in addition pedal seat (9) to be linked to be whole with pedal seat (9) and lower vaulting pole (11), redesign biax support (8) [diaxon looks isostructure] rotates respectively with preceding **pivot** cover (7) and back **pivot** cover (10) to be connected, frame (7) and back frame (1) relative rotation on biax support (8) before making, be equipped with preceding socket hinge (5) on frame (7) again before whole, be equipped with back socket hinge (4) on whole back frame (1), spanner (3) of installing " auto -lock clamp plate **assembly** " in addition on back socket hinge (4) to on inserting insurable clamp plate (15) on " auto -lock clamp plate **assembly** " with preceding socket hinge (5), in addition: be equipped with battery and control system in frame (7) in the front, can assemble and become to fold electric bicycle. This kind of biax foldable electric **scooter** frame: 1. With very simple and safely technical pattern, produce less folding electric bicycle of volume ratio and travel bicycle, provide very big convenience for the person of travelling outdoors, 2, special for the tourist be situated between determined walk tired bitter, 3, after folding into lugging van, can put personal article on the car again, easily carry out in the place of riding inconveniently.

70/422 © EPODOC / EPO

PN - [CN105752247](#) A 20160713

PR - CN20161100094 20160223

AP - CN20161100094 20160223

DT - I

CT - || STSE (A)

[CN1313141](#) A 20010919 [Y] (YU WENLIANG [CN])

[Y] 1、4-8

* 说明书第2页倒数第2行-第3页最后一行, 附图2-7 *;

[CN2908323Y](#) Y 20070606 [A] (MEIERDUN CYCLE INDUSTRY DONGGU [CN])

[A] 1-10

* 全文 *;

[WO2010050803](#) A2 20100506 [A] (GROUP P & A HOLDING B V [NL], et al)

[A] 1-10

* 全文 *;

[CN105270548](#) A 20160127 [Y] (SHENZHEN DADECHENG INTELLIGENT ELECTROMECHANICAL CO LTD)

[Y] 1、4-8

* 说明书第20-32段, 附图1-5 *;

[CN105292348](#) A 20160203 [A] (WANG ZHENHU)

[A] 1-10

* 全文 *;

[CN205469562U](#) U 20160817 [R] (DAFU INTELLIGENT TECH (CHANGZHOU) CO LTD)

[R] 1-10

* 权利要求1-10 *

CNOI - [B62K15/006](#)

PA - DAFU INTELLIGENT TECH (CHANGZHOU) CO LTD

TI - **Scooter**

AB - The invention discloses a **scooter**.The **scooter** comprises a **scooter** body base, a supporting part, a front wheel **assembly**, a rear wheel **assembly**, a handlebar **assembly**, a handlebar stand **column**, a brake device and a battery **assembly**;the handlebar **assembly** comprises a handlebar and the handlebar stand **column**,the middle of the handlebar and the upper end of the handlebar stand **column** are connected through a first rotary locking mechanism, the lower end of the handlebar stand **column** is fixedly connected with a front fork of the front wheel **assembly**,the handlebar stand **column** is provided with a second rotary locking mechanism, the rear wheel **assembly** is connected to the rear portion of the **scooter** body base, and the brake device is assembled on the rear wheel **assembly**.According to the **scooter**, as the handlebar and the handlebar stand **column** are provided with the rotary locking mechanisms respectively, after being folded, the **scooter** is smaller in overall width and very low, the space occupied by the **scooter** can be reduced substantially, and when the **scooter** is pulled, the handlebar can be prevented from swinging left and right so that the **scooter** can be pulled conveniently.By means of the gravity induction and balance induction functions of the **scooter**, it is more interesting to ride the **scooter**, and the **scooter** is higher in safety and easier to operate.

71/422 © EPODOC / EPO

PN - [CN205365948U](#) U 20160706

PR - CN201521044780U 20151215

AP - CN201521044780U 20151215

DT - I

PA - SHAANXI CHENGYANG ELECTRONIC INTELLIGENT TECH CO LTD

TI - A damping device for electric **scooter**

AB - The utility model discloses a damping device for electric **scooter**, including electric **scooter** front wheel support and front wheel support articulated footboard, the front wheel support passes through the second grade bumper shock absorber and is connected with the footboard, the second grade bumper shock absorber includes hemisphere type seat and hemisphere type lid, hemisphere female cap cover groove is equipped with the U type week and supports the groove, the U type supports the groove and is provided with a plurality of spring assemblies along its circumference, a plurality of reference columns that are equipped with in terminal surface week of hemisphere type seat are organized, hemisphere type seat is installed in hemisphere type lid, reference **column** group inserts in the spring that the spring **assembly** has, compared with the prior art the preferred multistage shock attenuation of this scheme design, can stop 95% or more the shake can, make people's foot not receive the interference of vibrations, really reach absorbing technique effect, preferred ball -type multiple spot shock -absorbing structure from the technological layer, carries out the two -stage multiple spot with the seismic source and subtracts and disappear, the shock attenuation effect is quite good, structural design scientific and reasonable, installation easy maintenance can industrialization degree height.

72/422 © EPODOC / EPO

PN - [CN205327289U](#) U 20160622

PR - CN201521030126U 20151211

AP - CN201521030126U 20151211

DT - I

PA - LEZHENG

TI - Foldable electric **scooter's** collapsible tap

AB - The utility model relates to a foldable electric **scooter's** collapsible tap, including install the support arm on the frame and install in handlebar **assembly** on the support arm, the support arm includes the lower support rod that links firmly with the frame and the last bracing piece of being connected with handlebar **assembly**, be connected through vaulting pole beta structure between lower support rod and the last bracing piece, but lower support rod is extending structure, the folded plate reached folded plate down on vaulting pole beta structure included mutual articulated, went up the folded plate and linked firmly with last bracing piece, and lower folded plate links firmly with lower support rod, upward rotated through the pin on the folded plate and installed the locking board, rotated through the **pivot** on the locking board and installed the latch segment, and the medial surface of latch segment has locks the groove, installs and lock the check lock lever of slot combination on the lower folded plate, handlebar **assembly** includes the T type that links firmly with last upper end of the support bar installation head, and the bilateral symmetry of T type installation head is installed handle and movable sleeve and is placed the lock tube on hand in, and the tip of handle passes through the rotating head and is connected with the first rotation of T type installation.

PN - [US2016176466](#) A1 20160623

PNFP - US9533728 B2 20170103

PR - US201615053882
20160225; US201514645735
20150312; US201314072449
20131105; US201213633242
20121002; US20090397145
20090303; US20070713947
20070305

AP - US201615053882 20160225

DT - **

CT - || R141 (A1)
[US8998226](#) B2 20150407 [
] (WERNLI BRADLEY E [US]);
[US9296443](#) B2 20160329 [
] (WERNLI BRADLEY E [US]);
[US8336894](#) B2 20121225 [
] (WERNLI BRADLEY E [US]);
[US2005116430](#) A1 20050602 [
] (CHEN SHANE [US]);
[US4082307](#) A 19780404 [] (TAIT
ROBERT JOHN)
- || STSE (B2)
[US4082307](#) A 19780404 [] (TAIT
ROBERT JOHN);
[US8336894](#) B2 20121225 [
] (WERNLI BRADLEY E [US]);
[US8998226](#) B2 20150407 [
] (WERNLI BRADLEY E [US]);
[US9296443](#) B2 20160329 [
] (WERNLI BRADLEY E [US]);
[US2005116430](#) A1 20050602 [
] (CHEN SHANE [US])

CCI - [B62K3/002](#)

CUI - [B62M6/00](#) ; [B62K5/02](#) ;
[B62K5/027](#) ; [B62K5/06](#) ;
[B62K5/08](#)

PA - (A1 B2)
SBYKE USA LLC [US]

TI - (A1)
THREE-WHEELED REAR-STEERING
SCOOTER
- (B2)
Three-wheeled rear-steering
scooter

AB - (A1 B2)

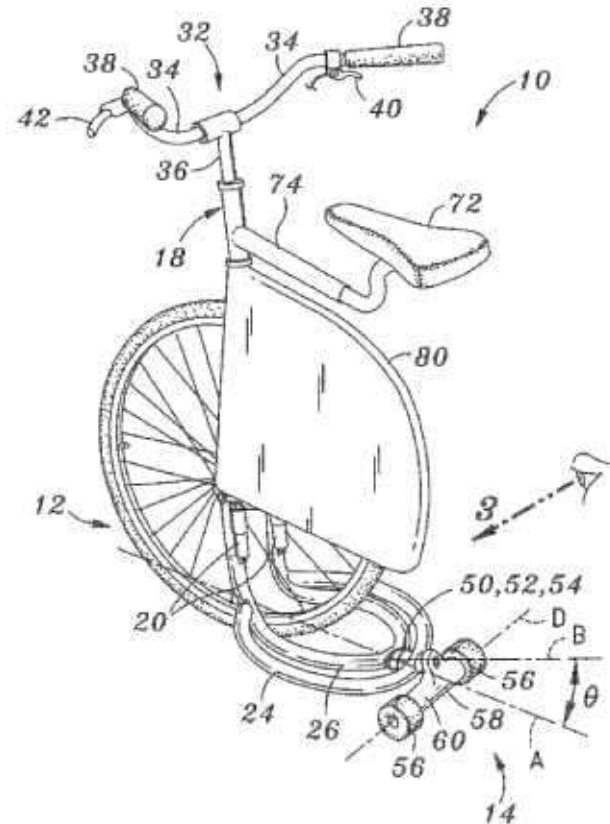
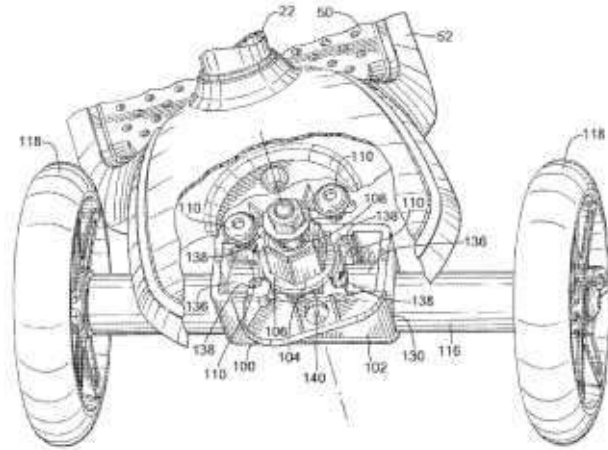


FIG. 1 is a perspective view of a vehicle chassis. It features a central engine compartment with a cover 22. The engine compartment contains an engine 50, a fuel tank 52, and various other components labeled with reference numerals. The chassis includes two large wheels 118 and a central drive shaft 110. The engine compartment is supported by a frame 130. The wheels are connected to the frame by axles 138. The chassis is shown from a side perspective, highlighting the engine compartment and the wheels.

* , entire document, especially
 fig 2; para [0140] *;
[US6382646](#) B1 20020507
 [A] (SHAW ATHONY [TW])
 [A] 1-14
 * , entire document *;
[US6398238](#) B1 20020604
 [A] (SHAW ANTHONY [TW])
 [A] 1-14
 * , entire document *;
[US8696000](#) B1 20140415
 [A] (CHEN WANG-CHUAN [TW])
 [A] 1-14
 * , entire document *;
[US2002149165](#) A1 20021017
 [A] (LIN MICHAEL [TW])
 [A] 1-14
 * , entire document *

- CCI - [B62K3/002](#) ; [B62K21/12](#)
- PA - RADIO FLYER INC [US]
- TI - **STEERING MECHANISM
 FOR SCOOTER**
- AB - 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**.

PN - [US2016152296](#) A1 20160602
 PR - US201514953395
 20151129; US201462085750P
 20141201
 AP - US201514953395 20151129
 DT - *: Rep
 CT - || R141 (A1)
[US4103917](#) A 19780801 [
] (WIDOLF PHILIP R);
[US4245848](#) A 19810120 [
] (DUDOUYTJEAN-PAUL);
[US5879013](#) A 19990309 [] (SHIH
 GUO-NAN [TW]);
[US6739603](#) B1 20040525 [
] (POWELL GEORGE [US]);
[US8740236](#) B2 20140603 [
] (OUBOTER JAN WILLEM ANTON
 [CH]);
[US2015061252](#) A1 20150305 [
] (LININGER JR ROBERT R [US]);
[US9346512](#) B2 20160524 [
] (YEH CHING-HO [TW]);
[US2016339984](#) A1 20161124 [
] (LI JIAN [CN], et al);
[US9522710](#) B2 20161220 [
] (CONSTIEN HANS [DE])
 CCI - [B62K3/002](#) ; [B62K21/12](#)
 PA - RADIO FLYER INC [US]
 TI - **STEERING MECHANISM
 FOR SCOOTER**
 AB - 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**.

76/422 © EPODOC / EPO

- PN - [CN205239802U](#) U 20160518
- PR - CN20152876304U 20151103
- AP - CN20152876304U 20151103
- DT - I
- PA - XIE BIN
- TI - Foldable electric **scooter** that numerical control technology was made
- AB - The utility model provides a foldable electric **scooter** that numerical control technology was made includes that the front fork closes the piece, as foldable electric **scooter's** whole car folded piece, the body frame, its top with the front fork close and be connected, and its preceding upper portion has a seat bracing piece base, terminally is connected with the rear wheel, automobile body fore -stock, its end have the front fork with the installation front wheel, upper portion is telescopic pramus structure, the top of this pramus structure has handlebar and handlebar hand, and the saddle main part, have the bracing piece, with the body frame on the base of the seat bracing piece that sets up connect and the locking, wherein foldable electric **scooter** that numerical control technology was made's whole car pass through the front fork to close the **assembly** as an organic whole to the front fork closes to **pivot** folding and that expand, will foldable electric **scooter** expand to form "leftside-K" and appear or accomodate formations "I" and appear. The utility model discloses a body frame adopts computer numerical control fretwork technology to lighten structure weight in order to embody mechanical aesthetic feeling and furthest, facilitates the use and carries.

77/422 © EPODOC / EPO

- PN - [CN105539701](#) A 20160504
- PR - CN2016185102 20160215
- AP - CN2016185102 20160215
- DT - I
- CT - || STSE (A)
[JPS56136245](#) A 19811024 [X] (BRIDGESTONE CYCLE CO)
 [X] 1-3
 * 说明书第2页, 图1-6 *;
[TW200600400](#) A 20060101 [A] (GIANT MFG CO LTD [TW])
 [A] 1-3
 * 全文 *;
[CN200951811Y](#) Y 20070926 [A] (TAIYU INDUSTRY CO LTD [CN])
 [A] 1-3
 * 全文 *;

[WO2011005005](#) A2 20110113 [A] (GEN ROTOR CO LTD [KR], et al)

[A] 1-3

* 全文 *

CNOI - [B62K19/06](#)
PA - MIN TA AL-TECH (TAICANG) CO LTD
TI - **Scooter** boss head tube and **assembly** tube integrated forming method
AB - The invention discloses a **scooter** boss head tube and **assembly** tube integrated forming method. The method includes the steps that a head tube provided with a boss is formed through mould pressing and inner bulging; the surface of the tube boss is ground; TIG butt **joint** with a matched tube is conducted, the **joint** position is ground, and an integrally formed target object is obtained. According to the method, the welding molten material between two combined tubes can be increased through head tube boss design, accordingly the strength generated after grinding is enhanced, uneven grinding and work of subsequent puttying caused by inconsistent welding or air holes are reduced, machining cost is reduced, and the integrated appearance effect is enhanced.

78/422 © EPODOC / EPO

PN - [CN205186428U](#) U 20160427
PR - CN201521023178U 20151211
AP - CN201521023178U 20151211
DT - I
PA - SUZHOU SUDIE TECH CO LTD
TI - Foldable electric **scooter** with frame after bradyseism
AB - The utility model discloses a foldable electric **scooter** with frame after bradyseism, including folding chassis and set up front wheel, rear wheel, seatpad, braking system and the electric drive system on folding chassis, folding chassis includes well bearing and **pivoted joint** is at the preceding frame and back frame of well bearing both sides respectively, and back frame includes battery tray and back chain stay, the battery tray after with the common end of chain stay all be connected through the third **pivot** point well bearing, and their end passes through the gap junction of bradyseism mechanism that locking lever and damping spring formed. The utility model relates to an exquisiteness through the structure that changes back frame self, sets up bradyseism mechanism on the frame of back to fully absorbed between back frame and the well bearing because of the kinetic energy that the shake of jolting formed, reduced and jolted to the influence of body structure, it is further, can maximum radius reduce the battery and be in the state of jolting, thereby it to battery and the influence that connects the firm nature of electric connector **assembly**, has improved the stability of whole operation greatly to avoid jolting the shake.

79/422 © EPODOC / EPO

PN - [WO2016162370](#) A1 20161013
PR - DE201510105330 20150408
AP - WO2016EP57500 20160406
DT - **
CT - |EP| ISR (A1)

[DE102011111537](#) A1 20130228 [XAYI] (ZIPS ALF [DE])

[X] 1-5,8-11,16,17,19

* figures 1,8-10,12 *

* paragraphs [0022] - [0024] - [0029] , [0036] , [0060] - [0062] - [0065] *

[A] 15

[Y] 12-14

[I] 6,18;

[DE102007054258](#) A1 20090520 [XAI] (BAYERISCHE MOTOREN WERKE AG [DE])

[X] 1,2,5,11,16,17

* the whole document *

[A] 15

[I] 6;

[EP2280436](#) A2 20110202 [XAI] (SANYO ELECTRIC CO [JP], et al)

[X] 1,2,5,7-9,11,16,17,19

* figures 4,8-11 *

* paragraphs [0030] , [0031] , [0041] *

[A] 15

[I] 6;

[JPS615283U](#) U 19860113 [Y] (XY)

[Y] 12

* figures 1-3 *;

[JPH08273648](#) A 19961018 [Y] (TOKYO R & D KK)

[Y] 13,14

* abstract *

* figures 1,2 *

CCI - [B60L11/1822](#) ; [B60L11/1874](#) ; [B60L11/1877](#) ; [B60L11/1879](#) ; [B62K19/30](#) ; [B62K19/36](#) ;
[B62K19/46](#) ; [H01M2/1083](#) ; [H01M10/625](#) ; [H01M10/6563](#) ; [H01M10/613](#)

CUI - [B60L3/0015](#) ; [B60Q5/008](#) ; [B62J1/00](#)

CCA - [B60L2200/12](#) ; [B60L2200/24](#) ; [B62K2202/00](#) ; [H01M2220/20](#) ; [B62K2204/00](#) ;
[B62K2208/00](#) ; [H01M10/6551](#)

CUA - [B62K2206/00](#)

PA - UJET VEHICLES S À R L [LU]

TI - QUICK-EXCHANGE BATTERY **ASSEMBLY**, AND MOTOR VEHICLE, IN PARTICULAR
MOTOR **SCOOTER**

AB - The invention relates to a battery **assembly** (70), in particular for an electrically
driveable motor vehicle, in particular for a motorcycle, preferably for an electric
motor **scooter** (10), comprising: - at least one, in particular rechargeable, battery (90); -
at least one releasable mechanical locking arrangement (91) for connecting the battery
housing (21) to a unit which is to be supplied with electrical energy, in particular for
connection to an electric motor **scooter** (10); - at least one electrical circuit which is
formed in the battery housing (21); and - at least one operating element (80) which is
designed such that it can be folded and/or can be **pivoted** and/or can be pulled, in
particular in a telescopic manner, out of the battery housing (21).

80/422 © EPODOC / EPO

PN - [US9301893](#) B1 20160405

PR - US201514733523 20150608

AP - US201514733523 20150608

DT - *; Rep

CT - || STSE (B1)
[US5036938](#) A 19910806 [] (BLOUNT WENDELL G [US], et al);
[US2003141121](#) A1 20030731 [] (FLOWERS MICHAEL J [US], et al);
[US2005077097](#) A1 20050414 [] (KOSCO JAMES M [US], et al)

CCI - [A61G5/08](#) ; [B62K5/007](#) ; [A61G5/0833](#) ; [A61G5/085](#) ; [A61G5/0866](#)

PA - ENERGY CONTROL LTD [VG]

TI - Foldable **scooter** frame

AB - A foldable **scooter** frame includes: a front fork **pivoted** to a front frame, a front wheel **assembly** disposed on the front fork, the front fork being fixed to a **pivot** seat of a control unit, the **pivot** seat being **pivoted** to a control rod, a rear frame being connected to the front frame in a foldable manner, a rear wheel **assembly** disposed on the rear frame. With the **pivoting** arrangement of the front and rear frames, and more importantly, with the bridge rod abutted against the rear frame, the foldable **scooter** frame of the present invention can be maintained in a best stable state when in use, and when folded, the distance between the front and rear wheel assemblies can be reduced to the least possible amount, and the whole structure is simply structured and can be easily folded without requiring the use of complicated linkage mechanism.

81/422 © EPODOC / EPO

PN - [CN205075956U](#) U 20160309

PR - CN20152684996U 20150907

AP - CN20152684996U 20150907

DT - I

PA - TAICANG ZHONGFENG MOULD PLASTIC CO LTD

TI - Mobility **scooter** structure

AB - The utility model discloses a mobility **scooter** structure, include: the frame structure, the frame structure divide into frame chassis to connecting respectively at frame chassis both ends and having set up front wheel frame and rear wheel frame, connect at front wheel frame lower extreme and set up preceding turning wheels main shaft, turning wheels main shaft both ends have set up the front wheel in the front, have set up back turning wheels main shaft at rear wheel frame lower extreme, and back turning wheels main shaft both ends have set up the rear wheel, and **incline** in the front and back wheel and set up shock absorber structure, the utility model discloses the car frame separation quick **assembly** disassembly around that can realize riding instead of walk, battery easy dismounting, individual volume and weight behind the car quick detach that has reduced to ride instead of walk, it is small, convenient to carry.

82/422 © EPODOC / EPO

PN - [US2016039489](#) A1 20160211

PR - DE201310214588
20130725; WO2014EP64856
20140710

AP - US201514921086 20151023

DT - **

CCI - [B62K19/08](#)

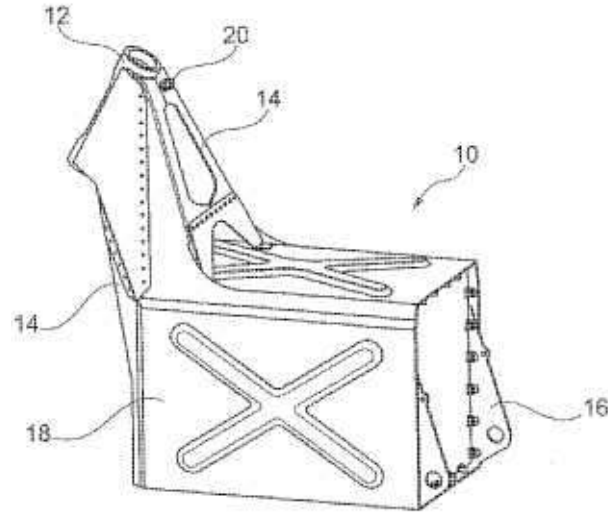
CUI - [B62K11/04](#) ; [B62K19/10](#) ;
[B62K19/20](#) ; [B62K19/22](#) ;
[B62K19/24](#) ; [B62K19/26](#) ;
[B62K19/32](#)

CUA - [B62K2202/00](#) ; [B62K2204/00](#)

PA - BAYERISCHE MOTOREN WERKE AG
[DE]

TI - Sub-**Assembly** for a Bike, Trike or Quad

AB - A sub-**assembly** for a bike, trike or quad, more particularly for a motorcycle or a motor **scooter**, includes a **steering** head and at least one profile element connecting the **steering** head to a supporting part of the bike, trike or quad, more particularly to a main frame, engine housing or battery casing or a part thereof. The profile element in the sub-**assembly** is made from a shaped piece of sheet metal.



83/422 © EPODOC / EPO

PN - [CN204998696U](#) U 20160127

PR - CN20152552661U 20150728

AP - CN20152552661U 20150728

DT - I

PA - KONG FEIYU

TI - Folding **scooter** that appearance is pleasing to eye

AB - The utility model discloses a folding **scooter** that appearance is pleasing to eye, including handrail, pole setting, flexible adjusting part, preceding cover plate, front wheel, folding **assembly**, footboard, rear wheel, folding **assembly** includes preceding bracing piece, footboard bracing piece, **pivot**, screw hole, knob, the utility model discloses folding **scooter** that appearance is pleasing to eye is provided with folding **assembly**, and when folding, the bracing piece rotates together with preceding cover plate together before as long as, and rotates preceding bracing piece when becoming 90 jiaos with the footboard bracing piece, and whole folding operations can

be accomplished to the rotating knob, and is folding simple more swift, and folding **assembly** overall structure is simple, and spare part lacks the easily production, and it is also very convenient to keep in repair, the whole molding of adopting the aircraft of **scooter**, the relatively more pleasing to the eye fashion of appearance including the handrail of orientation disk and the footboard of fuselage formula, can increase the enjoyment when going, improves the enthusiasm of playing, is of value to the intelligence of developing children.

84/422 © EPODOC / EPO

PN - [CN204956793U](#) U 20160113

PR - CN20152541342U 20150723

AP - CN20152541342U 20150723

DT - I

PA - DECAER INNOVATION TECH CO LTD

TI - **Scooter** and beta structure thereof

AB - The utility model relates to a **scooter** and beta structure thereof. The beta structure of above -mentioned **scooter** includes the support and all sets up runner **assembly** and the control **assembly** on the support. The runner **assembly** includes the rotor arm, rotates head and axis of rotation, and control **assembly** includes and presses splenium, universal driving shaft, torsion spring, connection piece and card strip. Need when folding, the user only need press the splenium, and under the drive of universal driving shaft and connection piece, the card strip can be followed first **joint** inslot and is deviate from, and the user breaks the operation swing arm off with the fingers and thumb, and when rotating the head when rotating the position that second **joint** groove and card strip correspond, the card strip blocks an income second **joint** groove voluntarily under torsion spring's effect, realize convenient folding promptly. Similarly, when need launching, user's only need is pressed down and is pressed the splenium, breaks the operation swing arm off with the fingers and thumb, and when rotating the head when rotating the position that a **joint** groove and card strip correspond, the card strip blocks an income **joint** groove voluntarily under torsion spring's effect, realize convenient expansion promptly. Above -mentioned beta structure's simple structure, convenient to use.

85/422 © EPODOC / EPO

PN - [CN105246776](#) A 20160113

PR - WO2014EP64856
20140710; DE201310214588
20130725

AP - CN2014829865 20140710

DT - I

CT - || STSE (A)
[GB194801](#) A 19230320
[YX] (LEONARD JONES, et al)
[Y] 1-12
* 说明书第2栏第94行-第3栏83行
以及附图1-7 *
[X] 1-12;
[US4044852](#) A 19770830
[A] (LEWIS FRANK, et al)
[A] 1-10
* 全文 *;
[US4139072](#) A 19790213
[A] (DAWSON ANTHONY)
[A] 1-10
* 全文 *;
[CN1106312](#) A 19950809
[A] (BABCOCK & WILCOX CO [US])
[A] 1-10
* 全文 *;
[WO2004014717](#) A1 20040219
[A] (SUTHERLAND MICHAEL T [CA])
[A] 1-10
* 全文 *;
[CN1106312C](#) C 20030423
[A] (HONDA MOTOR CO LTD [JP])
[A] 1-10
* 全文 *;
[US4265330](#) A 19810505 [Y] (SILK
GEORGE R, et al)
[Y] 1-12
* 说明书具体实施方式以及附图
1-4 *

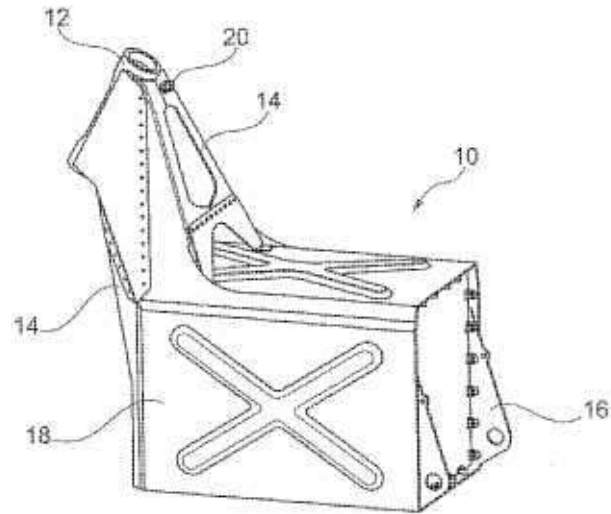
CCI - [B62K19/08](#)

CUI - [B62K11/04](#) ; [B62K19/10](#) ;
[B62K19/20](#) ; [B62K19/22](#) ;
[B62K19/24](#) ; [B62K19/26](#) ;
[B62K19/32](#)

CUA - [B62K2202/00](#) ; [B62K2204/00](#)

PA - BAYERISCHE MOTOREN WERKE AG

TI - Sub-assembly for a bike, trike or
quad



AB - A sub-**assembly** (10) for a bike, trike or quad, more particularly for a motorcycle or a motor **scooter**, comprises a **steering** head (12) and at least one profile element (14) connecting the **steering** head (12) to a supporting part (16) of the bike, trike or quad, more particularly to a main frame, engine housing or battery casing or a part thereof. The profile element (14) in the sub-**assembly** is made from a shaped piece of sheet metal.

86/422 © EPODOC / EPO

PN - [CN204916031U](#) U 20151230

PR - CN20152474614U 20150701

AP - CN20152474614U 20150701

DT - I

PA - ZHEJIANG EASY VEHICLE CO LTD

TI - Drive wheel **assembly** and electric **scooter** of **scooter**

AB - The utility model relates to a **scooter** technical field discloses an electric **scooter**, include: the footboard, turning to riser, driver's handle, battery, motor, switching device, front wheel **assembly** and drive wheel **assembly**, turning to the front end that the footboard was located to the riser **pivot**, the driver is connecting in the top that turns to the riser, and front wheel **assembly** rotationally locates the bottom that turns to the riser, the drive wheel **assembly** includes drive axle, drive hub, drive tire and flywheel, and drive tire installs on the drive hub, and the inner circle of flywheel is fixed and is cup jointed on drive axle, the outer ring gear and the concentric fixed connection of drive hub of flywheel, and drive axle rotationally installs the rear end at the footboard, battery and motor are installed in the footboard, and battery and motor electric connection, and the motor passes through drive mechanism to be connected with drive axle, drive drive axle and rotate, switching device is connected with the motor. The utility model provides a current electric **scooter** can not continue to play under the condition that does not have the electricity and promote the problem of difficulty.

87/422 © EPODOC / EPO

PN - [US9227688](#) B1 20160105

PNFP - US2016001844 A1 20160107

PR - CN20142557280U 20140925

AP - US201514856581 20150917

DT - *; Rep

CT - || STSE (B1)

[US6142493](#) A 20001107 [] (WANG LIAO [TW], et al)

[US7954831](#) B1 20110607 [] (YEH CHING-HO [TW])
[US2002089139](#) A1 20020711 [] (REYNOLDS TIMOTHY C [US], et al)

- CCI - [B62K3/002](#) ; [B62K5/08](#)
- CQI - [B62K21/08](#)
- PA - (A1 B1)
OWEN NEIL [CN]
- TI - (A1 B1)
Kick **scooter** having a **steering** control
- AB - (A1 B1)
A kick **scooter** includes a deck including a through hole in a hole, a flexible protruding member formed on the through hole, and a head tube having a through aperture; a **steering** tube including an aperture; a lock **assembly** including a projection having two parallel grooves, and a push button; a spring biased detent for fastening the **steering** tube and the deck together; and a **steering** control including a connecting member having a cavity; two **pivotal** members each having an end secured to a front wheel, and a bearing in a through hole; two cylinders each in either end of the connecting member and another through hole; and a biasing member biased between the cylinders. The **steering** control is unlocked with the protruding member in one groove and the **pivotal** members configured to **pivot** about the bearings. A pressing of the push button locks the connecting member.

88/422 © EPODOC / EPO

- PN - [CN204846188U](#) U 20151209
- PR - CN20152456437U 20150630
- AP - CN20152456437U 20150630
- DT - I
- PA - ZANGCHUANMEI
- TI - Multi -functional folding **scooter**
- AB - The utility model discloses a multi -functional folding **scooter**, including folding handrail, controller, outage hand (hold), pole setting, main connecting plate, cushion connecting plate, cushion, cushion folding **assembly**, connecting seat, head -light, damping spring pole, front wheel, footboard, pole setting folding **assembly**, rear wheel, back car light, the dish ware of stopping, folding handrail includes connecting rod, **pivot**, fixed axle, dwang, cutting ferrule, cushion folding **assembly** includes breach, card axle, spring beam, fixed axle, stir button, waist type hole, the utility model discloses multi -functional folding **scooter** is last to be provided with outage hand (hold) and the dish ware of stopping, effectively protects user's life safety, when the folding storage of needs, the folding usable cutting ferrule of handrail is folding to the both sides rotation, and cushion folding **assembly** can make the cushion connecting plate rotatory folding round main connecting plate through stirring the button, and storage space greatly reduces, for the user brings conveniently, and especially adapted popularization.

89/422 © EPODOC / EPO

PN - [US2015344102](#) A1 20151203
 PNFP - US9708029 B2 20170718
 PR - US201514726508
 20150530; US201462005641P
 20140530
 AP - US201514726508 20150530
 DT - **
 CT - || R141 (A1)
[US5192089](#) A 19930309 [
] (TAYLOR WALTER R [US]);
[US6419251](#) B1 20020716 [
] (CHUEH HUNG-CHE [TW]);
[US2003098566](#) A1 20030529 [
] (CHRISTENSEN DONALD J [US], et
 al);
[US6588784](#) B1 20030708 [
] (CHEN HARVEY CHENG-CHUNG
 [TW]);
[US2006038373](#) A1 20060223 [
] (VON DETTEN VOLKER [US])
 - || STSE (B2)
[US5192089](#) A 19930309 [
] (TAYLOR WALTER R [US]);
[US6419251](#) B1 20020716 [
] (CHUEH HUNG-CHE [TW]);
[US6588784](#) B1 20030708 [
] (CHEN HARVEY CHENG-CHUNG
 [TW]);
[US2003098566](#) A1 20030529 [
] (CHRISTENSEN DONALD J [US], et
 al);
[US2006038373](#) A1 20060223 [
] (VON DETTEN VOLKER [US])
 CCI - [B62M1/28](#) ; [B62K3/002](#)
 CQI - [B62M9/04](#) ; [B62K5/02](#)
 CQA - [B62K2005/001](#)
 PA - (A1 B2)
 PASTILHA ADELINO F [US]
 TI - (A1)
 Stepper Exercise **Scooter**
 - (B2)
 Stepper exercise **scooter**
 AB - (A1 B2)
 A stepper **scooter** provides step
 pads that are connected to a
 laterally arranged rocker

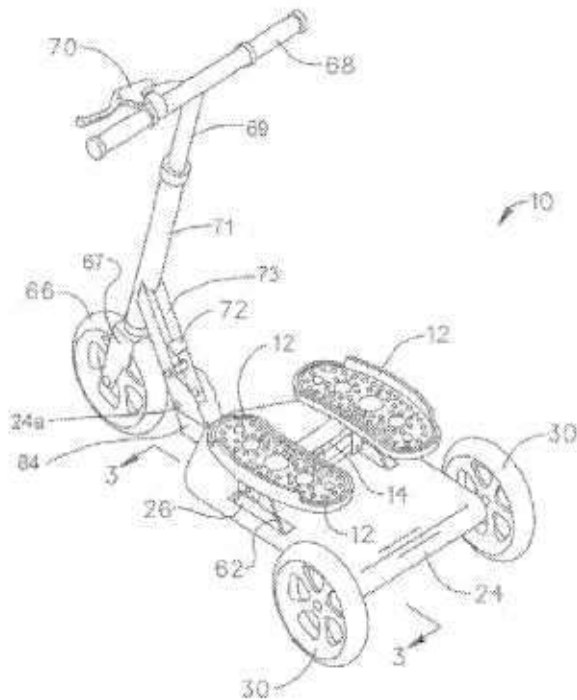


FIG.1

bar **assembly**. Vertical movement of the step pads causes the rocker bar **assembly** to reciprocally **pivot** which translates drive chains which cause rotation of the drive wheel or wheels. The rocker bar **assembly** comprises two four bar linkages between a center fork and each step pad. An alternate embodiment uses the rocker bar to reciprocally rotate a gear axle which drives a bevel gear arrangement to rotate the drive wheel or wheels via one-way bearings. Another embodiment incorporates a chain and sprocket drive between the bevel gear arrangement and the drive wheel or wheels, wherein the one-way bearings are replaced with a one-way sprocket drive.

90/422 © EPODOC / EPO

PN - [WO2015184429](#) A2 20151203

PNFP - WO2015184429 A3 20160121

PR - US201462005641P 20140530

AP - WO2015US33435 20150530

DT - *; Rep

CT - |US| ISR (A3)
[WO2006059836](#) A1 20060608
[A] (WOO JE SUNG [KR])
[A] 1-4
* , entire document, especially
Fig. 1, 2, 3, 6; para[0016]; para
[0018]; para[0019]-[0020]; para
[0033]; para[0023]; para[0026];
para[0020]; para[0021]; para
[0025]; *;
[US2004036249](#) A1 20040226
[A] (MCGUIRE MARK J [US], et al)
[A] 1-4
* , entire document, especially
Fig. 1, 2, 3, 4; para[0022]; para
[0024]; para[0032]; para[0033];
para[0032]-[0033]; *;
[US2006119052](#) A1 20060608

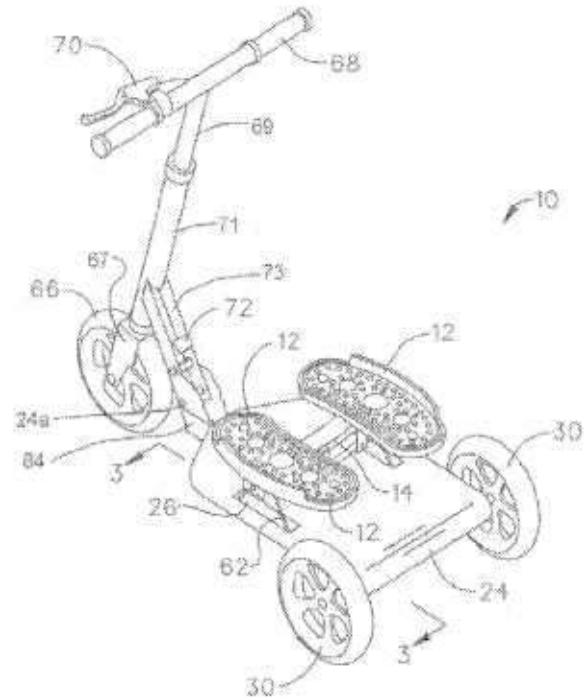


FIG. 1

[A] (BAUCE GIOVANNI B [IT])
 [A] 1-4
 * , entire document, especially
 Fig. 1, 4; para[0032]; para[0049];
 para[0048]; para[0057]; *;
[US2009091099](#) A1 20090409
 [A] (PASTILHA ADELINO [US])
 [A] 1-4
 * , entire document *;
[US7044488](#) B1 20060516
 [A] (HAMEND ARONE [CA])
 [A] 1-4
 * , entire document *;
[US2010187790](#) A1 20100729
 [A] (YU LONG [CN])
 [A] 1-4
 * , entire document *;
[US2002158440](#) A1 20021031
 [A] (GRAF HORST [US])
 [A] 1-4
 * , entire document *;
[US2002036388](#) A1 20020328
 [A] (CHUEH HUNG-CHE [TW])
 [A] 1-4
 * , entire document *

CCI - [B62M1/28](#) ; [B62K3/002](#)
 CQI - [B62M9/04](#) ; [B62K5/02](#)
 CQA - [B62K2005/001](#)
 PA - (A2 A3)
 PASTILHA ADELINO F [US]
 TI - (A2 A3)
 STEPPER EXERCISE **SCOOTER**
 AB - (A2 A3)
 A stepper **scooter** provides step
 pads that are connected to a
 laterally arranged rocker
 bar **assembly**. Vertical movement
 of the step pads causes the
 rocker bar **assembly** to
 reciprocally **pivot** which
 translates drive chains which
 cause rotation of the drive wheel
 or wheels. The rocker
 bar **assembly** comprises two four
 bar linkages between a center
 fork and each step pad. An
 alternate embodiment uses the
 rocker bar to reciprocally rotate

a gear axle which drives a bevel gear arrangement to rotate the drive wheel or wheels via one-way bearings. Another embodiment incorporates a chain and sprocket drive between the bevel gear arrangement and the drive wheel or wheels, wherein the one-way bearings are replaced with a one-way sprocket drive.

91/422 © EPODOC / EPO

PN - [CN204821912U](#) U 20151202
 PR - CN20152572897U 20150731
 AP - CN20152572897U 20150731
 DT - I
 PA - SHANGHAI NEW CENTURY ROBOT CO
 TI - Dual -purpose tricycle electric motor car of self -balancing and slide
 AB - The utility model discloses a dual -purpose tricycle electric motor car of self -balancing and slide, including handlebar **assembly**, front wheel subassembly, slide pedal part, main automobile body and a pair of rear wheel. The front wheel subassembly includes front wheel, front fork and link, the link links to each other with the front fork. The left and right sides of main automobile body is located respectively to a pair of rear wheel. The one end of the pedal parts of slide can be dismantled with the link and be connected, the other end and main automobile body fixed connection of the pedal parts of slide, or, parts were ridden to the slide both ends respectively with link and main automobile body pin **joint** to making the pedal part of this link and slide change with packing up to switch at development condition between the state, being in when packing up the state at the pedal part of link and slide, the slide is ridden the part and is locked on main automobile body, and the link is locked on the part is ridden to the slide. This dual -purpose tricycle electric motor car of self -balancing and slide can be with the mode work of tricycle **scooter** and the electric motor car of self -balancing two - wheeled, and simple structure, and conversion operation ten minutes is convenient.

92/422 © EPODOC / EPO

PN - [CN204801985U](#) U 20151125
 PR - CN20152412737U 20150616
 AP - CN20152412737U 20150616
 DT - I
 PA - SONG XIANHUA
 TI - Multi -functional folding **scooter**
 AB - The utility model discloses a multi -functional folding **scooter**, including folding handrail, controller, outage hand (hold), pole setting, main connecting plate, cushion connecting plate, cushion, cushion folding **assembly**, connecting seat, head -light, front wheel, footboard, pole setting folding **assembly**, rear wheel, back car light, folding

handrail includes connecting rod, **pivot**, dwang, cutting ferrule, bolt, bolt spring, cushion folding **assembly** includes gag lever post, eye -splice, eye -splice spring, shifting block, the utility model has the characteristics of simple structure, use convenient to carry, the parking space is little high with the security.

93/422 © EPODOC / EPO

PN - [IN1536CHE2014](#) A 20151009
 PR - IN2014CHE1536 20140324
 AP - IN2014CHE1536 20140324
 DT - I
 PA - TVS MOTOR CO LTD [IN]
 TI - REAR SUSPENSION SYSTEM FOR **SCOOTER** TYPE VEHICLE
 AB - The present subject matter discloses a swing arm **assembly** (100) for a **scooter**-type vehicle (100). The swing arm **assembly** (300) disclosed herein includes a a swing arm (102) having a first arm (206), and a second arm (208) disposed substantially parallel to longitudinal axis of the vehicle (100). An extended arm (214) disposed substantially **inclined** to the longitudinal axis of the vehicle (100) is provided. At least one support bracket (306, 308) is disposed substantially perpendicular to the first arm (206) laterally separating the second arm (208) from the first arm (206). A plurality of mounting brackets (310-1, 310-2, 310-3, 310-4, 310-5, 310-6) are disposed on the at least one support bracket (306, 308) and the extended arm (214) for mounting an internal combustion engine (108). <To be published with Fig. 3 (a)>

94/422 © EPODOC / EPO

PN - [CN105000107](#) A 20151028
 PNFP - CN105000107B B 20171107
 PR - CN20151466586 20150731
 AP - CN20151466586 20150731
 DT - I
 PA - (A)
 SHANGHAI NEW CENTURY ROBOT CO
 TI - (A)
 Self-balancing and sliding plate dual-purpose three-wheel electric vehicle
 AB - (A)
 The invention discloses a self-balancing and sliding plate dual-purpose three-wheel electric vehicle. The self-balancing and sliding plate dual-purpose three-wheel electric vehicle comprises a handle **assembly**, a front wheel **assembly**, a sliding plate pedal component, a main vehicle body and a pair of back wheels. The front wheel **assembly** comprises a front wheel, a front fork and a connecting frame; and the connecting frame is connected with the front fork. The pair of back wheels are arranged on the left side and the right side of the main vehicle body. One end of the sliding plate pedal component is detachably connected with the connecting frame, and the other end of the sliding plate pedal component is fixedly connected with the main vehicle body; or the two ends of the sliding plate pedal component are **pivoted** with the connecting frame and the main vehicle body respectively, so that the connecting frame and the sliding

plate pedal component can be switched and changed between the unfolding state and the folding state; and when the connecting frame and the sliding plate pedal component are in the folding state, the sliding plate pedal component is locked to the main vehicle body, and the connecting frame is locked to the sliding plate pedal component. The self-balancing and sliding plate dual-purpose three-wheel electric vehicle can work in a manner of a three-wheel **scooter** and a self-balance two-wheel electric vehicle; and the self-balancing and sliding plate dual-purpose three-wheel electric vehicle is simple in structure and quiet convenient to convert and operate.

95/422 © EPODOC / EPO

PN - [GB2542146](#) A 20170315

PR - GB20150015925 20150909

AP - GB20150015925 20150909

DT - *; Rep

CT - || STSE (A)
[US2010187034](#) A1 20100729 [
] (WANG ARTHUR [TW]);
[US2006260852](#) A1 20061123 [
] (WU DONALD P [TW]);
[US2006175780](#) A1 20060810 [
] (WANG ARTHUR [TW])

CCI - [B62K5/007](#) ; [B62K15/00](#)

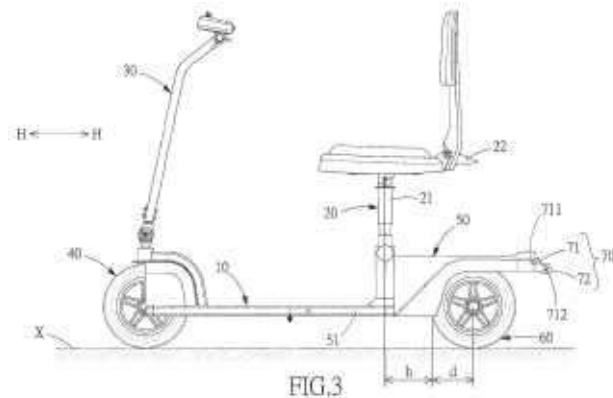
CNOI - [B62K5/007](#) ; [B62K15/00](#)

CCA - [B62K2015/005](#)

PA - ENERGY CONTROL LTD [VG]

TI - Foldable electric **scooter** with
 360 degree rotatable trailing
 wheel

AB - A foldable electric **scooter** has a
 360 degree rotatable trailing
 wheel 70, a front frame 10 and a
 rear frame 50 **pivoted** to each
 other, a seat 20, a **steering** unit
 30, a front wheel **assembly** 40,
 and a rear wheel **assembly** 60.
 The 360 degree rotatable trailing
 wheel 70 is disposed on the rear
 frame 50 to improve ease of
 trailing, the seat 20 and
 the **steering** unit 30 are both
 disposed on the front frame 10,
 which improves the centre of
 gravity and stability of the
 folded **scooter** in comparison
 with acknowledged prior art
 designs. Specifically, the axis of



a seat support **column** 21 lies forward of the rear wheel 60 by a distance h greater than or equal to the radius d of the rear wheel.

96/422 © EPODOC / EPO

PN - [AU2015201662](#) A1 20151022

PR - CN20142162374U 20140404

AP - AU20150201662 20150331

DT - I

CCI - [A63C17/223](#) ; [A63C17/226](#) ;
[B60B3/001](#) ; [B60B3/048](#) ;
[B60B19/00](#)

CUI - [B60B25/18](#)

CCA - [A63C17/014](#) ; [A63C17/16](#) ;
[B62K3/002](#)

PA - SHANGHAI MAGIC WHEELS
SPORTING GOODS CO LTD

TI - **Scooter** and wheel structure
thereof

AB - The invention discloses a wheel structure and a **scooter** comprising the wheel structure. The wheel structure comprises: an inner rim having a first inner annular face and a first outer annular face that are arranged radially, the first inner annular face is hollow and provided with an interface for connecting to a **steering** mechanism of the **scooter**; an outer rim having a second inner annular face which is arranged radially and a second outer annular face for contacting the ground; wherein an intermediate connecting **assembly** is disposed between the first outer annular face of the inner rim and the second inner annular face of the outer rim, and the outer rim, without need for hub, contacts the inner rim in a rolling manner via the intermediate connecting **assembly** and is rotatable relative to the inner

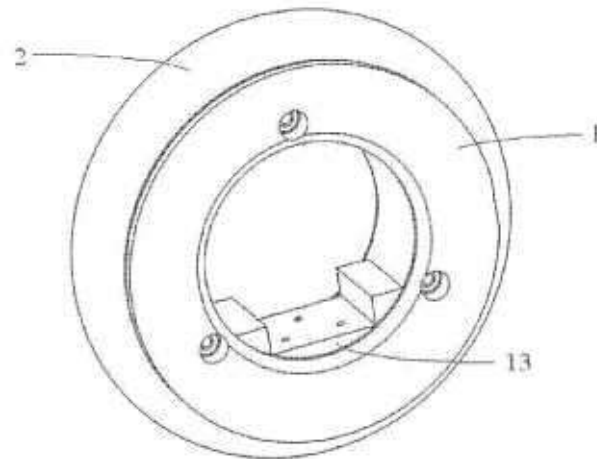


Fig. 1

(Fig. 1) 2-~ xx N. - .7'--~ '7 -'7 Fig 1

97/422 © EPODOC / EPO

PN - [WO2016046475](#) A1 20160331

PR - FR20140058938 20140923

AP - WO2015FR52493 20150917

DT - **

CT - |EP| ISR (A1)
[US1227888](#) A 19170529
[Y] (CONVERSE ATHERTON D [US])
[Y] 1-14

* page 1, line 51 - page 2,
line 98; figures 2,4 *;

US2010013183 A1 20100121
[Y] (HE RURONG [US])
[Y] 1-14

* paragraph [0029] -
paragraph [0029]; figures 1,2,6
*.
;

US1416864 A 19220523
[I] (PARKES RICHARD W)
[I] 1-14

* page 1, line 94 - page 2,
line 35; figures 2,4,5 *;

CN201405978Y Y 20100217
[I] (RENYA LI)

[1] 1-14

* figure 1 *;

CN101229835 A 20080730

[I] (YOUYI JU [CN])

[I] 1-14

* figure 1 *

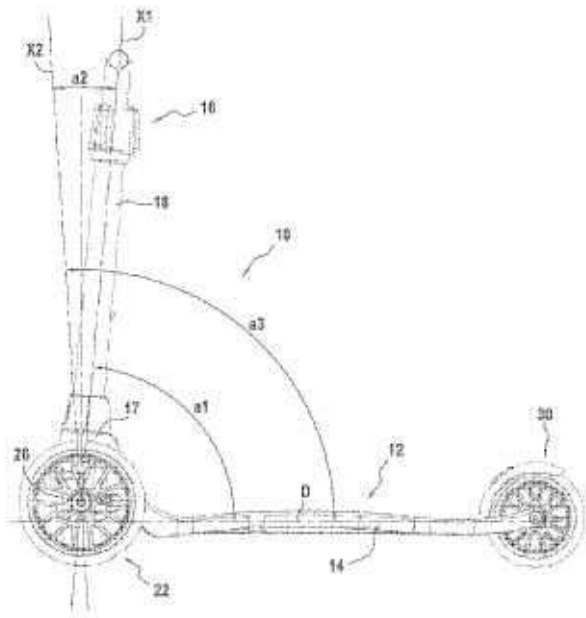
CCI - [B62K3/002](#) ; [B62K5/05](#) ;
[B62K21/00](#)

CUI - B62K5/08 ; B62K21/18 ;
F16D3/38

PA - DECATHLON SA [FR]

TI - VEHICLE WITH INCLINED STEERING COLUMN

AB - The invention relates to a vehicle (10), for example of the **scooter** type, comprising: - a plate (12), - a rear axle **assembly** (30) comprising a single means of



contact (32), - a **steering assembly** (16) comprising at least a **steering column** (18) having a first axis (X1), the first axis and the support plane forming a first angle (a1), - a front axle **assembly** (22), - the front axle **assembly** being mounted with the ability to **pivot** with respect to the plate about a second axis (X2), - the **steering column** being arranged so that the **pivoting** thereof about the first axis causes the **pivoting** of the front axle **assembly** about the second axis, - the first axis and the second axis being **inclined** with respect to one another defining a second angle (a2). The invention is characterized in that the first angle (a1) is fixed when the vehicle is in use.

98/422 © EPODOC / EPO

- PN - [US2015283853](#) A1 20151008
- PNFP - US9573417 B2 20170221
- PR - CN20142162374U 20140404
- AP - US201514678149 20150403
- DT - **
- CT - || R141 (A1)
[US7337862](#) B1 20080304 [] (GREENLEY PETER [US], et al);
[US8113524](#) B2 20120214 [] (KARPMAN ALON [US]);
[US2013154220](#) A1 20130620 [] (STROPPIANA MARCO [IT]);
[US6839939](#) B2 20050111 [] (DONAKOWSKI WILLIAM J [US])
- || STSE (B2)
[US6839939](#) B2 20050111 [] (DONAKOWSKI WILLIAM J [US]);
[US7337862](#) B1 20080304 [] (GREENLEY PETER [US], et al);
[US8113524](#) B2 20120214 [] (KARPMAN ALON [US]);
[US2013154220](#) A1 20130620 [] (STROPPIANA MARCO [IT])

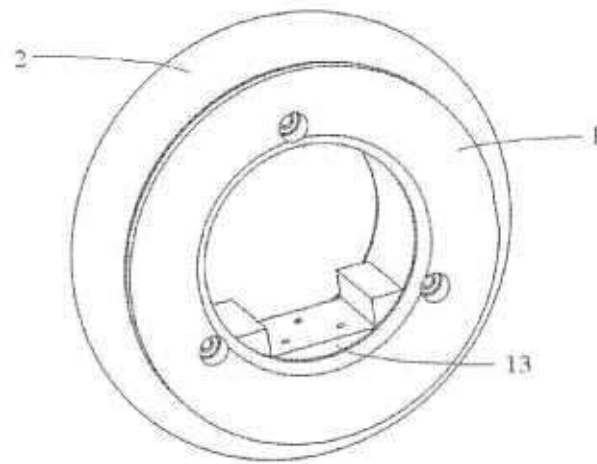
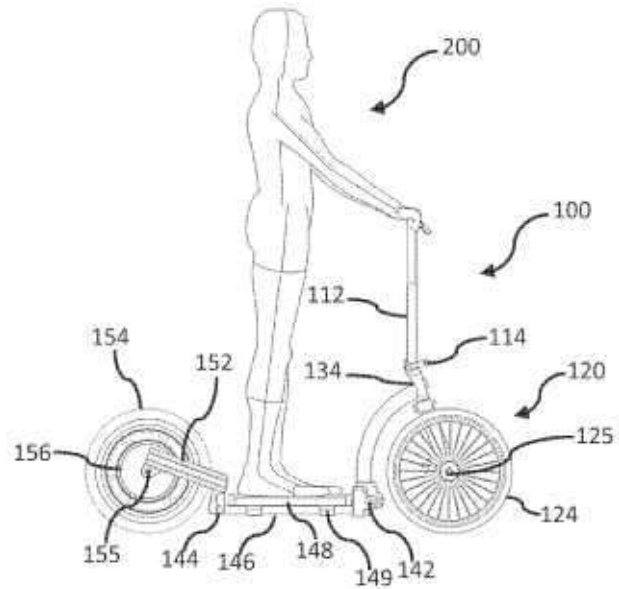


Fig. 1

CCI	- A63C17/223 ; A63C17/226 ; B60B3/001 ; B60B3/048 ; B60B19/00
CUI	- B60B25/18
CCA	- A63C17/014 ; A63C17/16 ; B62K3/002
PA	- (A1 B2) SHANGHAI MAGIC WHEELS SPORTING GOODS CO LTD [CN]
TI	- (A1) HUBLESS WHEEL - (B2) Hubless wheel
AB	- (A1 B2) The invention discloses a wheel structure and a scooter comprising the wheel structure. The wheel structure comprises: an inner rim having a first inner annular face and a first outer annular face that are arranged radially, the first inner annular face is hollow and provided with an interface for connecting to a steering mechanism of the scooter ; an outer rim having a second inner annular face which is arranged radially and a second outer annular face for contacting the ground; wherein an intermediate connecting assembly is disposed between the first outer annular face of the inner rim and the second inner annular face of the outer rim, and the outer rim, without need for hub, contacts the inner rim in a rolling manner via the intermediate connecting assembly and is rotatable relative to the inner rim. The wheel structure does not contain a hub and presents a hollow visual effect of the wheel.

PN - [US2015266536](#) A1 20150924
 PNFP - US9187144 B2 20151117
 PR - US201414259538
 20140423; US201461968623P
 20140321
 AP - US201414259538 20140423
 DT - *; Rep
 CT - || STSE (B2)
[US4718688](#) A 19880112 [
] (SANDERS MARK A [GB])
[US4895386](#) A 19900123 [
] (HELLESTAM SVEN [SE], et al)
[US5836602](#) A 19981117 [
] (WANG PING-TIEN [TW])
[US6336649](#) B1 20020108 [] (LIN
 CHIN-CHUAN [TW])
[US6364335](#) B1 20020402 [
] (MOMBELLI FRANCESCO [IT])
[US6616154](#) B1 20030909 [
] (NEUHOLD ERWIN [AT])
[US6641159](#) B1 20031104 [
] (FAN JEENG-NENG [TW])
[US6799771](#) B2 20041005 [
] (BEGO PRODUCTION [TN])
[US6986522](#) B2 20060117 [
] (DAKA RES INC [VG])
[US7651109](#) B2 20100126 [
] (DYNACRAFT BSC LLC [US])
[US8162090](#) B2 20120424 [
] (ATHERTON PAUL [CA], et al)
[US8162345](#) B1 20120424 [
] (SZU-YAO CHUNG [TW], et al)
[US8205902](#) B2 20120626 [
] (UIMONEN JOAKIM [TW], et al)
[US8430414](#) B1 20130430 [
] (YAP FOOK FAH [SG])
[US8465033](#) B2 20130618 [
] (BENARROUCH JACQUES [FR])
[US8505937](#) B2 20130813 [
] (EPSTEIN ANDREAS [DE])
[US8613458](#) B2 20131224 [
] (GHISOLFI RICHARD [FR], et al)
[US8720918](#) B2 20140513 [
] (LIAO HSUEH TSAN [CN], et al)
[US8894084](#) B1 20141125 [
] (YAP FOOK FAH [SG])
[US2002089137](#) A1 20020711 [
] (CHANG YUN-CHUAN [TW], et al)



[US2007013162](#) A1 20070118 [
] (WHYTE JON FRANK R [GB])
[US2007210556](#) A1 20070913 [
] (HON DAVID TAK-WEI [CN], et al)
[US2010044137](#) A1 20100225 [
] (LAKEHEAD UNIVERSITY [CA])
[US2012018968](#) A1 20120126 [
] (JOSLIN NICK [GB], et al)
[US2012080859](#) A1 20120405 [
] (TAI JU [CN])
[US2012104714](#) A1 20120503 [
] (SAPIR RICCARDO NIMROD [IL])
[US2012256386](#) A1 20121011 [
] (BENARROUCH JACQUES [FR])
[US2012292882](#) A1 20121122 [
] (GHISOLFI RICHARD [FR], et al)
[US2014008882](#) A1 20140109 [
] (LIAO HSUEH TSAN [CN], et al)

CCI - [B62K3/002](#) ; [B62K15/008](#)

PA - (A1 B2)
 YAP FOOK FAH [SG]

TI - (A1 B2)
 FOLDING **SCOOTER**

AB - (A1 B2)
 A vehicle configured for
 conversion between expanded
 and folded arrangements,
 includes a front frame **assembly**,
 a front wheel and a rear
 wheel **assembly** having a rear
 wheel carrier and a rear wheel
 coupled with the rear wheel
 carrier. A central frame **assembly**
 extends between the front
 frame **assembly** and the rear
 wheel **assembly**. A forward hinge
 coupling enables
 relative **pivoting** of the front
 frame **assembly** and the central
 frame **assembly** about a front
 frame **pivot** axis extending at an
 acute angle relative to a rear
 vertical transverse plane and at
 an acute angle relative to a
 horizontal plane orthogonal to
 both a rear vertical longitudinal
 plane and the rear vertical
 transverse plane. A rearward

hinge coupling enables relative **pivoting** of the central frame **assembly** and the rear wheel **assembly**.

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PN - [US2015266534](#) A1 20150924

PR - US201514723892
20150528; US201314043625
20131001; US201261708996P
20121002

AP - US201514723892 20150528

DT - **

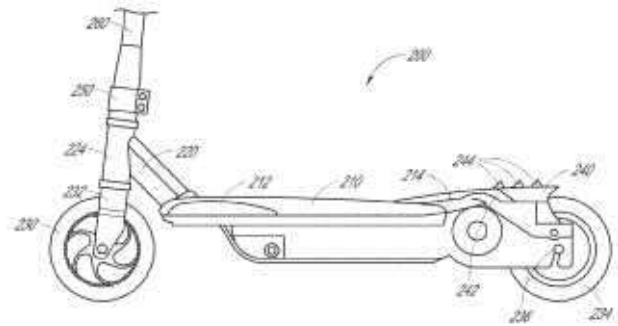
CT - || R141 (A1)
[USD295428S](#) S 00000000 [];
[USD312485S](#) S 00000000 [];
[US6279929](#) B1 20010828 [] (FRUECHTENICHT ROBERT D [US]);
[US6315307](#) B1 20011113 [] (CHEN KAI-WEN [TW], et al);
[US2004012166](#) A1 20040122 [] (REGINATO ROBERT [AU]);
[USD492367S](#) S 20040629 [] (DENNIS WARREN E [US]);
[USD533601S](#) S 20061212 [] (MOREIRA SIMONIDES GUZMAN [US]);
[US2011200385](#) A1 20110818 [] (BROUSSARD ANDREW DAVID [US]);
[US2012228845](#) A1 20120913 [] (WEGENER ANDREAS C [US]);
[US4168076](#) A 19790918 [] (JOHNSON NOEL K);
[US6481728](#) B2 20021119 [] (CHEN SHOU-MAO [TW]);
[US7178813](#) B1 20070220 [] (BRUNTMYER JOSEPH A [US]);
[US7597333](#) B2 20091006 [] (STILLINGER SCOTT H [US])

CCI - [B62L1/04](#) ; [B62M6/90](#) ;
[B62K3/002](#) ; [B62K21/12](#)

CUI - [B62K11/00](#)

CCA - [B62M6/60](#) ; [B62K2202/00](#) ;
[B62K2204/00](#)

CUA - [B62K2208/00](#)



- CQA - [B62M7/12](#)
- PA - BRAVO SPORTS [US]
- TI - **SCOOTER** ASSEMBLIES
- AB - In some embodiments, a **scooter** comprises a deck configured to support a rider, a front wheel and a rear wheel, a head tube, a **steering column**, and a foot brake. The **steering column** can include a **steering** tube and a handlebar **assembly**, and the **steering column** can be used to steer the **scooter** by controlling a direction of the front wheel. The foot brake can be configured to apply a braking force to the rear wheel when the foot brake is pressed down. A plurality of neck members can connect the deck to the head tube.

Interruption by user...

[SS 23]