FORM 2
THE PATENT ACT 1970&
The Patents Rules, 2003
COMPLETE SPECIFICATION
(See section 10 and rule 13)

1. TITLE OF THE INVENTION:

Self-Balance Scooters: SELF-BALANCE ELECTRIC SCOOTERS IN DOUBLE SHAFT DRIVING CONTROLLED BY USER MOBILE.

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REAMBLE TO THE DESCRIPTION

PROVISIONAL	COMPLETE
The following specification describes the	The following specification Invention. Particularly describes the invention and the manner in which it is to be performed.

FIELD OF THE INVENTION

This invention "**Self-Balance Scooters" is related** to a self-balancing vehicle frame.

BACKGROUND OF THE INVENTION

Current, in big city, private scooters quantity sharply rises, and makes traffic congestion day by day serious. Under this background, two-wheeled balance truck is as a kind of by driven by power, the individual with the homeostasis ability class transportation means of riding instead of walk, and because of its environmental protection, economic dispatch feature, has good development tendency.

It consists predominantly of load scootersrier, drive system, steering swivel system, control system. Its main operation logic: adopt electronics self-balancing system and inverted pendulum principle and the novel scooters body realized. Main process is that the built-in precise electronic gyroscope of balance truck is judged the residing appearance of scooters body position state, by central microprocessor, calculate corresponding instruction, the drive system of scooters body is controlled to the attitude of adjusting scooters body, thereby realized self-balancing and the operation function of scooters body.

Granted publication number has openly been described a kind of coaxial two-wheel vehicle for the patent of invention of CN101353070A.Comprise pedal, scooters body, one wheel pairs, a pair of independent driving and rotate described to wheel driver be directly used in the attitude of the described pedal of direct change or indirectly change the handle of described attitude by described scooters body. But it is to adopt a pair of motor-driven two-wheel individual drive.

Along with the fast development of Chinese society economy, auto mobilization process is constantly accelerated, and self-propelled vehicle consumption demand is vigorous gradually, and automobile pollution constantly rises violently .Energy shortage and environmental pollution become the social concern of facing mankind, and traffic jam and automobile stop problem are also faced with acid test. Therefore, study novel small portable, economize energy, intelligent traffic instrument convenient and practical, with low cost, an actv. solution route will be provided for problems such as the current vehicle fuel consumption of alleviation China is large, energy resource consumption is many, environmental pollution is large, road traffic congestion, parking difficulty.

There is patent relevant with direct-driving type double-wheel self-balancing battery-driven scooters at present: " a kind of single shaft drying double-wheel self-balancing scooters " (CN103600796A), it is characterized in that: motor fixing frame and bearing fixed mount are all arranged on scooters body, motor is arranged on motor fixing frame, motor-driven gear is fixedly connected with motor, motor-driven gear is meshed with transmission gear, transmission gear coordinates with propeller shaft couplings, deflecting bar with turn to transmission gear to be connected, steering rack and wheel steering save mutually

hinged." a kind of double-controlled type double-wheel self-balancing intelligent vehicle " (CN103612695A), it is characterized in that: physical construction and the control system be installed on this physical construction, control system controls the smooth running of described intelligent vehicle realization within the scope of vertical direction small inclination in the manual mode operation mode of being undertaken by both hands or by the body control operating mode that the Coordinating Activity of health scootersries out." a kind of structure changes balanced scooters with two wheels " (CN102582738A), is characterized in that: the entirety symmetrically structure of this two-wheel scooters, is made up of body installation, actuating device, handle device and electrical controller four parts.

Currently a single-wheeled or two-wheeled self-balancing vehicle is a popular vehicle, and includes a built-in self-balancing electric system that uses a gyro, angle sensors, or a similar device to detect forward or rearward tilt of the vehicle to thereby drive automatically rotation of the wheels to compensate tilt of the vehicle, in such a manner that the vehicle is maintained in a balanced state. During use of a single-wheeled self-balancing vehicle, since there is only one touchdown point, the balance along the direction of the axle must be controlled by adjusting the pose through the user. As a result, the single-wheeled self-balancing vehicle is difficult to balance and control. Although a two-wheel self-balancing vehicle can overcome the shortcomings said above, it includes one standing platform and a middle handle that is set to move or turn the vehicle, so that the user must use the hands and feet to operate the vehicle simultaneously.

Moreover, during turning of the two-wheeled self-balancing vehicle, since the body of the user is thrown outwardly by virtue of centrifugal force, in order to keep standing stable, an excessive pulling force is bound to be applied by the user to the middle handle. Hence, unexpected excessive turning magnitude results in overturning of the vehicle. As such, to ensure safety during turning of the vehicle, it is necessary to scootersefully hold and control the middle handle. Furthermore, due to obstruction of the middle handle, it is difficult for the user to jump away through the front of the vehicle, thereby resulting in potential danger during use.

PRIOR ART SEARCH

US7363993B2 *2003-11-042008-04-29Toyota Jadish Kabushiki Kaisha Traveling apparatus and method for controlling thereof.
US8028777B2 *2005-04-142011-10-04Toyota Jadish Kabushiki Kaisha Coaxial two-wheel vehicle.
US20110303475A1 *2010-06-142011-12-15Joon Hyung Kim Hands-free electric scooter.
US20120166048A1 *2010-12-152012-06-28Bosch Corporation Inverted pendulum type moving body.
US8225891B2 *2008-05-232012-07-24Honda Motor Co., Ltd. Inverted pendulum mobile vehicle.
US20130238231A1 *2012-02-122013-09-12Shane Chen Two-Wheel, Self-Balancing Vehicle With Independently Movable Foot Placement Sections.

US6345678B1 *2001-03-212002-02-12Shian-Pei Chang Scooter.
US20120158208A1 *2010-12-172012-06-21Bosch Corporation Inverted pendulum type moving body.
US4209197A *1976-12-041980-06-24Moritz Fischer Weather protection systems for road vehicles.
DE3130531A1 *1980-11-201982-06-24Josip Bacoka Scooters roller roof for shielding against the sun.
US4657298A *1986-03-031987-04-14Yong O Sung Vehicle protective cover device.
US4718711A *1986-08-081988-01-12David Rabbit Portable scooters port.
US4727898A *1985-03-221988-03-01Tesfa Guma Portable automatic cover.

U**.S. Pat. No. 4,848,823 Inventor: Arno K. Flohr, et al. Issued: Jul. 18, 1989:**

A remotely controlled power-assisted vehicle cover is attached to a take-up spool winding and unwinding mechanism which is housed in an eccentric-shaped containment tube, mounted under the front or back bumper areas of a vehicle. The vehicle cover is extracted from the cylindrical cover containment tube and placed over a vehicle by a wand fastened to the leading edge of the vehicle cover and houses a wireless control system including a remote motor control and a transmitter to send: on/off, single or variable speed, and reversing controls to the drive motor of the cover extracting/retracting mechanism. In addition to controlling the cover drive motor, the control wand is used to physically guide the protective cover on or off the vehicle. The control wand can easily be operated with one hand and enables precise control of the power-assisted application or removal of the vehicle cover. The cover application operation is done so quickly that a blanket of air is trapped between the cover and the vehicle and helps the cover slide freely over the surface of the vehicle.

U.S. Pat. No. 5,176,421Inventor: Edward J. Faliscan Issued: Jan. 5, 1993

A cover system for an automobile includes a flexible cover, preferably of nylon, having leading, trailing and side edge portions and of a suitable dimension to fit over the entire scooters body from the rear bumper to the front bumper and sides thereof. The flexible cover includes an elastic leader segment attached at a first end to the cover and spaced from the trailing edge thereof. A second end of the leader segment is attached to a rotatable spool housed in a containment tube. The spool is rotated for storing in the cover by a motor, by a spring-biased shaft arrangement or by a manually turntable crank, or combinations thereof. The containment tube may be pivotally mounted by straps within the interior of the trunk for storage therein and is adapted to be pivotally swung outwardly from the trunk to an operable position at the rear of the trunk lid. After the cover is applied to the automobile, the containment tube is swung back to the trunk compartment for safe storage.

U.S. Pat. No. 5,303,972Inventor: Merle J. Heider Issued: Apr. 19, 1994

A top closure for a rectangular box includes a tarpaulin having one edge connected to one top edge of the box, and having the opposite edge wound around an elongated shaft. A reversible motor is connected to the shaft for winding and unwinding the tarpaulin to open and close the top closure. A remote transmitter is adapted to send either a wind or an unwind signal to a receiver which is connected through solenoids to the reversible motor. By pressing one button on the remote transmitter it is possible to rotate the motor in one direction, and by pressing the other button on the remote transmitter it is possible to rotate the motor in the opposite direction.

U.S. Pat. No. 5,516,181Inventor: Craig D. Thompson Issued: May 14, 1996

A roll-up covering for motor vehicles comprised of a rectangular main section 10 and side flaps 14 with antenna slits 18, 20 in either to accommodate antennas. A cylinder 16 is fixed perpendicular to the length of the main section and located between the main section and the top of the vehicle while in use. The side flaps 14 partially cover the side of the vehicle while in use and fold over the top of the main section for removal. Combined, the covering rolls around the cylinder for compact storage. Rear adjustable straps 26 anchor the covering in the rear compartment of the vehicle for theft prevention and as a means of changing the fit of the covering. Front elastic straps 11 and side elastic straps 12, in conjunction with the rear adjustable straps and the cylinder, tension the main section and side flaps to provide an airspace 34. The airspace between the covering material and the majority of the top vehicle surfaces provides for insulation and ventilation.

OBJECTIVES OF THE INVENTION

1. The objective of the invention is to self-valancing, auto control and also provided with upper cover on described scooters body, is provided with shock-absorbing and noise-eliminating layer between described scooters body and upper cover.
2. The other objective of the invention is to double-wheel self-balancing scooters is characterized in that, described upper cover upper surface is load-bearing pedal, on described load-bearing pedal, should be provided with buffer layer.
3. The other objective of the invention is to double-wheel self-balancing scooters is characterized in that, described shock-absorbing and noise-eliminating layer is rubber pad.
4. The other objective of the invention is to double-wheel self-balancing scooters, is characterized in that, described steering rack and special transmission gear all need to heat-treat strengthening.
5. The other objective of the invention is to direct-driving type double-wheel self-balancing battery-driven it is characterized in that: described microcontroller adopts ECU micro controller module, control chip is that the STM32F103RCT6 of ST company generation is as kernel control chip.
6. The other objective of the invention is to according to direct-driving type double-wheel self-balancing battery-driven scooters is characterized in

that: described left wheel hub motor and right wheel hub motor are brushless motor.

7. The other objective of the invention is to according to direct-driving type double-wheel self-balancing battery-driven scooters it is characterized in that: described LCD MODULE is NOKIA 5110 Liquid Crystal Module.
8. The other objective of the invention is to according to direct-driving type double-wheel self-balancing battery-driven scooters it is characterized in that: described attitude detection module adopts the three-dimensional sensing device of condenser MPU-6050.
9. The other objective of the invention is to direct-driving type double-wheel self-balancing battery-driven scooters it is characterized in that: described wireless communication module model is ZigBeeCC2530.
10. The other objective of the invention is to The self-balancing vehicle frame wherein each of said side frame units further having a handle portion that is pushed forwardly and pulled rearwardly to drive a corresponding one of said self-balancing electric systems to tilt forwardly and rearwardly.
11. The other objective of the invention is to The self-balancing vehicle frame wherein said bearing unit including first and second pivot seats connected respectively and coaxially to each other, and a bearing connected between said first and second pivot seats such that each of said first and second pivot seats can tilt forwardly and rearwardly relative to the other of said first and second pivot seats.
12. The other objective of the invention is to The self-balancing vehicle frame as wherein each of said side frame units further has a frame body portion, said pedal portion of each of said side frame units having a foot supporting wall extending from a bottom end of a corresponding one of said frame body portions and extending toward the other of said side frame unit, and a stop wall extending upwardly from a side of said foot supporting wall distal from said bottom end of the corresponding one of said frame body portions, said first and second pivot seats being mounted respectively on side surfaces of said stop walls of said side frame units that face toward each other.
13. The other objective of the invention is to The self-balancing vehicle frame as wherein said bearing unit including a bearing seat secured to a bottom surface of one of said pedal portions, a mounting seat secured to a bottom surface of the other of said pedal portions, a pivot shaft extending through said mounting seat and said bearing seat along a left-to-right direction and fixed within said mounting seat, and at least one bearing disposed in said bearing seat and permitting said pivot shaft to extend there through.
14. The other objective of the invention is to The self-balancing vehicle frame as wherein said mounting seat and said bearing seat being tubular, and extending along the left-to-right direction.

SUMMARY OF THE INVENTION

The shaft drying double-wheel self-balancing scooters of a kind of list, it is characterized in that, comprise: scooters body, motor fixing frame, drive motor,

wheel, motor-driven gear, transmission gear, transmission shaft, bearing, bearing fixed mount, steering rack, turn to transmission gear, deflecting bar, wheel steering joint, described motor fixing frame and bearing fixed mount are all arranged on scooters body, described motor is arranged on motor fixing frame, described motor-driven gear is fixedly connected with motor, described motor-driven gear is meshed with transmission gear, described transmission gear coordinates with propeller shaft couplings, described deflecting bar with turn to transmission gear to be connected, described steering rack and wheel steering joint are hinged.

As preferred version, on described scooters body, be also provided with upper cover, between described scooters body and upper cover, be provided with shock-absorbing and noise-eliminating layer. As preferred version, described upper cover upper surface is load-bearing pedal, on described load-bearing pedal, should be provided with buffer layer. As preferred version, described shock-absorbing and noise-eliminating layer is rubber pad. As preferred version, described steering rack and special transmission gear all need to heat-treat strengthening.

Beneficial effect of the present invention is mainly reflected in: by Patent design of the present invention, can make the usage quantity of motor reduce, reduce to a certain extent the complexity of the design of control system simultaneously, simultaneously owing to reducing the assembling number of motor, can also alleviate the weight of scooters load, improve scooters body flying power. The object of the present invention is to provide a kind of direct-driving type double-wheel self-balancing battery-driven scooters, the Wheel bearing solved in existing machinery frame mode is separated with scooters body, complicated in mechanical structure, and volume is large, the problem that productive costs is high.

The technical solution adopted in the present invention comprises chassis, chassis upper is vertically installed with deflecting bar, deflecting bar can stretch adjustment highly, to adapt to the operating personal of differing heights, be mounted on bottom deflecting bar and turn to potential device in chassis, deflecting bar top is provided with handle, operating personal is held and scootersry out course changing control on handle, swing handle, change the resistance value turning to potential device, potential device is turned to connect microcontroller by circuit, microcontroller connects motor drive module by circuit, motor drive module connects left wheel hub motor and right wheel hub motor respectively by circuit, microcontroller detects the resistance value size turning to potential device, thus by motor drive module to left wheel hub motor and right wheel hub motor scootersry out differential control realize turn to, left wheel hub motor is connected with right wheel hub motor the roller being arranged on both sides, chassis respectively, microcontroller connects attitude detection module by circuit, the lateral attitude of Real-Time Monitoring scooters body also sends the data to microcontroller and processes, microcontroller connects wireless communication module by circuit, wireless communication module be used for system in commissioning process with the data exchange of

upper computer, microcontroller connects three-dimensional sensing device by circuit, three-dimensional sense answers device inside to comprise three-axis gyroscope and three axle accelerators, three-axis gyroscope sensing vehicle body attitude signal the Acceleration Signal being transferred to microcontroller and three axle accelerators scootersries out mixed processing, export the foundation that mixed signal judges as vehicle body attitude, microcontroller is also mounted on key circuit on handle and LCD MODULE by circuit, key circuit comprises button S1, S2, S3, S1 calls the data that current gyro gathers, S2 is the data of left and right hub rotation, S3 is switching key and confirms button, LCD MODULE scootersries out data display for coordinating key circuit, power module is powered to system.

two side frame units, each of the side frame units being adapted to be mounted with a respective one of the self-balancing electrical systems and being operable to tilt forwardly and rearwardly for driving synchronously forward and rearward tilt of the respective one of the self-balancing electrical systems to turn the respective one of the wheels; a connecting frame unit having two end portions aligned respectively with the side frame units and adapted to be mounted with the wheels, respectively; and two bearing units connected to said connecting frame unit and the side frame units such that each of the side frame units can tilt independently against the other of the side frame units before being assembled into a complete vehicle. As such, a user can operate the vehicle using hands and/or feet to control travelling and turning of the vehicle.

BRIEF DESCRIPTION OF THE DIAGRAM

FIG.1: self-balancing vehicle frame.
FIG.2: Self Balancing view.
FIG.3: concept of self-balancing.
FIG.4: is a Shock-Absorbing Technology.
FIG.5: is a Noise-Eliminating Layer Technology.
FIG.6: is a Buffer Layer Technology.
FIG.7: is a Scooters Weight Reducing Material Technology.

DESCRIPTION OF THE INVENTION

Automatic Valancing:

The invention relates to an automatic balancing device for counterbalancing an out-of- balance mass present in a rotating body. Particularly, but not exclusively, the invention relates to an automatic balancing device for use in washing machines and for counterbalancing out-of-balance masses present in a washing machine during washing, rinsing and/or spinning cycles. Automatic balancing devices for counterbalancing out-of-balance masses are known in many different applications. However, the most complex out-of-balance situations occur when both the position and magnitude of the out-of-balance mass is unpredictable and the speed of rotation is variable, as in the case of a washing machine. Further complications arise in the case of a washing machine because the magnitude and position of the out-of-balance mass can vary with time during a single laundering

cycle. Many different automatic balancing devices have been proposed and used in washing machines and many of these are effective at counterbalancing out-of-balance masses at speeds above the critical speed (ie. the speed of resonance of the system). Examples of this type of automatic balancing device are shown in GB1,035,033; GB1,092,188; WO 93/23687; WO 95/32372; US5,813,253; US5,862,553; DEI 912 481. All of the devices shown in these documents make use of the phenomenon by means of which, at speeds of rotation above the critical speed, freely rotating counterbalancing masses automatically take up positions in which the out-of-balance mass is counterbalanced. In each of the aforementioned arrangements, the freely rotating counterbalancing masses are constrained to move in a circular path, either by being mounted about an axle which is concentric with the axis of rotation of the rotating body, or by being located in a circular race.

These known arrangements all have various disadvantages. In arrangements wherein the counterbalancing masses are mounted centrally, the centre of mass of each counterbalancing mass is normally located radially closer to the axis of rotation than the centre of mass of the out-of-balance mass. In order to provide sufficient counterbalancing capability, the mass of the counterbalancing masses must be relatively large. This increases the overall weight of the machine in which the device is utilized and can add to the cost of manufacture as well. In arrangements in which the counterbalancing masses are arranged to run in a race, the race must be manufactured to very high tolerance levels which also increases manufacturing costs. Such arrangements are also commonly very noisy as a result of collisions between the counterbalancing masses in the race. Finally, due to the high contact pressures applied between the components of the known arrangements, high strength materials such as steels must be used, which adds to manufacturing costs and the overall mass of the machine.

Out-of-balance masses present in rotating bodies can also be balanced to some extent using fluid balancing rings in which a volume of fluid is constrained to move in an annular channel which is caused to rotate with the body. Such systems have been used to balance the wheels of vehicles and in other applications. However, fluid balancing rings have a limited capacity to balance an out-of-balance load due to the fact that, at high speeds, centrifugal forces tending to disperse the fluid evenly around the channel overcome the forces urging the fluid into the position in which the out-of-balance mass is counterbalanced. Fluid balancing rings are generally capable of counterbalancing approximately 60% of an out-of-balance load.

Shock-Absorbing:

an elongated, longitudinally shift able member; a longitudinally shift able tube telescoped over said member and having a normal position with respect thereto; said tube having a wall section spaced from said member; a brake element frictionally engage able with said member and disposed in said tube between the member and said section; a pressure plate between the section and the element, and structure coupled with the member and engaging said element for

transmitting force to said plate to force the same into progressively increasing frictional engagement with said member las the latter and said tube are shifted relative to each other away from said normal position said tube having a pair of opposed wall portions interconnected by said section and provided with serrated internal surfaces, each presenting a row of elongated teeth extending transversely of said tube; said element and said plate being of elongated con- `figuration and having serrated, longitudinal edges complementally re-ceiling said teeth, whereby to prevent movement o-f the element and plate longitudinally of the tube but permit movement of the same toward and away from said member. an elongated, longitudinally shift able member; a longitudinally shift able tube telescoped over the member and having a normal position with respect thereto, said tube having a wall section spaced from said member; a brake element frictionally engages able with the member and disposed in said tube between the member and the section; a pressure plate between the section and the element; structure coupled with the member and engaging said element for transmitting force to said plate to force the same into progressively increasing frictional engagement with the member as the latter and said tube are shifted relative to each other away from said normal position; and an elongated, longitudinally shift able, hollow case having an open end receiving said tube, the member extending into the case longitudinally thereof, and having an inner extremity rigid with the case, whereby the member and the case are shift able as a unit,

said structure including a cam scootersrier said case, said plate being provided with means engaging the cam for shifting the plate toward said member in response to relative shifting of the member and the tube in either direction away from said normal position, whereby to effect said frictional engagement of the element with the member, said case and said tube having a common longitudinal axis dening a line of movement of the member and the tube for said relative shifting thereof, said cam projecting inwardly of the case, said section having a longitudinal slot therein receiving the cam, said plate shifting means comprising a rib -rigid with the pl-ate and received in said slot, said rib having .a cam-engaging surface diverging from said axis as the surface is traversed by the cam in either direction away from said normal position.

An a elongated, longitudinally shift able member; a longitudinally shift able tube telescoped over the member and having a normal position with respect thereto, said tube having a wall section spaced from said member; a bra-ke element frictionally engage able with the member land disposed in said tube between the member and the section; a pressure plate between the section and the element; structure coupled with the member and engaging said element for transmitting force to said plate to force the same into progressively increasing frictional engagement with the member as the latter and said tube are shifted relative to each other away from said normal position; and an elongated, longitudinally shift able, hollow case having an open end receiving said tube, the member extending into the case longitudinally thereof, and having an inner extremity rigid lwith the case, whereby the member and the case are shift able as a unit, said structure including a cam scootersrier by s-aid case, said plate being provided with means

engaging the cam for shifting the plate toward said member in response to the relative shifting of the member and the tube in either direction away from said normal position, whereby to eect said frictional engagement of the element with the member, said element and said plate being of elongated configuration and extending longitudinally of said tube, said section having a longitudinal slot therein communicating with said plate and being provided with a pair of pivotal, crossed lever arms having pivot points spaced longitudinally of said section, each of said arms having a projection extending into said slot and engage able with said plate, said cam being disposed adjacent said open end of the c-ase and normally engaging said arms at zones thereof where the arms cross, 6 said case having a clearance opening between said cam and the opposite end thereof permitting said relative shifting of the member lan-d the tube as the cam bears against said arms, thereby forcing said projections into pressure engagement with said plate.

Noise-Eliminating Layer:

The invention the sound oscillations, which are to be silenced are taken in by a receiver and reproduced by a reproducing apparatus in the form of sounds having an opposite phase. The means of scooters out said processes consist preferably of electrical apparatus and the reception is effected by microphone, by which the acoustic oscillations are transformed into electric ones. The microphone is connected over an amplifier with a reproducing apparatus (loudspeaker). The phase opposition can be effected by several means. In case for instance of only one single tune moving in one well defined direction (in a pipe for instance) the phase opposition can be efieeted in a very simple manner by adjusting the distance between the microphone and the producing apparatus. In this case the microphone is preferably placed between the sound source and the reproducing apparatus causing the sound oscillations to meet first the microphone and then the reproducing apparatus. Consequently, two different kinds of oscillations are present in the reproducing apparatus, the one representing the sound oscillation of the tune, moving with normal sound velocity, the other representing a wave advanced with respect to the first wave by electrical means between the microphone and the reproducing apparatus and reproduced by the reproducing apparatus. The phase opposition can be effected by suitably adjusting the distance between the microphone and the reproducing apparatus.

Buffer Layer:

The invention to overcome the defect of prior art, a kind of lift scooters with pooling feature is provided, when unfortunate used during elevator falling accident occurs, the cushion pad of cage bottom contacts with the soft of ground when can effectively promote elevator to fall, the injury that reduction accident is brought. In order to realize above-mentioned target, the present invention adopts the following technical scheme that: A kind of lift scooters with pooling feature, including scooters body, it is characterized in that: also including that cushion pad, described cushion pad are arranged on scooters body bottom, described cushion pad is respectively arranged with the first cushion, canvas layer and the second

cushion from top to bottom. Aforesaid a kind of lift scooters with pooling feature, it is characterized in that: described first cushion is the rubber layer that one-side band has downward circular pit. Aforesaid a kind of lift scooters with pooling feature, it is characterized in that: described second cushion is the rubber layer that one-side band has circular pit upwards. Aforesaid a kind of lift scooters with pooling feature, it is characterized in that: the material of described rubber layer is natural bipartite. Aforesaid a kind of lift scooters with pooling feature, it is characterized in that: the material of described canvas layer is rubber duck. The beneficial effect that the present invention is reached: the cage bottom of the present invention is provided with cushion pad, contacts with the soft of ground when can effectively promote elevator to fall, the injury that reduction accident is brought.

Scooters Weight Reducing Material:

The scooters cover for reducing or slowing the rate of heat build-up in an interior of a vehicle made from a light weight material which has a soft underside to prevent marring of the automobile finish and a water repellent exterior side. Preferably, a material made from a nonwoven web is utilized having a soft interior side and a vinyl covered exterior side. The cover is treated with an ultraviolet blocker to block the sun rays to reduce or slow the rate of heat build-up in the automobile interior and protect the steering wheel, dash, and other like components from the rays. The cover includes a main panel which generally covers the back window, roof, and front window of the automobile, and two auxiliary side panels which cover the side windows of the automobile.

The cover may be advantageously stored in the trunk with two rear tie straps attached to the hinges of the trunk lid. The cover may be removed from the trunk with the trunk lid raised and stretched over the top of the automobile with straps attached. The trunk may be shut with the cover inaccessibly attached inside the trunk. Elastic shock cords are attached to the front of the cover and to the front of the vehicle, while the side panels may be similarly attached to side mirrors, door handles, etc. To remove the cover, the trunk lid again is raised, straps are removed, and the cover is dropped into the trunk remaining attached to the trunk lid hinges.

WE CLAIMS

1. The invention “Self-Balance Scooters “is a self-balance Scooters in double shaft driving. The self-balance Scooters comprises a pedal for bearing an operator, a Scooters body, two wheels, a steering lever and a control circuit system, wherein the Scooters body is used for loading a motor and the control circuit; the Scooters are at the coaxial position, and double shaft driving is performed through the single driving motor; parallel steering of the Scooters body is performed through the steering lever; and according to the control circuit system, the dip angle of the Scooters body is measured through a sensor so as to perform running control of the Scooters body. The whole Scooters has the advantages of being light in weight and running stably. It consists predominantly of load scootersrier, drive system, steering swivel system, control system. Its main operation logic: adopt electronics self-balancing system and inverted pendulum principle and the novel Scooters body realized. Main process is that the built-in precise electronic gyroscope of balance Scooters judged the residing appearance of Scooters body position state, by central microprocessor, calculate corresponding instruction, the drive system of Scooters body is controlled to the attitude of adjusting Scooters body, thereby realized self-balancing and the operation function of Scooters body and controlled by user mobile.
2. According to claim1# the invention is to self-valancing, auto control and also provided with upper cover on described scooters body, is provided with shock-absorbing and noise-eliminating layer between described scooters body and the invention is to double-wheel self-balancing scooters is characterized in that, described upper cover upper surface is load-bearing pedal, on described load-bearing pedal, should be provided with buffer layer.
3. According to claim1,3# the invention is to double-wheel self-balancing scooters is characterized in that, described shock-absorbing and noise-eliminating layer is rubber pad and also the invention is to double-wheel self-balancing scooters, is characterized in that, described steering rack and special transmission gear all need to heat-treat strengthening.
4. According to claim1,2,3# the invention is to direct-driving type double-wheel self-balancing battery-driven it is characterized in that: described microcontroller adopts ECU micro controller module, control chip is that the STM32F103RCT6 of ST company generation is as kernel control chip. Also the invention is too according to direct-driving type double-wheel self-balancing battery-driven scooters is characterized in that: described left wheel hub motor and right wheel hub motor are brushless motor.
5. According to claim1,2# the invention is too according to direct-driving type double-wheel self-balancing battery-driven scooters it is characterized in that: described new designed LCD MODULE is new Designed-NOKIA 5110 Liquid Crystal Module and also the invention is too according to direct-driving type double-wheel self-balancing battery-driven scooters it is

characterized in that: described attitude detection module adopts the three-dimensional sensing device of condenser new designed MPU-6050.

6. According to claim1,2,6# the invention is to direct-driving type double-wheel self-balancing battery-driven scooters it is characterized in that: described wireless communication module model is new designed ZigBeeCC2530 and also the invention is to The self-balancing vehicle frame wherein each of said side frame units further having a handle portion that is pushed forwardly and pulled rearwardly to drive a corresponding one of said self-balancing electric systems to tilt forwardly and rearwardly.
7. According to claim1,2# the invention is to The self-balancing vehicle frame wherein said bearing unit including first and second pivot seats connected respectively and coaxially to each other, and a bearing connected between said first and second pivot seats such that each of said first and second pivot seats can tilt forwardly and rearwardly relative to the other of said first and second pivot seats.
8. According to claim1,2,12# the invention is to The self-balancing vehicle frame as wherein each of said side frame units further has a frame body portion, said pedal portion of each of said side frame units having a foot supporting wall extending from a bottom end of a corresponding one of said frame body portions and extending toward the other of said side frame unit, and a stop wall extending upwardly from a side of said foot supporting wall distal from said bottom end of the corresponding one of said frame body portions, said first and second pivot seats being mounted respectively on side surfaces of said stop walls of said side frame units that face toward each other.
9. According to claim1,2,12# the invention is to The self-balancing vehicle frame as wherein said bearing unit including a bearing seat secured to a bottom surface of one of said pedal portions, a mounting seat secured to a bottom surface of the other of said pedal portions, a pivot shaft extending through said mounting seat and said bearing seat along a left-to-right direction and fixed within said mounting seat, and at least one bearing disposed in said bearing seat and permitting said pivot shaft to extend there through.
10. According to claim1,2# the invention is to The self-balancing vehicle frame as wherein said mounting seat and said bearing seat being tubular, and extending along the left-to-right direction.
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Patent Title: Self-Balance Scooters: SELF-BALANCE ELECTRIC SCOOTERSIN DOUBLE SHAFT DRIVING CONTROLLED BY USER MOBILE.

ABSTRACT

The invention “Self-Balance Scooters “is a self-balance Scooters in double shaft driving. The self-balance Scooters comprises a pedal for bearing an operator, a Scooters body, two wheels, a steering lever and a control circuit system, wherein the Scooters body is used for loading a motor and the control circuit; the Scooters are at the coaxial position, and double shaft driving is performed through the single driving motor; parallel steering of the Scooters body is performed through the steering lever; and according to the control circuit system, the dip angle of the Scooters body is measured through a sensor so as to perform running control of the Scooters body. The whole Scooters has the advantages of being light in weight and running stably. It consists predominantly of load scooter series, drive system, steering swivel system, control system. Its main operation logic: adopt electronics self-balancing system and inverted pendulum principle and the novel Scooters body realized. Main process is that the built-in precise electronic gyroscope of balance Scooters judged the residing appearance of Scooters body position state, by central microprocessor, calculate corresponding instruction, the drive system of Scooters body is controlled to the attitude of adjusting Scooters body, thereby realized self-balancing and the operation function of Scooters body and controlled by user mobile.