

ALLNAMES:(Giant Manufacturing Co Ltd)

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Machine translation

1. [20160039245](#) BICYCLE WHEEL

US - 11.02.2016

Int.Class [B60B 1/02](#) Appl.No 14819442 Applicant GIANT MANUFACTURING CO., LTD. Inventor I-Teh Chen

The bicycle wheel includes a rim, a hub, a driving device, a plurality of first side pulling spokes, a plurality of first side pushing spokes, and a plurality of second side spokes. The rim has a first side and a second side. The hub is located in a center of the rim. The driving device is connected to the hub which is located on the first side of the rim. Each of the first side pulling spokes and the first side pushing spokes is connected to the rim and the hub, and located on the first side of the rim, respectively. Each of the second side spokes is connected to the rim and the hub, and located on the second side of the rim.

2. [20150210347](#) HIDDEN HYDRAULIC STRUCTURE OF BIKE DISC BRAKE

US - 30.07.2015

Int.Class [B62L 3/02](#) Appl.No 14605984 Applicant GIANT MANUFACTURING CO., LTD. Inventor I-Teh Chen

A hidden hydraulic structure of a bike disc brake is integrally disposed with a bike body tube. The hidden hydraulic structure of the bike disc brake includes a base, a piston and a linking member. The base includes an oil circuit. The piston is located in the base for controlling a pressure of the oil circuit. The piston is actuated by the linking member. Wherein a shape of the base is corresponded to a shape of the bike body tube, and the base is connected with the bike body tube to form a portion of the bike body tube, thereby increasing strength of the bike body tube.

3. [20070194509](#) SHOCK ABSORBING DEVICE FOR A BICYCLE

US - 23.08.2007

Int.Class [F16F 9/36](#) Appl.No 11698641 Applicant Giant Manufacturing Co., Ltd. Inventor Yih Johnson

A shock absorbing device may include a first stem having an inner surface extending along a longitudinal axis, and a second stem configured to receive a portion of the first stem. The shock absorbing device may also include a guide member having an outer surface configured to prevent the first stem from rotating relative to the guide member. The shock absorbing device may further include a shock absorbing structure disposed between the first stem and the second stem. The shock absorbing device may further include a bearing device configured to rotatably guide movement of the first stem relative to the second stem along a direction substantially parallel to the longitudinal axis of the first stem and prevent radial sway between the first and second stems.

4. [20060181053](#) BICYCLE SUSPENSION SYSTEM

US - 17.08.2006

Int.Class [B62L 25/26](#) Appl.No 11398945 Applicant Giant Manufacturing Co., Ltd. Inventor Huang Hua-Chun

A suspension system may include a front frame connected to a front wheel, a shock absorber pivotally connected to the front frame, and a rear frame connected to a rear wheel supported by a ground contact point. The shock absorber may include a preset pressure substantially equal to a pressure caused by a body weight of a rider. The suspension system may be structurally configured to maintain an instantaneous center point of movement of the rear frame relative to the front frame within an angle range of about $45^\circ \pm 15^\circ$ relative to the ground contact point when the rear frame moves relative to the front frame.

5. [20140305253](#) ADJUSTING STRUCTURE FOR SEATPOST OF BICYCLE

US - 16.10.2014

Int.Class [B62J 3/00](#) Appl.No 14250388 Applicant GIANT MANUFACTURING CO., LTD. Inventor Wei-Han Tseng

An adjusting structure for a seatpost of a bicycle includes a telescopic post and at least one adjusting module. The telescopic post includes at least one switch disposed on one end of the telescopic post, wherein the switch is for lengthening or shortening the telescopic post. The adjusting module is disposed on the telescopic post corresponding to the switch and for pushing the switch.

6. [09039024](#) BICYCLE SEATPOST

US - 26.05.2015

Int.Class [B62J 1/08](#) Appl.No 14219005 Applicant GIANT MANUFACTURING CO., LTD. Inventor Hui-Yuan Su

A bicycle seatpost includes a first part and a second part. A curvature radius of the first part is r_1 , and an arc length of the first part is equal to or greater than πr_1 and smaller than $2\pi r_1$, the first part is set toward a head of a bicycle. The second part is connected to the first part, wherein a curvature radius of the second part is greater than the curvature radius of the first part, the second part is set toward an end of the bicycle.

7. [20110073721](#) BICYCLE SUPPORT DEVICE

US - 31.03.2011

Int.Class [F16L 3/00](#) Appl.No 12748454 Applicant Giant Manufacturing Co., Ltd. Inventor Chen Mu-Tsun

A bicycle support device includes at least one supporting base and at least one hanging part. The hanging part is telescopically connected to the supporting base and has at least one groove located thereon. At least a part of the groove of the hanging part protrudes from the supporting base for hanging a bicycle wheel.



8. [20180057087](#) ADJUSTABLE SEAT TUBE STRUCTURE AND BICYCLE

US - 01.03.2018

Int.Class [B62J 1/08](#) Appl.No 15688897 Applicant GIANT MANUFACTURING CO., LTD. Inventor Shu-Yu Zhou

An adjustable seat tube structure which is for adjusting a height of a saddle for a bicycle includes a lower tube, an upper tube and a piston set. The lower tube includes a top end. The upper tube is disposed at the lower tube and is limitedly moved relative to the lower tube. The upper tube is linked with the saddle and includes an upper end, an inner space, and a lower end. The upper end is protruded out of the top end, and the inner space is for receiving a gas. The lower end is corresponded to the upper end. The piston set includes a piston, a valve and a rod. The piston is disposed inside the inner space, and the lower end is moved relative to the piston. The valve is disposed inside the piston and the rod is connected to the piston.

9. [20150176312](#) LOCKING APPARATUS FOR BICYCLE

US - 25.06.2015

Int.Class [E05B 71/00](#) Appl.No 14537866 Applicant GIANT MANUFACTURING CO., LTD. Inventor Mu-Tsun Chen

A locking apparatus for a bicycle is provided. The locking apparatus is for locking with a public bicycle station and includes a body, a locking portion and a controlling portion. The body is connected to the bicycle. The locking portion is located on one side of the body and includes a rotating unit, a locking member and an ejecting member. The rotating unit includes a locking groove, wherein a locking head can be inserted into the locking groove, and the rotating unit is rotated between a first position and a second position. When the rotating unit is located at the first position, the ejecting member is corresponded to the locking member and is ejected from the locking groove. The controlling portion is located on the other side of the body and includes an operating unit rotatably coupled to the rotating unit.

10. [20150117935](#) BICYCLE LOCKING AND PARKING DEVICE

US - 30.04.2015

Int.Class [E05B 71/00](#) Appl.No 14517935 Applicant GIANT MANUFACTURING CO., LTD. Inventor Mu-Tsun Chen

A bicycle locking and parking device for parking a bicycle is provided. The bicycle locking and parking device comprises a parking seat, a control module, a locking unit, and a bicycle locking mechanism. The bicycle locking mechanism comprises a locking groove, a first locking member, a reciprocating displacement limiter, a second locking member, and a third locking member. Wherein, the control module drives the third locking member, and the control module cooperates with the second locking member to make the displacement path of the lock-in part being closed. The positioning convex is embedded to the positioning groove, and the locking unit is locked in the bicycle locking mechanism. The present disclosure can avoid the adverse effects or the trouble accident.

11. [20100317493](#) BICYCLE TRAINER

US - 16.12.2010

Int.Class [A63B 22/06](#) Appl.No 12605380 Applicant Giant Manufacturing Co., Ltd. Inventor Chen Mu-Tsun

A bicycle trainer is disclosed. The bicycle trainer includes a supporting frame, a roller, a runner and at least one vane. The supporting frame suspends at least one bicycle wheel. The roller is connected to the supporting frame via a shaft member. The roller is driven by the bicycle wheel. A runner is coaxially connected to the roller via the shaft. The vane is pivotally connected to an edge of the runner.

12. [2013227993](#) HANDLEBAR ASSEMBLY

AU - 26.09.2013

Int.Class [B62K 21/18](#) Appl.No 2013227993 Applicant Giant Manufacturing Co., Ltd. Inventor Hsu, Che-Wei

A handlebar assembly [100] suitable to be installed on a steerer tube [50] of a bicycle is provided. The handlebar assembly [100] includes a stem [110], a handlebar [120], and a fastener [130]. The stem [110] has a first end [E1] and a second end [E2] opposite to the first end [E1], wherein the stem [110] has a first fastening surface [112] positioned at the first end [E1], and wherein the second end [E2] is suitable to be assembled to the steerer tube [50]. The handlebar [120] includes a middle portion [122a] and two handle portions [122b], wherein the handle portions [122b] are positioned on two opposite sides of the middle portion [122a] respectively, and wherein the middle portion [122a] has a second fastening surface [124] to be infixed to the first fastening surface [112]. The fastener [130] crosses the first fastening surface [112] and the second fastening surface [124] infixed to each other to fasten the stem [110] and the handlebar [120] and is positioned within the stem [110] and the middle portion [122a].

13. [2014262175](#) AUTOMATIC SHOCK ABSORBER SYSTEM FOR BICYCLE

AU - 27.11.2014

Int.Class [B62K 25/00](#) Appl.No 2014262175 Applicant GIANT MANUFACTURING CO., LTD. Inventor

An automatic control shock absorber system for a bicycle is provided. The system includes one or more sensors. A controller outputs a control signal to a damping adjuster according to the one or more sensors, such that the damping adjuster controls level of damping force based on the sensors..

14. [2015202857](#) APPARATUS FOR DETECTING RIDING POSTURE

AU - 11.06.2015

Int.Class [B62J 99/00](#) Appl.No 2015202857 Applicant GIANT MANUFACTURING CO., LTD. Inventor CHEN, MIN-CHANG

An apparatus for detecting a riding posture is suitable for detecting a riding posture of a rider riding a bicycle. The apparatus for detecting a riding posture includes a sensor and a controller. The sensor is connected to the bicycle to sense a relationship between the rider and the bicycle and output a sensing signal accordingly. The controller receives the sensing signal and determines whether the riding posture of the rider is a sitting posture or a standing posture according to the sensing signal.

15. [2021202003](#) METHODS AND SYSTEMS FOR BICYCLE FITTING

AU - 29.04.2021

Int.Class [A63B 69/16](#) Appl.No 2021202003 Applicant Giant Manufacturing Co., Ltd. Inventor Chang, Ya-Han

A method for bicycle fitting includes receiving evaluation factors based on one or more scenario parameters

16. [20190217910](#) BICYCLE SADDLE ASSEMBLY STRUCTURE THEREOF

US - 18.07.2019

Int.Class [B62J 1/08](#) Appl.No 16249914 Applicant GIANT MANUFACTURING CO., LTD. Inventor Wei-Tsung Hsu

A bicycle saddle rail includes a first connecting structure, two arc rods and a second connecting structure. The first connecting structure includes a main body and two first connecting portions. Each of the arc rods has a first end and a second end, and each of the first ends of the two arc rods is integrally connected to one of the first connecting portions of the first connecting structure. The second connecting structure includes two second connecting

portions, wherein each of the second connecting portions is integrally connected to one of the second ends of the two arc rods, respectively, and the second connecting structure is connected with the first connecting structure via the two arc rods, so that the first connecting structure, the two arc rods and the second connecting structure are connected to each other and formed the bicycle saddle rail with a closed structure.

17. [20180290508](#) TIRE ASSEMBLING DEVICE

US - 11.10.2018

Int.Class [B60C 25/04](#) Appl.No 15942570 Applicant GIANT MANUFACTURING CO., LTD. Inventor Wei-Tsung Hsu

A tire assembling device includes a main body, a holding portion, an abutting surface, a guiding portion, a pressing portion and a protrusion. The main body has a top surface. The holding portion is connected to one side of the main body. The abutting surface connected to another side of the main body is for abutting against a rim surface of the rim. The guiding portion located between the abutting surface and the top surface is extended inclinedly corresponding to a radial direction of the rim. The pressing portion extended from the guiding portion toward a reference direction is protruded from the abutting surface and connected to the top surface. The protrusion protruded from the pressing portion forms a hook portion with an upper edge of the pressing portion and the abutting surface. The hook portion is for hooking a first edge of the rim.

18. [20190063531](#) ADJUSTMENT STRUCTURE OF HYDRAULIC BRAKE SYSTEM

US - 28.02.2019

Int.Class [B62L 3/02](#) Appl.No 16108063 Applicant GIANT MANUFACTURING CO., LTD. Inventor I-Teh Chen

An adjustment structure of a hydraulic brake system is provided, which includes a main body, a piston and an adjusting device. The main body includes at least one fluid reservoir, an inner chamber and at least one fluid passage. The inner chamber includes a cylinder channel and an opening part, and the cylinder channel is communicated with the fluid reservoir by at least one fluid port. The piston is driven by the brake cable to be limitedly moved in the cylinder channel. The piston includes a cable hole for receiving the brake cable, and the piston has a normal operated position relative to the fluid port. The adjusting device is disposed in the opening part and is abutted against the piston. The adjusting device is operated to be moved relative to the brake cable such that the piston is adjusted to be returned to the normal operated position.

19. [20180368503](#) BICYCLE HELMET

US - 27.12.2018

Int.Class [A42B 3/06](#) Appl.No 15630971 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chih-Yang Chen

A bicycle helmet includes a body, a plurality of air inlets and a plurality of air outlets. The body includes a front portion, an upper portion, a rear portion and an inner portion. The upper portion includes a closed surface. A plurality of dimple structures are formed on the closed surface to produce an aerodynamic effect. The air inlets are formed on the front portion. The air outlets are formed on the rear portion. The inner portion includes a plurality of ribs, the ribs are positioned correspondingly to the air inlet and the air outlet and define air channels therein, an airflow flows through the body due to the airflow entering the body through the air inlets, passing through the air channels and exiting the body through the air outlets.

20. [20180208265](#) JOINT STRUCTURE OF A COMPOSITE BICYCLE FRAME AND MANUFACTURING METHOD THEREOF

US - 26.07.2018

Int.Class [B62K 19/18](#) Appl.No 15874855 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chi-Wei Lo

A joint structure of a composite bicycle frame includes a base layer and at least one reinforcing layer. The base layer is made of a first polymeric matrix material doped with a plurality of first fibers. The first fibers have random fiber orientation, and the base layer has a first thickness. The reinforcing layer is adhesively connected to the base layer. The reinforcing layer is made of a second polymeric matrix material doped with a plurality of second fibers. The second fibers have a single fiber orientation. The reinforcing layer has a second thickness which is smaller than the first thickness of the base layer.

21. [20190240928](#) RESIN-BASED COMPOSITE STRUCTURE AND METHOD FOR FORMING RESIN-BASED COMPOSITE STRUCTURE

US - 08.08.2019

Int.Class [B29C 70/34](#) Appl.No 16261605 Applicant GIANT MANUFACTURING CO., LTD. Inventor Yao-Tun Chiang

A method for forming a resin-based composite structure is provided. The method includes: providing a prepreg layup, wherein the prepreg layup includes an epoxy resin-carbon fiber composite material; covering a thermal-fusion material on a surface of the prepreg layup; and performing a molding and curing process to fuse the thermal-fusion material with the prepreg layup. Wherein the molding and curing process includes: heating at a first temperature to melt, soften and fully fuse the thermal-fusion material with the prepreg layup; and heating at a second temperature to solidify the thermal-fusion material for forming the resin-based composite structure. Wherein the first temperature is lower than the second temperature.

22. [20190233043](#) BICYCLE HEAD STRUCTURE AND BICYCLE

US - 01.08.2019

Int.Class [B62K 21/18](#) Appl.No 15921639 Applicant GIANT MANUFACTURING CO., LTD. Inventor Bo-Hao Huang

A bicycle head structure includes a stem and a detachable cover. The stem is disposed between a handlebar and a head tube of a bicycle, and the stem has a top surface. The detachable cover covers the top surface, and an accommodating space is formed between the top surface and the detachable cover.

23. [20190217664](#) BICYCLE AND TIRE STRUCTURE

US - 18.07.2019

Int.Class [B60C 15/02](#) Appl.No 16244087 Applicant GIANT MANUFACTURING CO., LTD. Inventor Wei-Han Tseng

A tire structure disposed at a rim is provided. The tire structure includes a tire body, a flexible sealing member and a nozzle. The tire body is ring-shaped and includes a groove and two beads. The flexible sealing member is connected to the tire body to form an inflating space with the groove, and the flexible sealing member includes a through hole. The nozzle is disposed at the flexible sealing member. The nozzle includes a base and a valve stem. The base includes a screw hole and is disposed at a far side of the flexible sealing member. The screw hole corresponds to the through hole. The valve stem includes a fastening end and an inflating channel. The fastening end is configured to insert into the screw hole, and the inflating channel is configured to allow the gas to pass therethrough.

24. [20170137083](#) HYDRAULIC DISC BRAKE DEVICE FOR A BICYCLE

US - 18.05.2017

Int.Class [B62L 3/02](#) Appl.No 15348963 Applicant GIANT MANUFACTURING CO., LTD. Inventor I-Teh Chen

A hydraulic disc brake device includes a cover, a hydraulic unit, an oil tube and a disc brake unit. The cover includes at least one accommodating space, at least one oil route, a proximal end and a distal end. The distal end towards a moving direction of the bicycle. The hydraulic unit includes a hydraulic cylinder

and a piston. The hydraulic cylinder is assembled in the accommodating space. The piston is assembled in the hydraulic cylinder for controlling a pressure of the oil route. The disc brake unit is connected with the oil tube and controlled by a pressure of the oil tube.

25. [20180222546](#) ADJUSTABLE SPACER STRUCTURE OF BICYCLE

US - 09.08.2018

Int.Class [B62K 21/22](#) Appl.No 15889221 Applicant GIANT MANUFACTURING CO., LTD. Inventor Hsi Wong

An adjustable spacer structure of a bicycle is used for adjusting a height of a stem disposed on a steering tube. The adjustable spacer structure includes a first spacer and a second spacer. The first spacer includes a body and a positioning portion. The body has a ring shape and a first opening, and the steering tube is movably disposed through the first opening. The positioning portion is disposed on the body. The second spacer has a ring shape and a combining portion. The combining portion is detachably connected to the positioning portion, and there is a second opening formed between the first spacer and the second spacer. The stem is abutted against the first spacer.

26. [2009200696](#) BICYCLE ACCESSORY DEVICE

AU - 12.03.2009

Int.Class [B62J 6/04](#) Appl.No 2009200696 Applicant Giant Manufacturing Co Ltd Inventor Yang, Chao-Shun

Title: BICYCLE ACCESSORY DEVICE A bicycle accessory assembly is mounted to inner and outer tubes [21, 22] of a bicycle frame. The outer tube [22] is sleeved on the inner tube [21]. The bicycle accessory assembly includes a clamp [3], an accessory [4], and a fastening unit [5]. The clamp [3] includes a sleeve portion [31] sleeved on the outer tube [22], and first and second clamp ears [32, 33] connected respectively to two ends of the sleeve portion [31]. The accessory [4] has a connecting portion [44] and an abutment portion [412]. The fastening unit [5] extends through the connecting portion [44] and the first and second clamp ears [32, 33] along an axis [L]. The fastening unit [5] is operable to move the first clamp ear [32] toward and away from the second clamp ear [33]. The axis [L] is oriented such that rotation of the accessory [4] about the axis [L] is prevented as a result of contact of the abutment portion [412] with the inner tube [21] and a top end of the inner tube [21]. (Figure 5)

27. [20150130153](#) AUTOMATIC SHOCK ABSORBER SYSTEM FOR BICYCLE

US - 14.05.2015

Int.Class [B60G 7/00](#) Appl.No 14534152 Applicant GIANT MANUFACTURING CO. LTD. Inventor Chien-Hung Chen

An automatic control shock absorber system for a bicycle is provided. The system includes one or more sensors. A controller outputs a control signal to a damping adjuster according to the one or more sensors, such that the damping adjuster controls level of damping force based on the sensors.

28. [20210046992](#) BICYCLE AND SPIDER CAPABLE OF MEASURING POWER

US - 18.02.2021

Int.Class [G01L 3/00](#) Appl.No 15930722 Applicant Giant Manufacturing Co. Ltd. Inventor Chih-Kai Chang

A bicycle has a spider including a torque input section and at least one torque output section; a crank assembly coupled with the spider through the torque input section and applying an input torque to the spider; a chainring mounted to the spider through the at least one torque output section and receiving an output torque from the spider; a gauge disposed and oriented generally along a tangential direction or a quasi-tangential direction with respect to the torque input section and the at least one torque output section; and a circuitry coupled to the gauge and receiving a signal from the gauge.

29. [20140070576](#) BICYCLE SEAT

US - 13.03.2014

Int.Class [B62J 1/18](#) Appl.No 14023469 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chi-Ming Wu

A bicycle seat includes a deformation space that corresponds to a pressure deformation of a bicycle rider. Wherein, a plurality of filler particles is filled in the deformation space. Therefore, the plurality of filler particles in the deformation space is sliding and rolling under pressure, and the bicycle seat can average support the body of the rider and bring lower friction.

30. [20150298752](#) DISTINGUISHING SYSTEM FOR SADDLE CONTACTING MODE

US - 22.10.2015

Int.Class [B62J 1/00](#) Appl.No 14690640 Applicant GIANT MANUFACTURING CO. LTD Inventor Wei-Han Tseng

A distinguishing system for a saddle contacting mode includes a saddle and a deformable pressure sensing apparatus. The deformable pressure sensing apparatus is disposed on the saddle, wherein the deformable pressure sensing apparatus deforms in response to a sitting pressure, and a saddle type is determined in accordance with the deformation. The deformable pressure sensing apparatus can actually acquire the pelvis contact shape. The deformation is visible on the saddle after the sitting pressure is released, and the deformation can be compared with a comparison table to determine the suitable saddle type for the user instantly. Therefore, the distinguishing system could save the test time and reduce the production cost.

31. [20020079670](#) SHOCK ABSORBING DEVICE USED IN A BICYCLE TO REDUCE SHOCK TRANSMITTED TO A HANDLEBAR

US - 27.06.2002

Int.Class [B62K 25/04](#) Appl.No 09748561 Applicant Giant Manufacturing Co., Ltd. Inventor Yih, Johnson

A shock absorbing device is mounted between a stem and a front wheel axle of a bicycle to reduce shock that is transmitted to a handlebar, and includes a support leg disposed to swivel with the stem, a lever with a proximate end anchored relative to the axle and a distal end fitted to the support leg, a crank member with a journalled end journalled on the axle and a web portion coupling with one of the proximate end and the intermediate portion of the support leg and terminating at a coupling end. A friction brake member is disposed on the web portion and is movable to abut against another brake member mounted on a front hub of the bicycle as a result of a braking action, while taking up the inertial momentum of the front hub to turn the web portion as well as the coupling end so as to move one of the proximate end and the intermediate portion away from the other one of the intermediate portion and the proximate end, thereby counteracting the relative movement of the intermediate portion towards the proximate end stemming from the braking action.

32. [20090140507](#) BICYCLE WITH FRONT AND REAR DISK BRAKES OPERABLE APPROXIMATELY SIMULTANEOUSLY

US - 04.06.2009

Int.Class [B62L 3/02](#) Appl.No 11987472 Applicant Giant Manufacturing Co., Ltd. Inventor Chen I-De

A bicycle includes front and rear disk brake units. The rear disk brake unit includes a rear brake lever unit, a rear brake disk, a rear caliper device, and a rear brake oil tube interconnecting the rear brake lever unit and the rear caliper device and having a first inner diameter. The front disk brake unit includes a front brake lever unit, a front brake disk, a front caliper device, and a front brake oil tube interconnecting the front brake lever unit and the front caliper device and

having a second inner diameter greater than the first inner diameter so as to allow for approximate simultaneous clamping of the front and rear caliper devices on the front and rear brake disks, respectively, when the front and rear brake lever units are operated simultaneously.

33. [20210308523](#) METHODS AND SYSTEMS FOR BICYCLE FITTING

US - 07.10.2021

Int.Class [A63B 24/00](#) Appl.No 17213320 Applicant GIANT MANUFACTURING CO., LTD. Inventor Ya-Han CHANG

A method for bicycle fitting includes receiving evaluation factors based on one or more scenario parameters; positioning at least one of a saddle and a handlebar to one or more positions when a user is pedaling; determining values for the evaluation factors according to data received from one or more sensors at the one or more positions; and processing the values to identify one or more recommended positions for the saddle or the handlebar.

34. [20090267317](#) SHOCK ABSORBING FRAME FOR A BICYCLE

US - 29.10.2009

Int.Class [B62K 25/04](#) Appl.No 12320621 Applicant GIANT MANUFACTURING CO., LTD. Inventor Yang Chao-Shun

A shock absorbing frame for a bicycle includes a seat tube extending along a lengthwise axis, a front frame unit, a rear frame unit, and a shock-absorbing member. The front frame unit includes top and bottom tubes extending rearwardly to terminate at upper and bottom ends, respectively. A connecting member is disposed between the top and down tubes, and extends from one of the top and down tubes. The rear frame unit includes a rear-axle stay and a chain stay. The rear-axle stay extends forwardly to bypass the lengthwise axis, and has a first front mount end. The chain stay has a second front mount end. A bottom bracket is disposed to interconnect the bottom end and the second front mount end. The shock-absorbing member is disposed between the first front mount end and the connecting member to damp the impact force propagating along the rear-axle stay.

35. [6006850](#) ELECTRIC-POWERED BICYCLE OPERABLE IN AN AUTOMATIC DRIVING MODE AND A BOOSTING DRIVING MODE

US - 28.12.1999

Int.Class [B62D 1/02](#) Appl.No 08977699 Applicant Giant Manufacturing Co., Ltd. Inventor Yu Tung-Shiang

An electric-powered bicycle has a monitoring unit connected to a throttle detector, a bicycle torque detector and a bicycle speed detector so as to monitor the position of a twist grip throttle, the bicycle torque on a pedaling device, and the forward moving speed of the bicycle. The monitoring unit is further connected to a motor driver, and controls the motor driver to deactivate an electric driving motor when the twist grip throttle is in the non-operative position and the bicycle torque on the pedaling device is not over a preset limit while an electric power source for the electric driving motor is activated, and when the twist grip throttle is in the operative position, the bicycle torque is not over the present limit and the forward moving speed of the bicycle is not over a preset safety speed while the electric power source is activated, thereby resulting in enhanced user safety.

36. [6517166](#) LIGHT-REFLECTIVE WHEEL RIM

US - 11.02.2003

Int.Class [G02B 5/12](#) Appl.No 10071941 Applicant Giant Manufacturing Co., Ltd. Inventor Chen, Jeff

A wheel rim includes a transparent adhesive layer provided on the surface of the wheel rim, a light-reflective particle layer which is substantially free of any superimposed or overlapping particles and which is formed by spreading solely and uniformly dry light-reflective particles on the transparent adhesive layer and contacting directly the particles with the transparent adhesive layer, the particles having dimensions larger than the thickness of the transparent adhesive layer so that some of the dry light-reflective particles which do not contact the transparent adhesive layer can be allowed to fall off the transparent adhesive layer by gravity, and a transparent protective layer provided on the light-reflective particle layer.

37. [6263993](#) TRANSMISSION ASSEMBLY FOR ELECTRICALLY POWERED BICYCLE

US - 24.07.2001

Int.Class [B62K 11/00](#) Appl.No 09668050 Applicant Giant Manufacturing Co., Ltd. Inventor Lin, Klaas

A transmission assembly for an electrically powered bicycle has a manual transmission unit and an electrical transmission unit. The electrical transmission unit includes a planetary gear device for transferring rotation of a motor shaft of a motor to a front sprocket. The electrical transmission unit further includes an auxiliary speed-reducing device, which is connected operably to a controller. Accordingly, a greater torque can be output from the electrical transmission unit to the front sprocket.

38. [2545891](#) AUTOMATIC SPEED SETTING SYSTEM FOR BICYCLE USE

CA - 05.11.2007

Int.Class [B62M 25/00](#) Appl.No 2545891 Applicant GIANT MANUFACTURING CO., LTD. Inventor JWO, STAR

An automatic speed setting system is adapted for use with a bicycle that includes a gearing mechanism having gear ratios. The automatic speed setting system includes a physiological parameter detecting unit adapted for detecting a physiological parameter of a cyclist riding the bicycle, a physiological parameter processing unit coupled to the physiological parameter detecting unit and operable so as to calculate physiological parameter data of the cyclist with reference to the physiological parameter, a signal generating unit coupled to the physiological parameter processing unit and operable so as to generate a drive signal with reference to the physiological parameter data, and an automatic shifting unit coupled to the signal generating unit and adapted to operate the gearing mechanism of the bicycle in a selected one of the gear ratios in response to the drive signal.

39. [202015100143](#) FAHRRADTRAINER MIT EINER POSITIONSVERÄNDERLICHEN BREMSEINHEIT

DE - 11.06.2015

Int.Class [A63B 69/16](#) Appl.No 202015100143 Applicant GIANT MANUFACTURING CO., LTD. Inventor

Fahrradtrainer [10], umfassend: einen Grundrahmen [20]; eine Bremseinheit [40], umfassend einen Drehrollensatz [45], wobei die Bremseinheit [40] schwenkbar an dem Grundrahmen [20] angebracht ist, um es zu gestatten die Stellung des Drehrollensatzes [45] in Bezug auf den Grundrahmen [20] zu ändern; einen Schwenkrahmen [30], der schwenkbar mit dem Grundrahmen [20] verbunden ist, und in Bezug auf den Grundrahmen [20] zwischen einer geneigten Stellung, in der der Schwenkrahmen [30] und die Bremseinheit [40] ein Fahrradrad tragen können, und einer zusammengeklappten Stellung vorgespannt werden kann, in der der Schwenkrahmen [30] in dem Grundrahmen [20] aufgenommen ist und der Drehrollensatz [45] der Bremseinheit [40] nahe dem Schwenkrahmen [30] gehalten wird; und eine Verriegelungsvorrichtung [50], die betriebsfähig ist, um die Bremseinheit [40] entweder an dem Grundrahmen [20] zu verriegeln oder um die Bremseinheit [40] von dem Grundrahmen [20] zu entriegeln, um sie relativ zu dem Grundrahmen [20] vorzuspannen.

40. [20170128764](#) ELECTROMAGNETICALLY ACTUATED BICYCLE TRAINER AND RESISTANCE CONTROL METHOD THEREOF US - 11.05.2017

Int.Class [A63B 21/00](#) Appl.No 15204499 Applicant GIANT MANUFACTURING CO., LTD. Inventor Hsiao-Wen Hsu

An electromagnetically actuated bicycle trainer includes a base, a support assembly disposed on the base, and a hysteresis resistance generating module. The support assembly includes a support arm, and a fastening member disposed on the support arm and for securing an axle of a pedaling wheel. The hysteresis resistance generating module includes an inner magnetic stationary member and an outer magnetic stationary member, a semi-hard magnetic rotating member between the inner magnetic stationary member and the outer magnetic stationary member, and a conductive coil. The conductive coil receives an electric power and senses opposite magnetisms that the inner magnetic stationary member and the outer magnetic stationary member generate. Thus, the semi-hard magnetic rotating member is caused to generate a hysteresis resistance when rotated in response to hysteresis effects.

41. [20190248443](#) FRAME FOR BICYCLE US - 15.08.2019

Int.Class [B62K 25/28](#) Appl.No 15942450 Applicant Giant Manufacturing Co., Ltd. Inventor Ching-Sung Yi

A frame for bicycle includes a front frame, a rear frame, a shock absorber and an upper linkage. The upper linkage is pivoted to the front frame at a first axis, pivoted to the rear frame at a second axis, and pivoted to the shock absorber at a third axis. The rear frame has a pair of chain stays and a connection part, the connection part has a pair of side portions and a bridge portion, the pair of side portions are connected to the pair of chain stays respectively, the bridge portion connects the pair of side portions, and the rear frame is pivoted to the front frame at a fourth axis through the pair of side portions or through the pair of chain stays.

42. [20160101313](#) BICYCLE TRAINER US - 14.04.2016

Int.Class [A63B 22/06](#) Appl.No 14571712 Applicant Giant Manufacturing Co., Ltd. Inventor Hsiao-Wen Hsu

A bicycle trainer is adapted to be arranged with a bicycle to simulate riding a bicycle on an outdoor road. The bicycle includes a stand, a roller, a first resistance source and a second resistance source. The stand is adapted to support the bicycle. The roller is pivoted to the stand and is adapted to contact a bicycle wheel of the bicycle. The first resistance source is coupled to the roller and provides resistance to the bicycle wheel via the roller. The second resistance source is coupled to the roller and provides resistance to the bicycle wheel via the roller.

43. [20160213089](#) SPORTS SHOE FOR CYCLING EXERCISE US - 28.07.2016

Int.Class [A43B 5/14](#) Appl.No 14669717 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chun-Hung Chen

A sports shoe for cycling exercise includes a shoe body a shoe body including an upper and a bottom for accommodating an exerciser's foot, the bottom defining a forefoot area, an arch area and a heel area, a reinforce element, and a fastening device, a reinforce element mounted at the forefoot area to make the structural strength of the shoe body around the forefoot area to be higher than the structural strength of the arch area and the heel area, and a fastening device connecting the arch area of the bottom and the upper for enabling the bottom to lift the foot.

44. [2019200277](#) BICYCLE SADDLE RAIL AND BICYCLE SADDLE ASSEMBLY STRUCTURE THEREOF AU - 31.01.2019

Int.Class [B62J 1/10](#) Appl.No 2019200277 Applicant Giant Manufacturing Co. Ltd Inventor Hsu, Wei-Tsung

A bicycle saddle rail includes a first connecting structure, two arc rods and a second connecting structure. The first connecting structure includes a main body and two first connecting portions. Each of the arc rods has a first end and a second end, and each of the first ends of the two arc rods is integrally connected to one of the first connecting portions of the first connecting structure. The second connecting structure includes two second connecting portions, wherein each of the second connecting portions is integrally connected to one of the second ends of the two arc rods, respectively, and the second connecting structure is connected with the first connecting structure via the two arc rods, so that the first connecting structure, the two arc rods and the second connecting structure are connected to each other and formed the bicycle saddle rail with a closed structure.

45. [2711417](#) ENTRENADOR DE BICICLETA ES - 03.05.2019

Int.Class [A63B 69/16](#) Appl.No 15162193 Applicant Giant Manufacturing Co., Ltd. Inventor Hsu, Hsiao-Wen

Un entrenador [100] de bicicleta adaptado para estar dispuesto con una bicicleta para simular la circulación en una bicicleta [50] en una carretera exterior, comprendiendo el entrenador [100] de bicicleta: un soporte [110] adaptado para soportar la bicicleta [50]; un rodillo [120] que gira con respecto al soporte [110] y adaptado para hacer contacto con una rueda [52] de bicicleta de la bicicleta [50]; una primera fuente [130] de resistencia acoplada con el rodillo [120] y que proporciona resistencia a la rueda [52] de la bicicleta por medio del rodillo [120]; y caracterizado porque el entrenador [100] de bicicleta comprende, además: una segunda fuente [140] de resistencia acoplada con el rodillo [120] y que proporciona resistencia a la rueda [52] de la bicicleta por medio del rodillo [120], en el que la primera fuente [130] de resistencia es una fuente de resistencia de ajuste automático, y la segunda fuente [140] de resistencia es una fuente de resistencia de ajuste manual.

46. [20160198792](#) SOLE FOR CYCLING SHOE US - 14.07.2016

Int.Class [A43B 5/14](#) Appl.No 14669818 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chun-Hung Chen

A sole for cycling shoe includes a forefoot section, a heel section and an arch section connected between the forefoot section and the heel section, a longitudinal axis and a tilting axis defined between the forefoot section and the heel section, a deviation angle defined between the tilting axis and the longitudinal axis, a middle part extending through the forefoot section, the arch section and the heel section, and two side wing portions defined at two opposite sides relative to the middle part. The rigidity of the middle part is higher than the two side wing portions. The middle part extends in the arch section along the tilting axis. Based on the above-described technical features, the overall structure of the sole has sufficient rigidity with enhanced torsionability on the rear end thereof, making the cycling shoe more comfort.

47. [20040237702](#) ADJUSTABLE HANDLEBAR MOUNTING DEVICE FOR MOUNTING A HANDLEBAR ON A BICYCLE FRAME US - 02.12.2004

Int.Class [B62K 21/00](#) Appl.No 10446616 Applicant Giant Manufacturing Co., Ltd. Inventor Chou Joe

An adjustable handlebar mounting device includes a frame mounting member, a front pivot member, a rear pivot member, and a releasable fastening unit. The frame mounting member is formed with front and rear lug units. The front pivot member has a front lower section connected pivotally to the front lug unit, a front upper section to be connected to a handlebar, and an intermediate coupling part. The rear pivot member has a rear lower section connected

pivotal to the rear lug unit, and a rear upper section. The coupling part and the rear upper section are respectively formed with a slot unit and a hole unit for extension of the fastening unit therethrough. The fastening unit is operable so as to press the coupling part and the rear upper section firmly against each other for supporting the handlebar.

48. **5941333** BICYCLE WITH A PLANETARY-GEAR-TRAIN TYPE TRANSMISSION AND AN AUXILLIARY ELECTRICAL TRANSMISSION US - 24.08.1999

Int.Class **B62K 11/00** Appl.No 09004173 Applicant **Giant Manufacturing Co., Ltd.** Inventor Sun Chien-Ping

A bicycle includes a pedal-activated spindle, a sprocket-mounting sleeve and a front sprocket sleeved fixedly on the sleeve. A planetary gear train interconnects the spindle and the sleeve, thereby rotating the sleeve at a speed larger than that of the spindle. When a pedaling torque applied to the bicycle is above a predetermined torque, a ring gear of the train rotates in a casing. The ring gear is limited to rotate between a non-pushing position and a greatest-displacement position, and is biased by a spring to the non-pushing position. When the ring gear rotates from the non-pushing position by a predetermined angle, a sensing unit activates a motor unit so as to drive an auxiliary electrical transmission, thereby transferring a torque from the auxiliary electrical transmission to the sleeve. A first one-way clutch interconnects the train and the sleeve so that the output of the train can be transferred to the sleeve while preventing the rotation of the sleeve from being transferred to the train. A second one-way clutch interconnects the electrical transmission and the sleeve so that the output of the train can be transferred to the sleeve while preventing the rotation of the sleeve from being transferred to the electrical transmission.

49. **20050092050** METHOD FOR MAKING A BICYCLE FRAME PART US - 05.05.2005

Int.Class **B21D 26/02** Appl.No 10932033 Applicant **Giant Manufacturing Co., Ltd.** Inventor Chang Owen

A method for making a bicycle frame part includes the steps of preparing a malleable tubular blank that has an outer surface and that is made from an alloy selected from the group consisting of Al-Mg-Sc alloy, Al-Mg-Zr alloy, and Al-Mg-Li-Zr alloy; placing the tubular blank in a mold such that the tubular blank is surrounded by an inner surface of the mold; heating the tubular blank to a working temperature ranging from 200 to 500° C; and injecting a high-pressure fluid into the tubular blank so as to permit expansion and permanent deformation of the tubular blank in the mold to an extent that the outer surface of the expanded tube abuts against and conforms to the inner surface of the mold.

50. **20180045502** DYNAMIC MOTION DETECTION SYSTEM US - 15.02.2018

Int.Class **G01B 11/00** Appl.No 15439952 Applicant **Giant Manufacturing Co., Ltd.** Inventor Wei-Chieh Ho

A dynamic motion detection system including a plurality of active independent emitting elements, a signal capturing apparatus, and a computing apparatus is provided. The active independent emitting elements are suitable for being respectively affixed to different parts of a person to-be-tested and actively emitting positioning signals having preset wavelengths. The signal capturing apparatus is configured to capture the positioning signal of each of the active independent emitting elements and calculate a plurality of emitting coordinates according to the positioning signals. The computing apparatus is configured to control operation of the signal capturing apparatus and receive the emitting coordinates from the signal capturing apparatus. The computing apparatus defines a corresponding relationship between the emitting coordinates and the active independent emitting elements by comparing a geometry relationship among the emitting coordinates.

51. **5042794** LOAD APPLYING DEVICE FOR AN EXERCISE BICYCLE US - 27.08.1991

Int.Class **A63B 21/005** Appl.No 07488672 Applicant **Giant Manufacturing Co., Ltd.** Inventor Sun Paul

A device for applying a load to a rotating shaft of an exercise bicycle which receives the load. When a user places his/her feet on the pedals of the exercise bicycle and bends and stretches his/her legs, the transmission gear of a speed increasing mechanism of the exercise bicycle is rotated by the paddles and thereby, a rotor coupled by a bearing to a fixed main shaft of the load applying device is rotated with respect to the main shaft. The rotor is a magnetic conductor. A magnetic field is provided so that the rotor is passed through a beam-like magnetic flux path produced thereby. When the rotor is rotated, the rotor cuts the magnetic field and thereby produces an induced eddy current, causing an eddy current brake effect to the rotor. In this way, the load applying device can apply a load to the user who rides on the exercise bicycle. A first and a second pawl-type electromagnet are respectively used as a first and a second pole thereof. The rotor is mounted between the first and second poles of the electromagnet.

52. **6254067** FLUID REGULATING DEVICE FOR USE WITH A HYDRAULIC CYLINDER TO OBTAIN A VARIABLE SHOCK ABSORBING EFFECT US - 03.07.2001

Int.Class **F16F 9/342** Appl.No 09366699 Applicant **Giant Manufacturing Co., Ltd.** Inventor Yih, Johnson

A fluid regulating device includes a regulator housing that confines a valve receiving chamber and a fluid chamber filled with hydraulic fluid. The regulator housing is formed with a fluid opening that is in fluid communication with the valve receiving chamber and that is connected fluidly to a fluid port of a hydraulic cylinder device. A pneumatic cylinder device includes a cylinder housing with a piston member slidingly and sealingly disposed therein to divide the same into a volume-variable pressurized gas compartment and a volume-variable fluid compartment which is in fluid communication with the fluid chamber via a fluid aperture. A regulating valve unit is disposed in the valve receiving chamber to control flow rate of the hydraulic fluid between the fluid opening and the fluid chamber.

53. **5346445** ARM LEVER FOR AN EXERCISE BICYCLE US - 13.09.1994

Int.Class **A63B 21/12** Appl.No 08177731 Applicant **Giant Manufacturing Co., Ltd.** Inventor Chang Chi-Ming

An arm lever for an exercise bicycle has a pivot portion to be mounted pivotally on a front end portion of a bicycle frame and a bottom end to be connected to an end of a crank arm. The bottom end of the arm lever is provided with a locking plate which has a forked extension with a distal bottom end, an upright slit that opens from the distal bottom end, and a plurality of spaced locking holes that extend through the slit. The slit permits the extension of the end of the crank arm therein. The forked extension is connected to the crank arm at a selected one of the locking holes to vary the distance of the end of the crank arm from the pivot portion and vary correspondingly the range of pivoting movement of the arm lever to suit the user's physique.

54. **20100072239** CARRIER FOR BICYCLE US - 25.03.2010

Int.Class **B62J 7/04** Appl.No 12398648 Applicant **Giant Manufacturing Co., Ltd.** Inventor Hsu Li-Cheng

A bicycle carrier includes a main body, at least one supporting frame, at least one side frame and at least one restrainer. The main body includes a supporting plane and a plurality of slide bases. The slide bases are located on at least one side of the main body. The supporting frame connects the main

body and the bicycle. The side frame includes at least one slide rod that slides and couples to the slide bases and at least one fence connected to the slide rod to define a container space. The restrainer restrains the side frame from moving relative to the main body.

55. [20140088846](#) BICYCLE SHIFTING METHOD

US - 27.03.2014

Int.Class [G06F 7/00](#) Appl.No 14033522 Applicant Giant Manufacturing Co., Ltd. Inventor Lee Kun-Hui

A bicycle shifting method suitable for controlling a gear ratio of a front chain ring and a rear chain ring of the bicycle is provided. The bicycle has a front electronic derailleur, a rear electronic derailleur, a controller, and a controlling switch, and the controller stores a gear-ratio table. The bicycle shifting method includes following steps. The controlling switch is triggered to generate a corresponding signal. One or both of the electronic derailleurs are controlled by the controller according to the signal. When the signal is a speed-increasing signal, the controller controls the electronic derailleurs to increase the gear ratio along a speed-increasing path of the gear-ratio table. When the signal is a laborsaving signal, the controller controls the electronic derailleurs to decrease the gear ratio along a laborsaving path of the gear-ratio table. The speed-increasing path is different from the laborsaving path.

56. [103786822](#) JOINT OF BICYCLE FRAME AND METHOD OF MANUFACTURING SAME

CN - 14.05.2014

Int.Class [B62K 19/18](#) Appl.No 201310407669.8 Applicant GIANT MANUFACTURING CO., LTD. Inventor LIN YIXIANG

Provided are a joint of a bicycle frame and a method of manufacturing the same. The joint comprises a main body and a reinforcement part. The main body is made from high molecular material with fiber. The reinforcement part is a sheet body made from continuous fiber reinforcing material and is fixedly arranged on the main body. The manufacturing method enables the reinforcement part to be disposed in a die used for molding the main body, so that the reinforcement part is fixedly arranged on the main body during or after molding of the main body. Therefore, the provided joint of a bicycle frame has good rigidity and strength, has a thin wall, is light, and meets design needs such as quick production.

57. [104627307](#) BICYCLE AUTOMATIC SHOCK ABSORBER SYSTEM FOR

CN - 20.05.2015

Int.Class [B62K 25/04](#) Appl.No 201410630803.5 Applicant GIANT MANUFACTURING CO., LTD Inventor CHEN CHIEN-HUNG

The invention provides a bicycle automatic shock absorber system. A treading rotating speed of the bicycle can be detected by a treading rotating speed sensor. A control processing device can be used to output level control signals to a damping adjusting device according to the treading signals, and the damping adjusting device can be used to adjust the level of the damping force according to the level control signals.

58. [6793230](#) SHOCK ABSORBING FRAME ASSEMBLY FOR A BICYCLE

US - 21.09.2004

Int.Class [B60K 3/00](#) Appl.No 10609624 Applicant Giant Manufacturing Co., Ltd. Inventor Cheng, Owen

A shock absorbing frame assembly for a bicycle includes a coupling mount and a linking unit respectively disposed on the front and rear frame units and respectively having first and second gripping members. The first gripping member has two first jaws walls spaced apart along a first line. The second gripping member has two second jaw walls spaced apart along a second line that is in the same plane with the first line in a normal position. A twistable member includes left and right gripped regions in frictional engagement with the first and second gripping members, and an intermediate segment which is twistable to permit the second gripping member to turn to a strained position when the rear frame unit moves angularly relative to the front frame unit in response to a shock, and to acquire a biasing force to urge the second gripping member to the normal position to thereby counteract the shock.

59. [20110015046](#) BICYCLE TRAINER

US - 20.01.2011

Int.Class [A63B 69/16](#) Appl.No 12686383 Applicant GIANT MANUFACTURING CO., LTD. Inventor CHEN Mu-Tsun

A bicycle trainer is disclosed. The bicycle trainer includes a supporting frame, a hollow roller, an axle, at least one linking part, a fan and a resistance generator. The supporting frame suspends the driving wheel of a bicycle from the ground. The hollow roller presses up against the driving wheel of the bicycle. The axle is located in the hollow roller and pivotally connected to the supporting frame. The linking part connects the axle and the hollow roller. The fan is located in the hollow roller. The resistance generator provides resistance to the axle.

60. [20040239072](#) BICYCLE WITH ADJUSTABLE HANDLEBAR AND SEAT UNITS

US - 02.12.2004

Int.Class [B62K 15/00](#) Appl.No 10446305 Applicant Giant Manufacturing Co., Ltd. Inventor Chou Joe

A bicycle includes a bicycle frame, a wheel set, a treading unit, a handlebar unit, and a seat unit. The bicycle frame has front and rear ends. The wheel set includes front and rear wheels disposed respectively on the front and rear ends of the bicycle frame. The treading unit is mounted on the bicycle frame for transmitting treading power to the wheel set. The handlebar unit is mounted on the bicycle frame and is coupled to the front wheel to permit steering of the front wheel. The handlebar unit is pivotable toward and away from the rear end of the bicycle frame. The seat unit is mounted adjustably on the bicycle frame to permit height adjustment thereof relative to the handlebar unit.

61. [6729692](#) SEAT ANCHORING DEVICE

US - 04.05.2004

Int.Class [A47C 31/00](#) Appl.No 10446423 Applicant Giant Manufacturing Co., Ltd. Inventor Chou, Joe

A seat anchoring device includes a slide base coupled slidably to a seat support rod and formed with a roller chamber that extends along a longitudinal direction. The roller chamber is formed with a shallower section and a deeper section. A rolling member is disposed in the roller chamber and is movable along the longitudinal direction between the shallower and deeper sections to selectively arrest sliding movement of the slide base. A biasing member is disposed in the roller chamber for biasing the rolling member toward the shallower section. A release mechanism is mounted on the slide base and is operable so as to extend into the roller chamber and push the rolling member from the shallower section into the deeper section of the roller chamber against biasing action of the biasing member.

62. [20070144314](#) TOOL SET

US - 28.06.2007

Int.Class [B25F 1/00](#) Appl.No 11317052 Applicant Giant Manufacturing Co., Ltd. Inventor Chiang Wei

A tool set includes a pivot unit extending in a first direction, and at least two tool units, each of which includes two tool members attached rotatably to the pivot unit. Each of the tool members includes a tool head, a tool body connected to the tool head and extending in a second direction transverse to the first direction, and a connecting head connected to the tool body and having the pivot unit extending rotatably therethrough. The tool members of each of the

tool units are disposed adjacent to each other such that the tool bodies of the tool members are disposed side by side in a third direction transverse to the first and second directions, and such that the connecting heads of the tool members are disposed side by side in the first direction.

63. [20180193713](#) BICYCLE TRAINER FASTENING DEVICE

US - 12.07.2018

Int.Class [A63B 69/16](#) Appl.No 15668276 Applicant GIANT MANUFACTURING CO., LTD. Inventor Wen-Hai Lo

A bicycle trainer fastening device, disposed on a bicycle trainer, includes a hollow tube, a first fastening member and a second fastening member. The hollow tube includes a first assembly portion and a second assembly portion at two opposite ends thereof. The first fastening member is disposed correspondingly to the first assembly portion, and includes a first through opening correspondingly in communication with the hollow tube and having an aperture corresponding to an inserting shaft of a bicycle. The second fastening member is disposed correspondingly to the second assembly portion, and includes a second through opening correspondingly in communication with the hollow tube and an aperture corresponding to the inserting shaft. By selecting the first through opening and the second through opening correspondingly to the shaft diameter of the inserting shaft and replacing the first fastening member and the second fastening member, the scope of applicability can be maximized.

64. [20190054974](#) FRAME FOR BICYCLE

US - 21.02.2019

Int.Class [B62K 25/28](#) Appl.No 16021033 Applicant Giant Manufacturing Co., Ltd. Inventor Ching-Sung Yi

A frame for a bicycle includes a front frame, a rear frame, an upper linkage, and a shock absorber. The rear frame is pivoted to the front frame at a main pivot axis. The upper linkage is pivoted to the front frame at a first pivot axis and is pivoted to the rear frame at a second pivot axis. The shock absorber is pivoted to the upper linkage at a third pivot axis and is pivoted to the front frame. When a compression ratio of the shock absorber is in a range between 0% and 60%, a distance variation between a pivot location of the rear frame at the second pivot axis and a pivot location of the rear frame at the main pivot axis reaches a maximum value thereof.

65. [2754299](#) RUEDA DE BICICLETA

ES - 16.04.2020

Int.Class [B60B 1/00](#) Appl.No 15179901 Applicant Giant Manufacturing Co., Ltd. Inventor CHEN, I-Teh

66. [20190145494](#) QUICK-LINKED BELT

US - 16.05.2019

Int.Class [F16G 3/02](#) Appl.No 16191467 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chien-Hung CHEN

A quick-linked belt, which is assembled with a belt sprocket of a belt-driven vehicle, includes a belt element, at least two reinforcing elements, at least two fixing elements and at least two connecting elements. The belt element includes a plurality of belt teeth and two binding portions. The binding portions are disposed on two ends of the belt element, respectively, and each of the binding portions includes at least one opening hole. Each of the at least two reinforcing elements is disposed in the at least one opening hole of each of the binding portions and includes a through hole. Each of the at least two fixing elements is disposed in the through hole of each of the at least two reinforcing elements. Each of the at least two connecting elements includes at least two passing holes for passing through the at least two fixing elements.

67. [204623736](#) HIDDEN OIL PRESSURE MECHANISM THAT BICYCLE DISH WAS STOPPED

CN - 09.09.2015

Int.Class [B62L 3/00](#) Appl.No 201520052773.4 Applicant GIANT MANUFACTURING CO., LTD. Inventor CHEN YIDE

The utility model relates to a hidden oil pressure mechanism that bicycle dish was stopped, it includes an automobile body body, a base, a piston and one takes the moving part. Location portion is stable installs in the automobile body body base in order to preset, and the piston lies in the base and receive the control of drive piece and change an oil pipe's oil pressure, so as to the actuator disk dish unit of stopping. Borrow this, utilize hidden oil pressure mechanism that bicycle dish was stopped can avoid the bicycle to expose member windage and the oil pressure mechanism dirty impaired problem of easily personally experiencing sth. Part of the body.

68. [2015100088](#) HIDDEN HYDRAULIC STRUCTURE OF BIKE DISC BRAKE

AU - 12.02.2015

Int.Class [B62L 3/02](#) Appl.No 2015100088 Applicant Giant Manufacturing Co., Ltd. Inventor

A hidden hydraulic structure of a bike disc brake is integrally disposed with a bike body tube. The hidden hydraulic structure of the bike disc brake includes a base, a piston and a linking member. The base includes an oil circuit. The piston is located in the base for controlling a pressure of the oil circuit. The piston is actuated by the linking member. Wherein a shape of the base is corresponded to a shape of the bike body tube, and the base is connected with the bike body tube to form a portion of the bike body tube, thereby increasing strength of the bike body tube.

69. [2880698](#) HIDDEN HYDRAULIC STRUCTURE OF BIKE DISC BRAKE

CA - 02.04.2015

Int.Class [B62L 1/00](#) Appl.No 2880698 Applicant GIANT MANUFACTURING CO., LTD. Inventor CHEN, I-TEH

A hidden hydraulic structure of a bike disc brake is integrally disposed with a bike body tube. The hidden hydraulic structure of the bike disc brake includes a base, a piston and a linking member. The base includes an oil circuit. The piston is located in the base for controlling a pressure of the oil circuit. The piston is actuated by the linking member. Wherein a shape of the base is corresponded to a shape of the bike body tube, and the base is connected with the bike body tube to form a portion of the bike body tube, thereby increasing strength of the bike body tube.

70. [2015210363](#) BICYCLE WHEEL

AU - 20.08.2015

Int.Class [B60B 1/14](#) Appl.No 2015210363 Applicant Giant Manufacturing Co., Ltd. Inventor Chen, I-Teh

The bicycle wheel includes a rim, a hub, a driving device, a plurality of first side pulling spokes, a plurality of first side pushing spokes, and a plurality of second side spokes. The rim has a first side and a second side. The hub is located in a center of the rim. The driving device is connected to the hub which is located on the first side of the rim. Each of the first side pulling spokes and the first side pushing spokes is connected to the rim and the hub, and located on the first side of the rim, respectively. Each of the second side spokes is connected to the rim and the hub, and located on the second side of the rim.

71. [20220227170](#) HUB STRUCTURE AND HUB FOR A BICYCLE

US - 21.07.2022

Int.Class [B60B 27/02](#) Appl.No 17645457 Applicant GIANT MANUFACTURING CO., LTD. Inventor Hui-Yuan SU

A hub structure includes a tubular body defining a hollow cavity. The tubular body includes a first surface and a second surface, the first surface defining a first groove extending along an axial direction of the tubular body. The first groove is defined by an inner sidewall surrounding the hollow cavity, an outer sidewall spaced from and configured to face the inner sidewall, and a bottom surface coupling the inner sidewall and the outer sidewall.

72. [2017251794](#) BICYCLE WHEEL

AU - 09.11.2017

Int.Class [B60B 1/14](#) Appl.No 2017251794 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chen, I-Teh

The bicycle wheel includes a rim, a hub, a driving device, a plurality of first side pulling spokes, a plurality of first side pushing spokes, and a plurality of second side spokes. The rim has a first side and a second side. The hub is located in a center of the rim. The driving device is connected to the hub which is located on the first side of the rim. Each of the first side pulling spokes and the first side pushing spokes is connected to the rim and the hub, and located on the first side of the rim, respectively. Each of the second side spokes is connected to the rim and the hub, and located on the second side of the rim.

73. [2899619](#) BICYCLE WHEEL

CA - 08.02.2016

Int.Class [B60B 1/02](#) Appl.No 2899619 Applicant GIANT MANUFACTURING CO., LTD. Inventor CHEN, I-TEH

The bicycle wheel includes a rim, a hub, a driving device, a plurality of first side pulling spokes, a plurality of first side pushing spokes, and a plurality of second side spokes. Each of the first side pulling spokes and the first side pushing spokes is connected to the rim and the hub, and located on the first side of the rim, respectively. When first arms A11 of the first side pulling spokes and second arms A12 of the first side pushing spokes are satisfied as .SIGMA.A11 - .SIGMA.A12 > 30 mm, the bicycle wheel can obtain better rigidity so as to solve the problems of easy broken and loosen of the spokes

74. [6038923](#) HAND-OPERATED ACCELERATOR DEVICE FOR AN ELECTRIC-POWERED BICYCLE

US - 21.03.2000

Int.Class [B60K 41/00](#) Appl.No 09085467 Applicant Giant Manufacturing Co., Ltd. Inventor Lin Ming-Shyang

A hand-operated accelerator device includes a handgrip speed controlling actuator sleeved rotatably on a handlebar. A speed controlling signal emitting member has an elongated chamber therein with an opened guiding slot. A shifting member is slidably received in the elongated chamber, and has two magnets spaced apart from each other, and a protruding member extending outwardly of the guiding slot to move the shifting member in the chamber upon rotation of the actuator. A hall-effect generator extends transversely between the magnets so as to generate a voltage signal to be received by a circuit board when the shifting member is moved in order to convert the voltage signal into a control signal for controlling revolutions of an electric drive mechanism of an electric-powered bicycle. A spring is disposed to bias the shifting member in a longitudinal direction.

75. [20030159870](#) INTELLIGENT ELECTRIC BICYCLE AUTOMATICALLY OPERABLE IN DIFFERENT MODES

US - 28.08.2003

Int.Class [B62M 23/02](#) Appl.No 10144293 Applicant Giant Manufacturing Co., Ltd. Inventor Yu, Tung-Shiang

An intelligent electric bicycle includes a pedal drive unit, a power assist unit, a tread detector for detecting treading action on the pedal drive unit, a throttle unit for controlling output power of the power assist unit, a speed sensor, and a controller coupled electrically to the power assist unit, the tread detector, the throttle unit and the speed sensor. The controller operates in one of a user-controlled power distribution mode, an automatic drive mode and a cruise control mode according to the detected states of the pedal drive unit and the throttle unit and the moving speed of the bicycle.

76. [6435318](#) TWO-STAGE BICYCLE DISK BRAKE ASSEMBLY WITH AN ANTI-LOCK DEVICE

US - 20.08.2002

Int.Class [B60T 11/00](#) Appl.No 09850446 Applicant Giant Manufacturing Co., Ltd. Inventor Chen, I-Der

A bicycle disk brake assembly includes a pressure-reducing cylinder attached to a caliper body and formed with an inner chamber and outer chamber. Upon application of an external pressure to a hydraulic fluid, which is filled within a fluid reservoir in the caliper body, the fluid flows from the reservoir to the outer chamber. When the fluid pressure in the outer chamber reaches a first value, an inner check valve is operated so as to permit flow of the fluid from the outer chamber to the inner chamber. Thereafter, when the fluid pressure in the inner chamber reaches a second value and when the external pressure is released, a resilient member biases the fluid in the inner chamber to activate an outer check valve, thereby permitting flow of the fluid from the inner chamber to the outer chamber and subsequently to the reservoir.

77. [202014105843](#) FAHRRAD-TRAININGSVORRICHTUNG

DE - 07.05.2015

Int.Class [A63B 69/16](#) Appl.No 202014105843 Applicant GIANT MANUFACTURING CO., LTD. Inventor

Fahrrad-Trainingsvorrichtung, angepasst zum Halten eines Rades [1] eines Fahrrads, aufweisend: einen Basisrahmen [10], der ein erstes Gelenk-Verbindungsteil [16] aufweist; eine Dämpfereinheit [20], die an dem Basisrahmen [10] befestigt ist; einen Halterahmen [30], der ein zweites Gelenk-Verbindungsteil [38] und einen Anordnungsabschnitt [36] aufweist, wobei das zweite Gelenk-Verbindungsteil [38] verbunden ist mit dem ersten Gelenk-Verbindungsteil [16] des Basisrahmens [10], um zu ermöglichen, dass der Halterahmen [30] relativ zu dem Basisrahmen [10] in einer Richtung weg vom oder hin zu der Dämpfereinheit [20] so vorgespannt wird, dass, wenn der Trägerrahmen [30] in einer geneigten Position relativ zu dem Basisrahmen [10] gehalten wird, der Anordnungsabschnitt [36] und die Dämpfereinheit [20] das Rad [1] des Fahrrads in Stellung halten; und eine Einwegeinheit [40], die an dem Basisrahmen [10] oder dem Halterahmen [30] befestigt ist und angepasst ist, zu verhindern, dass der Halterahmen [30] in Richtung weg von der Dämpfereinheit [20] vorgespannt wird.

78. [204623737](#) BICYCLE PART BUNCH DEVICE

CN - 09.09.2015

Int.Class [B62L 3/00](#) Appl.No 201520195932.6 Applicant GIANT MANUFACTURING CO., LTD. Inventor HE WEIJIE

The utility model relates to a bicycle part bunch device, it is fixed in fixed pipeline on the bicycle parts, contains an elasticity body, and that the first location is divided into to the elasticity body is regional with the second location, and the first location region holds the pipeline, and the regional opening in second location holds the bicycle parts, and the pipeline of the first positioning area intra -area receives second location region stop and spacing in the open -ended opposite side, makes bicycle part bunch device have the steady pipeline and brings the function together.



79. [20160096099](#) BICYCLE TRAINER WITH A BICYCLE WHEEL HOLDING FIXTURE

US - 07.04.2016

Int.Class [A63B 69/16](#) Appl.No 14606498 Applicant GIANT MANUFACTURING CO., LTD. Inventor Wen-Hai Lo

A bicycle trainer includes a body having two spaced positioning portions for supporting the wheel axle of a bicycle wheel, a damper unit for giving a damping resistance to the bicycle wheel, and a holding fixture mounted at the two positioning portions of the body for securing the bicycle wheel in a non-coaxial manner relative to the axial direction of the wheel axle. Thus, the invention can conveniently, rapidly and steadily secure the bicycle wheel in position.

80. [2668659](#) SIMULADOR DE BICICLETA ACCIONADO ELECTROMAGNÉTICAMENTE Y SU MÉTODO DE CONTROL DE RESISTENCIA

ES - 21.05.2018

Int.Class [A63B 69/16](#) Appl.No 16178781 Applicant Giant Manufacturing Co., Ltd. Inventor Hsu, Hsaio-Wen81. [20190202522](#) HANDLEBAR STRUCTURE OF BICYCLE

US - 04.07.2019

Int.Class [B62K 21/12](#) Appl.No 16234523 Applicant Giant Manufacturing Co., Ltd. Inventor Bo-Hao Huang

A handlebar structure of bicycle suited for being assembled to a stem of a bicycle is provided. The handlebar structure includes a body and a reinforcement member. The body has a first segment fixed to the stem, a second segment, and a third segment held by a rider, wherein the second segment is connected between the first and the third segments. One portion of the reinforcement member is fixed to the stem, and another portion of the reinforcement member is disposed on the second segment. A two-dimensional Cartesian system x-y based on an orthogonal cross-section of the second segment is constructed, and a scope of the second segment being covered by the reinforcement member contains at least a second quadrant of the two-dimensional Cartesian system x-y, wherein the bicycle moves in a positive x-axis direction of the two-dimensional Cartesian system x-y.

82. [20200017160](#) SHOCK ABSORPTION DEVICE

US - 16.01.2020

Int.Class [B62K 21/16](#) Appl.No 16503592 Applicant Giant Manufacturing Co., Ltd. Inventor Wei-Teng Chiang

A shock absorption device includes first and second assemblies, at least one pivot component and a buffering component. The first assembly is adapted to be connected to a first component of a bicycle and has at least one conical hole. The second assembly is adapted to be connected to a second component of the bicycle. The pivot component is fastened on the second assembly and has a conical portion. The conical portion is inserted into the conical hole such that the first and second assemblies are pivoted to each other. The conical portion is leaned against and fitted on the conical hole. The buffering component is disposed between the first and second assemblies. When the first and second assemblies rotate relatively to each other by taking a central axis of the conical hole as a rotation axis, force between the first and second assemblies is buffered by the buffering component.

83. [20140069226](#) HANDLEBAR ASSEMBLY

US - 13.03.2014

Int.Class [B62K 21/12](#) Appl.No 13726645 Applicant Giant Manufacturing Co., Ltd. Inventor Wu Chi-Ming

A handlebar assembly suitable to be installed on a steerer tube of a bicycle is provided. The handlebar assembly includes a stem, a handlebar, and a fastener. The stem has a first end and a second end opposite to the first end, wherein the stem has a first fastening surface positioned at the first end, and wherein the second end is suitable to be assembled to the steerer tube. The handlebar includes a middle portion and two handle portions, wherein the handle portions are positioned on two opposite sides of the middle portion respectively, and wherein the middle portion has a second fastening surface to be infixed to the first fastening surface. The fastener crosses the first fastening surface and the second fastening surface infixed to each other to fasten the stem and the handlebar and is positioned within the stem and the middle portion.

84. [2018220013](#) ADJUSTMENT STRUCTURE OF HYDRAULIC BRAKE SYSTEM

AU - 06.09.2018

Int.Class [F16D 65/72](#) Appl.No 2018220013 Applicant Giant Manufacturing Co., Ltd. Inventor CHEN, I-Teh

An adjustment structure of a hydraulic brake system is provided, which includes a main body, a piston and an adjusting device. The main body includes at least one fluid reservoir, an inner chamber and at least one fluid passage. The inner chamber includes a cylinder channel and an opening part, and the cylinder channel is communicated with the fluid reservoir by at least one fluid port. The piston is driven by the brake cable to be limitedly moved in the cylinder channel. The piston includes a cable hole for receiving the brake cable, and the piston has a normal operated position relative to the fluid port. The adjusting device is disposed in the opening part and is abutted against the piston. The adjusting device is operated to be moved relative to the brake cable such that the piston is adjusted to be returned to the normal operated position.

85. [5351980](#) JOINT ASSEMBLY FOR A BICYCLE SADDLE

US - 04.10.1994

Int.Class [B62K 19/36](#) Appl.No 08180627 Applicant Giant Manufacturing Co., Ltd. Inventor Huang Andrew

A joint assembly adjusts the height of a bicycle saddle and includes an elongated seat tube member, a joint member made of a carbon-fiber composite material, a seat post, and a hoop member. The joint member has an upper connecting portion, a lower connecting portion, and a longitudinal receiving chamber formed through the joint member from the upper connecting portion to the lower connecting portion. The upper connecting portion has a plurality of open-ended slots formed therethrough. Each adjacent pair of the open-ended slots define a flexible plate therebetween. The seat tube member is inserted fittingly into the receiving chamber and has a plurality of open-ended slots aligned with the open-ended slots of the joint member, and a shoulder portion which abuts against the bottom surface of the lower connecting portion of the joint member. The seat post extends downward from the bicycle saddle to engage movably the seat tube member. The hoop member is sleeved on the upper connecting portion of the joint member so as to lock the seat post on the joint member.

86. [6071604](#) PROCESS FOR MAKING A BICYCLE FRAME WITH A LIGHT-REFLECTIVE COATING AND A LIGHT-REFLECTIVE BICYCLE FRAME MADE THEREFROM

US - 06.06.2000

Int.Class [B05D 5/06](#) Appl.No 09026646 Applicant Giant Manufacturing Co., Ltd. Inventor Chen Jeff

A process for making a light-reflective bicycle frame and a light-reflective bicycle frame made therefrom are provided. The process includes: preparing a bicycle frame, providing a transparent adhesive layer on the bicycle frame, spreading uniformly light-reflective particles on the transparent adhesive layer to form a light-reflective particle layer which is substantially free of any superimposed or overlapping particles, and providing a transparent protective layer on the light-reflective particle layer.



87. [20060061060](#) FOLDABLE BICYCLE

US - 23.03.2006

Int.Class [B62K 15/00](#) Appl.No 10945099 Applicant Giant Manufacturing Co., Ltd. Inventor Chen Min-Chang

A foldable bicycle has a frame unit and a positioning unit. The frame unit includes a front wheel unit disposed on a front frame rod, a rear wheel unit disposed on a rear frame rod and aligned with the front wheel unit along a longitudinal direction of the bicycle, and a horizontal pivot pin interconnecting the front and rear frame rods rotatably such that the pivot pin and rotating axes of the front and rear wheel units forming generally an isosceles triangle. The positioning unit positions the rear frame rod behind the front frame rod, and is operable to allow for rotation of the front and rear frame rods about the pivot pin so as to dispose the bicycle at a folded position, where the front and rear wheel units are aligned with each other along a transverse direction of the bicycle.

88. [7682292](#) FLYWHEEL-TYPE VARIABLE RESISTANCE GENERATING DEVICE FOR AN EXERCISING APPARATUS

US - 23.03.2010

Int.Class [A63B 22/06](#) Appl.No 12320566 Applicant Giant Manufacturing Co., Ltd. Inventor Lo Wen-Hai

A flywheel-type variable resistance generating device for an exercising apparatus includes two actuating arms disposed outboard of a flywheel, a pulling cord having two anchoring ends coupled with a tightening-force adjusting member and a lever, and two pull-activating members connected to the pulling cord so as to move the actuating arms. The actuating arms are movable among a starting position where they are disengaged from the flywheel, an adjusted position where they are partially engaged with the flywheel, and a braking position where they are fully engaged with the flywheel. When the lever is operated to move one anchoring end with a braking force, the other anchoring end of the pulling cord is pulled back to its initial locus to move the actuating arms to the starting position.

89. [6302422](#) POSITIONING DEVICE ADAPTED TO POSITION A REAR FRAME OF A FOLDABLE BICYCLE RELATIVE TO A FRONT FRAME WHEN THE FOLDABLE BICYCLE IS FOLDED

US - 16.10.2001

Int.Class [B62K 15/00](#) Appl.No 09611925 Applicant Giant Manufacturing Co., Ltd. Inventor Liu, Shao-Chieh

A positioning device is adapted to position a rear frame of a foldable bicycle relative to a front frame when the foldable bicycle is folded, and includes a rear anchoring member and a front anchored member adapted to be secured to rear and front wheel axles of the foldable bicycle and outboard to rear and front wheels, respectively. The rear anchoring member includes an outer lateral wall with upper and lower guiding surfaces, and a circumferential wall which extends from the outer lateral wall and which defines an insert slot extending rearwardly to form a first abutment wall. The front anchored member includes an inserted outer annular portion insertable into the insert slot, and a guided annular portion extending from an inner periphery of the inserted outer annular portion and having upper and lower contact parts so as to slidably engage the upper and lower guiding surfaces when the inserted outer annular portion is inserted into the insert slot. Thus, the front anchored member is retained on the rear anchoring member so as to position the rear frame relative to the front frame of the foldable bicycle.

90. [103802303](#) COMPOSITE MATERIAL FORMING MOLD AND FORMING METHOD OF COMPOSITE MATERIAL

CN - 21.05.2014

Int.Class [B29C 51/08](#) Appl.No 201210437806.8 Applicant GIANT MANUFACTURING CO., LTD. Inventor WU KEYU

The invention provides a composite material forming mold and a forming method of a composite material. The composite material forming mold comprises a body and a dredging unit; the body is provided with a body forming groove; the dredging unit is located on the body and comprises an inner forming groove, an outer surface and a dredging gap; the inner forming groove is joined with the body forming groove, and the inner forming groove has a vertex; the outer surface is located on another face of the dredging unit opposite to the inner forming groove; the dredging gap is communication with the vertex and the outer surface of the inner forming groove of the dredging unit. Through the dredging gap, the body forming groove and the inner forming groove can be communicated with the outer surface, so as to discharge excess gas and resin in a composite material forming preparation process, and improve the forming quality and strength.

91. [20160096098](#) BICYCLE TRAINER

US - 07.04.2016

Int.Class [A63B 69/16](#) Appl.No 14570635 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chih-Kai Wang

A bicycle trainer includes a base frame including a first pivot connection part, a damper unit mounted at the base frame, a support frame including a locating portion and a second pivot connection part, which is pivotally connected to the first pivot connection part of the base frame for enabling the support frame to be biased relative to the base frame in direction away from or toward the damper unit such that when the support frame is held in an inclined position relative to the base frame, the locating portion and the damper unit can hold a wheel of a bicycle in place, and a non-return unit mounted at the base frame or support frame and adapted to prohibit the support frame from being biased in direction away from the base frame. The invention enables the support frame to be constrained by the non-return unit.

92. [20080277900](#) BICYCLE WITH A COMMON PIVOT SHOCK ABSORBER

US - 13.11.2008

Int.Class [B62K 25/00](#) Appl.No 12038093 Applicant Giant Manufacturing Co. Ltd. Inventor I Simon

A bicycle with a common point shock absorber comprises a bicycle frame and a shock absorber. The bicycle frame comprises a front frame and a rear frame, an upper linkage device and a lower linkage device connected pivotally to the front frame and the rear frame. The shock absorber is mounted in the bicycle frame and comprises a first connecting member connected pivotally to the upper linkage device, and a second connecting member connected pivotally and coaxially to the lower linkage device and the front frame. Thus, assembling the component and the assembly process can be simplified. Convenience for component assembly and repair has been improved. Manufacturing costs are reduced.

93. [2008201974](#) BICYCLE WITH A COMMON PIVOT SHOCK ABSORBER

AU - 22.05.2008

Int.Class [B62K 25/10](#) Appl.No 2008201974 Applicant Giant Manufacturing Co., Ltd Inventor I, Simon

A bicycle with a common point shock absorber comprises a bicycle frame and a shock absorber. The bicycle frame comprises a front frame and a rear frame, an upper linkage device and a lower linkage device connected pivotally to the front frame and the rear frame. The shock absorber is mounted in the bicycle frame and comprises a first connecting member connected pivotally to the upper linkage device, and a second connecting member connected pivotally and coaxially to the lower linkage device and the front frame. Thus, assembling the component and the assembly process can be simplified. Convenience for component assembly and repair has been improved. Manufacturing costs are reduced.

94. [2630709](#) BICYCLE WITH A COMMON PIVOT SHOCK ABSORBER

CA - 11.11.2008



Int.Class B62K 3/02 Appl.No 2630709 Applicant GIANT MANUFACTURING CO., LTD. Inventor I, SIMON

A bicycle with a common point shock absorber comprises a bicycle frame and a shock absorber. The bicycle frame comprises a front frame and a rear frame, an upper linkage device and a lower linkage device connected pivotally to the front frame and the rear frame. The shock absorber is mounted in the bicycle frame and comprises a first connecting member connected pivotally to the upper linkage device, and a second connecting member connected pivotally and coaxially to the lower linkage device and the front frame. Thus, assembling the component and the assembly process can be simplified. Convenience for component assembly and repair has been improved. Manufacturing costs are reduced.

95. 20020113403 LOCKING DEVICE FOR RELEASABLY LOCKING A SEAT POST RELATIVE TO A SEAT TUBE OF A BICYCLE FRAME US - 22.08.2002

Int.Class B62M 1/00 Appl.No 09790771 Applicant Giant Manufacturing Co., Ltd. Inventor Chen, Jack

A locking device is adapted for releasably locking a seat post relative to a seat tube of a bicycle frame, and includes a tubular body with a lower surrounding member to be secured to the seat tube. An upper surrounding member extends upwardly to terminate at an upper surrounding edge, and has an accommodating space for the seat post, and a slit extending downwardly from the upper surrounding edge. A plurality of protuberances are disposed on and project radially and inwardly of an inner surrounding wall surface of the upper surrounding member, and are angularly displaced from each other. Right and left jaw members are respectively attached on the upper surrounding member, and are moved by a tightening member toward each other to narrow the slit so as to bring the protuberances to abut against the seat post.

96. 6428116 BICYCLE WHEEL WITH V-SHAPED SPOKES US - 06.08.2002

Int.Class B60B 1/00 Appl.No 09862085 Applicant Giant Manufacturing Co., Ltd. Inventor Chou, Joe

A bicycle wheel includes an annular rim having an annular base wall, a hub shell surrounded by the annular base wall and having two opposite ends that are disposed at two opposite sides of the annular rim, and a plurality of unitary V-shaped spokes equiangularly spaced apart and extending from the hub shell to the annular base wall. Each of the V-shaped spokes has a tip end that is connected to the annular base wall, and two arms that diverge from the tip end and that have distal ends which are respectively connected to the opposite ends of the hub shell.

97. 5911429 BICYCLE FRAME US - 15.06.1999

Int.Class B62K 3/02 Appl.No 08833606 Applicant Giant Manufacturing Co., Ltd Inventor Shiao Daniel

A bicycle frame includes a top tube which has a first mounting seat and a second mounting seat spaced apart from the first mounting seat in a longitudinal direction of the top tube, and a seat tube which has first upper and lower ends. The first lower end is pivotally mounted to the first mounting seat. An extension tube is connected to the first upper end for mounting a seat thereon. A telescopic bracket tube is pivotally mounted to the second mounting seat and the first upper end, and is extendable and retractable so as to adjust the position of the seat tube. A plurality of locking members lock the telescopic bracket tube against extension and retraction so as to position the seat tube.

98. 20040130122 PROCESS FOR MAKING A BICYCLE FRAME PART, AND BICYCLE FRAME INCLUDING THE BICYCLE FRAME PART US - 08.07.2004

Int.Class B62K 9/00 Appl.No 10698469 Applicant Giant Manufacturing Co., Ltd. Inventor Chang Owen

A bicycle frame part made via a process that includes the steps of placing a one-piece metallic tube blank in a die; hydraulically forming the tube blank by introducing a hydraulic pressure into the tube blank to deform and expand the tube blank so as to form at least one expanded wall part projecting from the tube blank along a direction different from the direction of extension of the tube blank; and machining the expanded wall part to form a connection tube. A bicycle frame includes a plurality of frame parts connected to each other. At least one of the frame parts is formed via the aforementioned process, and includes a tube body and at least one connection tube projecting from the tube body in a direction different from the direction of extension of the tube body.

99. 20050110237 FRONT FORK UNIT WITH A SHOCK ABSORBER AND A RESISTANCE-PROVIDING MEMBER FOR A BICYCLE US - 26.05.2005

Int.Class B62K 1/00 Appl.No 10720120 Applicant Giant Manufacturing Co., Ltd. Inventor Yih Johnson

A front fork unit of a bicycle includes a fork body, an outer tube movable relative to the fork body, a shock absorber interposed between and secured to the fork body and the outer tube, an inner tube disposed in the outer tube and secured to the fork body, and a resistance-providing member secured to one of the inner and outer tubes and in sliding and frictional contact with the other of the inner and outer tubes so as to provide a resistance to movement of the outer tube relative to the fork body.

100. 20140165769 BRAKE LEVER US - 19.06.2014

Int.Class B62K 23/06 Appl.No 13965091 Applicant GIANT MANUFACTURING CO., LTD. Inventor HUNG Chia-Liang

The present disclosure provides a brake lever, which include an assembling base, a lever body and a pulling portion. The assembling base is connected to the handle of the bicycle, the lever body is pivotally connected to the assembling base, and the pulling portion is connected to and protruded from the lever body. The pulling portion has a pulling surface, wherein the pulling surface is toward at least one fingertip of the rider's hand when a rider's hand holds the second holding position of the handle. When the handle of the bicycle provides two or more than two holding position, the lever body is for braking when the first holding position is held, and the pulling portion is for braking when the second holding position is held. Therefore, the rider can hold the different positions of the handle for operating the brake.

101. 206394795 BICYCLE OIL PRESSURE DISH IS DEVICE VERY CN - 11.08.2017

Int.Class B62L 3/02 Appl.No 201621300095.X Applicant GIANT MANUFACTURING CO., LTD. Inventor WANG XI

The utility model provides a bicycle oil pressure dish is device very contains very unit of a lid, an oil circuit, an oil hydraulic cylinder, a piston, a driving element, an oil pipe and a dish. The lid contains connecting portion and an extension, and its connects the automobile body body removably. Form an accommodation space in the extension. Oil circuit and oil hydraulic cylinder all set up in the accommodation space of extension. The piston sets up in the oil hydraulic cylinder pressure with control circuit. Driving element connects the drive piston for the brake operation. Oil pipe links up the oil circuit. The dish is unit connection oil pipe very, and is controlled by oil pipe's pressure. Borrow this, see through simple and easy mechanical structure and promote the oil hydraulic cylinder, can reach lightweight and easy maintenance's effect. Oil pressure dish very device sets up in handlebar tube or the first standpipe front end of car cooperation lid streamline appearance degradable low -wind -resistance with integrating.

102. [20220016984](#) ELECTRIC VEHICLE SYSTEMS AND METHODS FOR DRIVING VEHICLES US - 20.01.2022

Int.Class [B60L 15/20](#) Appl.No 17371933 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chin-Lai HUANG

An electric vehicle includes a frame, at least one front wheel and at least one rear wheel coupled to the frame, one or more pedals coupled to the frame and configured for a user's engagement via pedaling, and a controller configured to output one or more driving signals in response to the pedaling of the one or more pedals. The electric vehicle also includes a first motor coupled to and configured to drive one of the front and rear wheels, and a first driver coupled with the first motor and configured to adjust the output to the first motor in response to the one or more driving signals.

103. [2680593](#) SISTEMA DE AMORTIGUADOR AUTOMÁTICO PARA BICICLETA ES - 10.09.2018

Int.Class [B60G 17/016](#) Appl.No 14192632 Applicant Giant Manufacturing Co., Ltd. Inventor

Un sistema de amortiguador de control automático de bicicleta, que comprende: un sensor [1210] de vibración, estando el sensor [1210] de vibración configurado para detectar la vibración de la bicicleta [10] y emitir una señal de vibración; y un controlador [230] en comunicación con el sensor [1210] de vibración, estando el controlador [230] caracterizado porque está configurado para calcular un parámetro de vibración dentro de un intervalo de tiempo predeterminado de acuerdo con la señal de vibración con el fin de emitir una señal de control de nivel correspondiente al parámetro de vibración para ajustar una fuerza de amortiguación del sistema [200, 400, 600, 900] de amortiguador.

104. [2871082](#) AUTOMATISK STØDDÆMPERSYSTEM TIL CYKEL DK - 03.09.2018

Int.Class [B60G 17/016](#) Appl.No 14192632 Applicant Giant Manufacturing Co., Ltd. Inventor Chen, Chien-Hung

An automatic control shock absorber system for a bicycle is provided. The system includes one or more sensors. A controller outputs a control signal to a damping adjuster according to the one or more sensors, such that the damping adjuster controls level of damping force based on the sensors..

105. [2870644](#) AUTOMATIC SHOCK ABSORBER SYSTEM FOR BICYCLE CA - 12.05.2015

Int.Class [B60G 17/019](#) Appl.No 2870644 Applicant GIANT MANUFACTURING CO., LTD. Inventor

An automatic control shock absorber system for a bicycle is provided. The system includes one or more sensors. A controller outputs a control signal to a damping adjuster according to the one or more sensors, such that the damping adjuster controls level of damping force based on the sensors.

106. [WO/2022/012641](#) ELECTRIC VEHICLE SYSTEMS AND METHODS FOR DRIVING VEHICLES WO - 20.01.2022

Int.Class [B62M 6/45](#) Appl.No PCT/CN2021/106584 Applicant GIANT MANUFACTURING CO., LTD. Inventor HUANG, Chin-Lai

An electric vehicle includes a frame, at least one front wheel and at least one rear wheel coupled to the frame, one or more pedals coupled to the frame and configured for a user's engagement via pedaling, and a controller configured to output one or more driving signals in response to the pedaling of the one or more pedals. The electric vehicle also includes a first motor coupled to and configured to drive one of the front and rear wheels, and a first driver coupled with the first motor and configured to adjust the output to the first motor in response to the one or more driving signals.

107. [6119821](#) HYDRAULIC COMPENSATION DEVICE FOR COMPENSATING A POSITIONAL DEVIATION OF A BRAKE PAD US - 19.09.2000

Int.Class [F16D 55/02](#) Appl.No 09219009 Applicant Giant Manufacturing Co., Ltd. Inventor Chiang Hai-Huan

A hydraulic compensation device includes a container, a piston, a push member and an indicating rod. The piston is mounted slidably inside the container adjacent to a first end portion to confine a brake oil with the first end portion of the container. The push member is disposed rotatably inside the container adjacent to a second end portion that is opposite to the first end portion of the container, and abuts against the piston. The push member is threadedly movable relative to the container so as to push the piston toward the first end portion, thereby moving the hydraulic actuator and adjusting the position of the brake pad. The indicating rod projects axially from the push member, and extends outwardly of the container through the second end portion of the container for indicating the amount of displacement of the push member. Screw thread members are provided on the container and the push member to permit the push member to threadedly move relative to the container for adjustment of the position of the piston.

108. [20090289435](#) COMPOSITE BICYCLE FRAME US - 26.11.2009

Int.Class [B62K 19/00](#) Appl.No 12210401 Applicant GIANT MANUFACTURING CO., LTD. Inventor Wu Ming-Jhe

A composite bicycle frame includes a plurality of tubes. The tubes includes a seat tube, a main tube and chain stays. The main tube is made of metallic materials. The seat tube and the chain stays are made of resin fiber materials.

109. [20070167295](#) RESISTANCE GENERATING DEVICE FOR A TRAINING BICYCLE US - 19.07.2007

Int.Class [A63B 22/06](#) Appl.No 11333314 Applicant Giant Manufacturing Co., Ltd. Inventor Chen Johnny

A resistance generating device includes a friction wheel adapted to frictionally engage a bicycle wheel of a training bicycle to be rotated therewith, a first magnetically attractive member, and a second magnetically attractive member which is rotated with the friction wheel, and which is disposed to be spaced apart from the first magnetically attractive member. The first and second magnetically attractive members are configured to be shiftable towards or away from each other in response to the higher or lower speed of the second magnetically attractive member so as to increase or decrease a magnetically induced resistance force generated therebetween to be imparted to the bicycle wheel. The actuating mechanism is disposed to effect the relative shifting movement in response to the higher speed to force the first and second magnetically attractive members towards each other, thereby increasing the resistance force.

110. [7165642](#) VEHICLE CHASSIS US - 23.01.2007

Int.Class [B62K 15/00](#) Appl.No 11183771 Applicant Giant Manufacturing Co., Ltd. Inventor Chen Min-Chang



A vehicle chassis includes: first and second chassis parts; a locking unit including a first engaging part that is pivoted to the first chassis part and that is formed with first and second engaging recesses, a second engaging part mounted on the second chassis part and formed with a tongue such that the tongue pushes the first engaging part to rotate from an unlocking position to a locking position and slides into the first recess during coupling of the first and second chassis parts; and a retaining unit including a retaining part that is pivoted to the first chassis part and that has an engaging end which extends into the second recess when the retaining part is disposed at a retaining position.

111. [20100052377](#) POSITIONING DEVICE FOR MOUNTING A SEAT ON A SEAT TUBE OF A BICYCLE

US - 04.03.2010

Int.Class [B62J 1/08](#) Appl.No 12553491 Applicant Giant Manufacturing Co., Ltd. Inventor Hsu Che-Wei

A positioning device includes a mount secured on a seat tube, and left and right joint members having joint surfaces which abut against the mount, and gripping cavities which mate with clamping cavities of left and right clamping members to permit lengthwise segments of left and right anchoring bars of a seat to be clamped in left and right bar-engaging zones, respectively. When the joint surfaces switch places or when the left and right clamping members are shifted, the bar-engaging zones are displaced from a first position to be proximate to corresponding ones of front and rear ends of the anchoring bars, to a second position to be proximate to the other corresponding ones of the front and rear ends of the anchoring bars, thereby enabling the seat to be adjusted to a desired position relative to the seat tube.

112. [102826146](#) BICYCLE FITTING METHOD FOR PRODUCING BICYCLE, BICYCLE FITTING SYSTEM

CN - 19.12.2012

Int.Class [B62K 3/00](#) Appl.No 201210188505.6 Applicant Giant Manufacturing Co., Ltd. Inventor Chen Chien-hung

The invention provides a bicycle fitting method for producing a bicycle and a bicycle fitting system. The bicycle fitting system includes receiving a bicycle riding information and a body measurement corresponding to a cyclist. According to the bicycle riding information, a bicycle model is provided. According to the body measurement and the selected bicycle model, a bicycle frame size and a set of bicycle geometric adjustment parameters are provided. According to the bicycle model, the bicycle frame size, and the set of bicycle geometric adjustment parameters, a bicycle which fits the cyclist is produced.

113. [20170282986](#) ELECTRICALLY CONTROLLABLE SEAT POST

US - 05.10.2017

Int.Class [B62J 1/08](#) Appl.No 15472305 Applicant GIANT MANUFACTURING CO., LTD. Inventor Shu-Yu JHOU

An electrically controllable seat post is provided. The electrically controllable seat post includes a retractable rod and a switch actuator. The retractable rod includes a switch. The switch actuator is corresponding to the switch and includes a pushing member, an electromagnetic coil and a controller. The pushing member is assembled in the switch actuator, wherein the pushing member is controlled to move to open or close the switch. The electromagnetic coil generates a magnetic force by injecting a current therethrough, wherein the pushing member is moved by the magnetic force. The controller controls the switch actuator.

114. [2962848](#) ELECTRICALLY CONTROLLABLE SEAT POST

CA - 01.10.2017

Int.Class [B62J 1/08](#) Appl.No 2962848 Applicant GIANT MANUFACTURING CO., LTD. Inventor JHOU, SHU-YU

An electrically controllable seat post is provided. The electrically controllable seat post includes a retractable rod and a switch actuator. The retractable rod includes a switch. The switch actuator is corresponding to the switch and includes a pushing member, an electromagnetic coil and a controller. The pushing member is assembled in the switch actuator, wherein the pushing member is controlled to move to open or close the switch. The electromagnetic coil generates a magnetic force. by injecting a current therethrough, wherein the pushing member is moved by the magnetic force. The controller controls the switch actuator.

115. [20160101337](#) BICYCLE TRAINER

US - 14.04.2016

Int.Class [A63B 69/16](#) Appl.No 14614363 Applicant Giant Manufacturing Co., Ltd. Inventor Hsaio-Wen Hsu

A bicycle trainer is adapted to be arranged with a bicycle to simulate riding a bicycle on an outdoor road. The bicycle includes a stand, a roller and a resistance source. The stand is adapted to support the bicycle. The roller is pivoted to the stand and adapted to contact a bicycle wheel of the bicycle. The resistance source is coupled to the roller and provides resistance to the bicycle wheel via the roller. The resistance source varies the magnitude of the provided resistance according to the rotation speed of the roller.

116. [2017202078](#) ELECTRICALLY CONTROLLABLE SEAT POST

AU - 13.04.2017

Int.Class [B62J 1/08](#) Appl.No 2017202078 Applicant GIANT MANUFACTURING CO., LTD. Inventor

An electrically controllable seat post is provided. The electrically controllable seat post includes a retractable rod and a switch actuator. The retractable rod includes a switch. The switch actuator is corresponding to the switch and includes a pushing member, an electromagnetic coil and a controller. The pushing member is assembled in the switch actuator, wherein the pushing member is controlled to move to open or close the switch. The electromagnetic coil generates a magnetic force by injecting a current therethrough, wherein the pushing member is moved by the magnetic force. The controller controls the switch actuator.

117. [2713232](#) ENTRENADOR DE BICICLETA

ES - 20.05.2019

Int.Class [A63B 69/16](#) Appl.No 15162213 Applicant Giant Manufacturing Co., Ltd. Inventor Hsu, Hsaio-Wen

Un entrenador [100] de bicicleta, adaptado para estar dispuesto con una bicicleta [50] para simular montar en bicicleta [50] en una carretera exterior, comprendiendo el entrenador [100] de bicicleta: un soporte [110] adaptado para soportar la bicicleta [50]; un rodillo [120] girado con respecto al soporte [110] y adaptado para hacer contacto con una rueda [52] de bicicleta de la bicicleta [50]; y una fuente [130] de resistencia acoplada con el rodillo [120] y que proporciona resistencia a la rueda [52] de bicicleta por medio del rodillo [120], en el que la fuente [130] de resistencia varía la magnitud de la resistencia proporcionada según una velocidad de rotación del rodillo [120] y proporciona una curva de velocidad-potencia que tiene una pluralidad de etapas, caracterizado porque la fuente [130] de resistencia comprende una pluralidad de componentes elásticos [135a, 135b] para variar la magnitud de la resistencia proporcionada, correspondiéndose cada una de las etapas con al menos uno de los componentes elásticos [135a, 135b], en el que se cambia en secuencia el número de los componentes elásticos [135a, 135b] en operación a lo largo de la curva de velocidad-potencia.

118. [2019202699](#) ELECTRICALLY CONTROLLABLE SEAT POST

AU - 09.05.2019

Int.Class [B62J 1/08](#) Appl.No 2019202699 Applicant GIANT MANUFACTURING CO., LTD. Inventor CHEN, I-Teh

An electrically controllable seat post is provided. The electrically controllable seat post includes a retractable rod and a switch actuator. The retractable rod includes a switch. The switch actuator is corresponding to the switch and includes a pushing member, an electromagnetic coil and a controller. The pushing member is assembled in the switch actuator, wherein the pushing member is controlled to move to directly open or close the switch without extra components. The electromagnetic coil generates a magnetic force by injecting a current therethrough, wherein the pushing member is moved by the magnetic force. The controller controls the switch actuator.

119. [6276706](#) SHOCK-ABSORBING JOINT FOR INTERCONNECTING FRONT AND REAR WHEEL-CARRYING FRAME MEMBERS OF A BICYCLE US - 21.08.2001

Int.Class [B62K 3/02](#) Appl.No 09304048 Applicant Giant Manufacturing Co., Ltd. Inventor Yih, Johnson

A shock-absorbing joint includes a tubular casing connected securely to the front wheel-carrying frame member of a bicycle, and confining an accommodating space with a central axis that is disposed horizontally and that extends in a transverse direction relative to a riding direction of the bicycle. A coupling shaft is disposed in the accommodating space, and extends along the central axis of the accommodating space. A spiral spring plate is disposed in the accommodating space, and has an innermost end connected to the coupling shaft and an outermost end connected to the tubular casing. The spiral spring plate is wound about the coupling shaft to form a series of interconnected turns of increasing radius. A connecting bracket is connected securely to a rear wheel-carrying frame member of the bicycle. The tubular casing is mounted rotatably on the connecting bracket, while the coupling shaft is mounted non-rotatably on the connecting bracket.

120. [20060272865](#) MOTOR-DRIVEN VEHICLE WITH A VEHICLE FRAME AND A DRIVING DEVICE THAT ARE INTERCONNECTED REMOVABLY US - 07.12.2006

Int.Class [B62D 27/00](#) Appl.No 11141062 Applicant Giant Manufacturing Co., Ltd. Inventor Lo Kemble

A motor-driven vehicle includes a vehicle frame and a driving device. The vehicle frame includes a main body and a retaining unit. The main body has a first connecting portion and a second connecting portion. The retaining unit includes a retaining plate disposed pivotally on the first connecting portion and having a free end rotatable to close and open a groove in the first connecting portion. The driving device includes a support frame that has a first engaging portion disposed within the groove, and a second engaging portion connected to the second connecting portion by a tongue and groove engagement. When the groove is closed, removal of the vehicle frame from the driving device is prevented. When the groove is opened, removal of the vehicle frame from the driving device is allowed.

121. [7131696](#) SEAT DEVICE FOR A VEHICLE US - 07.11.2006

Int.Class [B60N 2/02](#) Appl.No 11183772 Applicant Giant Manufacturing Co., Ltd. Inventor Chen Min-Chang

A seat device includes: a seat-supporting post unit; a lower bracket secured to the seat-supporting post unit; a seat unit including an upper bracket that is pivoted to the lower bracket; first and second engaging members formed on the lower bracket; and a third engaging member movable between an engaging position and a releasing position. The third engaging member engages the first engaging member when the seat unit is disposed at the non-folded position and when the third engaging member is disposed at the engaging position. The third engaging member engages releasably the second engaging member when the seat unit is disposed at the folded position and when the third engaging member is disposed at the engaging position.

122. [20100084537](#) CHAIR MOUNTING DEVICE FOR A MOTOR-DRIVEN WHEELED VEHICLE US - 08.04.2010

Int.Class [A47C 1/00](#) Appl.No 12388902 Applicant Giant Manufacturing Co., Ltd. Inventor Lin Yu-Chan

A chair mounting device for mounting a chair on a mounting frame of a motor-driven wheeled vehicle includes a seat post mounted on the mounting frame, a seat stem mounted on a seat of the chair, a locking member movable relative to the seat stem between a locking position to guard against swiveling movement of the stem relative to the seat post and an unlocking position to permit the swiveling movement, a lever mounted on and operable relative to an anchored mount located above the seat, a biasing member disposed to bias the locking member to the locking position, and a pulling cord coupled with the locking member and the lever.

123. [202015100142](#) FAHRRADTRAINER MIT EINER HALTEBEFESTIGUNG FÜR EIN FAHRRADRAD DE - 11.06.2015

Int.Class [A63B 69/16](#) Appl.No 202015100142 Applicant GIANT MANUFACTURING CO., LTD. Inventor

Fahrradtrainer [10], angepasst, um ein Fahrradrad [42] festzuhalten, wobei das Fahrradrad [42] um eine Radachse [44] davon drehbar ist, wobei der Fahrradtrainer [10] umfasst: ein Gestell [20], das zwei Positionierungsabschnitte [38] umfasst, um die Radachse [44] zu tragen, um das Fahrradrad [42] zwischen den zwei Positionierungsabschnitten [38] zu halten; eine Bremseinheit [30], die an dem Gestell [20] angebracht ist und angepasst ist dem Fahrradrad [42] einen Bremswiderstand bereitzustellen; und eine Haltebefestigung [40], die an den Positionierungsabschnitten [38] des Gestells [20] angebracht ist, und die angepasst ist das Fahrradrad [42] entlang einer nicht-koaxialen Richtung in Bezug auf die axiale Richtung [46] der Radachse [44] zu befestigen.

124. [20160096100](#) BICYCLE TRAINER WITH A POSITION CHANGEABLE DAMPER UNIT US - 07.04.2016

Int.Class [A63B 69/16](#) Appl.No 14606550 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chih-Kai Wang

A bicycle trainer includes a base frame, a damper unit pivotally connected to the base frame and including a rotating wheel set, a swivel frame pivoted to the base frame and biasable between an inclined position where the swivel frame and the damper unit are capable of supporting a bicycle wheel and a collapsed position where the swivel frame is received in the base frame and the rotating wheel set of the damper unit is disposed adjacent to the swivel frame, and a locking device for locking the damper unit to the base frame or allowing the damper unit to be biased relative to the base frame. Thus, the composition of the invention allows the bicycle trainer to be folded up and received in a compact condition to minimize the dimension convenient for carrying with less effort.

125. [20160297496](#) AUTOMATIC SHOCK ABSORBER SYSTEM FOR A BICYCLE US - 13.10.2016

Int.Class [B62K 25/00](#) Appl.No 14685087 Applicant GIANT MANUFACTURING CO. LTD Inventor Min-Chang Chen



An apparatus for automatically controlling a shock absorber system for a bicycle comprises a position sensor system configured to detect information indicative of a position of a rider of the bicycle and a controller in communication with the position sensor system. The controller adjusts the shock absorber system based on the detected information. The adjusting of the shock absorber system can include adjusting a damping force of the shock absorber system and/or adjusting sag of the shock absorber system.

126. [107036750](#) WHEEL STEEL WIRE TENSION MEASURING DEVICE, TENSION ADJUSTING EQUIPMENT AND TENSION ADJUSTING METHOD CN - 11.08.2017

Int.Class [G01L 5/04](#) Appl.No 102016000079237 Applicant GIANT MANUFACTURING CO., LTD. Inventor WANG HUOMING

The invention provides a wheel steel wire tension measuring device, tension adjusting equipment and tension adjusting method. The wheel steel wire tension measuring device comprises a wheel steel wire having vibration frequency, an incident light source, a light sensing element and an operational processor. The wheel steel wire vibrates between the incident light source and the light sensing element. The light sensing element receives the incident light source, and the wheel steel wire shields partial incident light source so that the light sensing element is enabled to form a steel wire shaded area. The steel wire shaded area is corresponding to the displacement of the vibrating wheel steel wire, and the light sensing element is enabled to output a steel wire displacement signal. The operational processor is electrically connected with the light sensing element and converts the steel wire displacement signal into a steel wire tension value before calibration. Therefore, the wheel steel wire tension is measured by using a simple and full-automatic optical method so that the roundness of the wheel can be met through cooperation of correction of the hub, and the tension is ensured to be adjusted within the safety range without breaking.

127. [20160046339](#) APPARATUS FOR DETECTING RIDING POSTURE US - 18.02.2016

Int.Class [B62J 1/28](#) Appl.No 14604044 Applicant GIANT MANUFACTURING CO. LTD Inventor Min-Chang Chen

An apparatus for detecting a riding posture is suitable for detecting a riding posture of a rider riding a bicycle. The apparatus for detecting a riding posture includes a sensor and a controller. The sensor is connected to the bicycle to sense a relationship between the rider and the bicycle and output a sensing signal accordingly.

The controller receives the sensing signal and determines whether the riding posture of the rider is a sitting posture or a standing posture according to the sensing signal.

128. [20180093819](#) BICYCLE PACKAGING STRUCTURE US - 05.04.2018

Int.Class [B65D 85/68](#) Appl.No 15459606 Applicant GIANT MANUFACTURING CO., LTD. Inventor Tsung-Lung Chen

A bicycle packaging structure for a bicycle including a bicycle frame is provided. The bicycle packaging structure includes an exhibition box and at least one fixing member. The exhibition box includes a lower plate, a side plate surrounding the lower plate, an accommodating space formed by the lower plate and the side plate, and an exhibition opening at one side of the side plate away from the lower plate. The bicycle frame is accommodated in the accommodating space and mounted on the lower plate by the at least one fixing member. Thus, the bicycle frame may be directly exhibited through the exhibition opening and be sold to eliminate conventional complications of box opening and assembly for exhibition and post-exhibition re-boxing. The bicycle frame is placed in the exhibition box for carrying outdoors to achieve objects of recycling and reducing costs and burden on the environment.

129. [20060108768](#) BICYCLE FRAME WITH MULTIPLE LAYER TUBE US - 25.05.2006

Int.Class [B62K 3/00](#) Appl.No 11213272 Applicant Giant Manufacturing Co., Ltd. Inventor I Simon

A bicycle frame is disclosed that includes a set of tubes connected together. At least a portion of one of the tubes comprises at least three layers of materials. For example, in one embodiment, the seat tube includes an inner layer of carbon fiber, a middle layer of aluminum (or other metal), and an outside layer of carbon fiber.

130. [2014100360](#) ADJUSTING STRUCTURE FOR SEATPOST OF BICYCLE AU - 24.04.2014

Int.Class [B62K 19/36](#) Appl.No 2014100360 Applicant Giant Manufacturing Co. Ltd Inventor TSENG, Wei-Han

An adjusting structure for a seatpost of a bicycle includes a telescopic post and at least one adjusting module. The telescopic post includes at least one switch disposed on one end of the telescopic post, wherein the switch is for lengthening or shortening the telescopic post. The adjusting module is disposed on the telescopic post corresponding to the switch and for pushing the switch.

131. [2645108](#) AJUSTE DE ESTRUCTURA PARA TIJA DE SILLÍN DE BICICLETA ES - 04.12.2017

Int.Class [B62J 1/06](#) Appl.No 14164511 Applicant Giant Manufacturing Co., Ltd Inventor Tseng, Wei-Han

132. [2789529](#) INDSTILLINGSSTRUKTUR TIL EN SADELPIND PÅ EN CYKEL DK - 04.12.2017

Int.Class [B62J 1/06](#) Appl.No 14164511 Applicant Giant Manufacturing Co., Ltd Inventor Tseng, Wei-Han

An adjusting structure for a seatpost of a bicycle includes a telescopic post and at least one adjusting module. The telescopic post includes at least one switch disposed on one end of the telescopic post, wherein the switch is for lengthening or shortening the telescopic post. The adjusting module is disposed on the telescopic post corresponding to the switch and for pushing the switch.

133. [2700430](#) ESTRUCTURA DE AJUSTE PARA TIJA DE SILLÍN DE BICICLETA ES - 15.02.2019

Int.Class [B62J 1/08](#) Appl.No 16190454 Applicant Giant Manufacturing Co., Ltd Inventor

134. [20170341706](#) CHARGE SYSTEM AND CHARGE METHOD US - 30.11.2017



Int.Class B62M 7/12 Appl.No 15389453 Applicant **Giant Manufacturing Co., Ltd.** Inventor Wei-Chieh Ho

A charge system and a charge method adapted to a bicycle are provided. The charge system includes a hub dynamo, a power apparatus, a sensor and a control apparatus. The control apparatus is coupled to the hub dynamo, the power apparatus and the sensor. The sensor is adapted to sense a riding condition of the bicycle. According to the riding condition, the control apparatus selects a power supply pattern of the hub dynamo. When the power supply pattern is selected to be a stop pattern, a connection loop between the hub dynamo and the power apparatus is turned off by the control apparatus. When the power supply pattern is selected to a first pattern, the connection loop between the hub dynamo and the power apparatus is turned on by the control apparatus, such that the hub dynamo supplies power to the power apparatus at a first rate.

135. 2853148 SISTEMA DE CARGA Y PROCEDIMIENTO DE CARGA

ES - 15.09.2021

Int.Class B62J 6/01 Appl.No 17162284 Applicant **Giant Manufacturing Co., Ltd.** Inventor HO, Wei-Chieh

Un sistema de carga [200a, 200b], adaptado a una bicicleta [10], comprendiendo el sistema de carga [200a]: un dínamo de buje [210]; un aparato de energía [220]; un sensor [230], adaptado para detectar una condición de marcha de la bicicleta [10]; y un aparato de control [240], acoplado a el dínamo de buje [210], al aparato de energía [220] y al sensor [230], y que selecciona un patrón de suministro de energía del dínamo de buje [210] según las condiciones de marcha de la bicicleta [10], en el que cuando el patrón de suministro de energía del dínamo de buje [210] se selecciona como patrón de parada, el aparato de control [240] desactiva el bucle de conexión entre el dínamo de buje [210] y el aparato de energía [220], y cuando el patrón de suministro de energía del dínamo de buje [210] se selecciona como primer patrón, el aparato de control [240] activa el bucle de conexión entre el dínamo de buje [210] y el aparato de energía [220], de manera que el dínamo de buje [210] suministre energía al aparato de energía [220] a una primera tasa, el sistema de carga caracterizado porque cuando las condiciones de marcha indican que la bicicleta [10] se acelera, el aparato de control [240] selecciona el patrón de suministro de energía del dínamo de buje [210] como patrón de parada; y cuando las condiciones de marcha indican que la bicicleta [10] se desacelera, el aparato de control [240] selecciona el patrón de suministro de energía del dínamo de buje [210] como primer patrón.

136. 2859562 BICICLETA Y ESTRUCTURA DE NEUMÁTICO

ES - 04.10.2021

Int.Class B60C 29/00 Appl.No 19151428 Applicant **Giant Manufacturing Co., Ltd.** Inventor TSENG, Wei-Han

Un conjunto de neumático [100] dispuesto en una llanta [700a], comprendiendo el conjunto de neumático [100]: un cuerpo de neumático [200] que tiene forma de aro y que comprende: una ranura [210] que tiene una abertura de ranura orientada hacia la llanta [700a]; y dos talones [220] dispuestos en dos lados opuestos [410, 420] de la abertura de la ranura [210], respectivamente, estando configurados los dos talones [220] para enganchar con la llanta [700a]; un elemento de sellado flexible [400] conectado al cuerpo de neumático [200] para formar un espacio de inflado [240] con la ranura [210], y comprendiendo el elemento de sellado flexible [400] un agujero pasante [430], una superficie interior [440] orientada hacia el cuerpo de neumático [200], y una superficie exterior [450] orientada en dirección contraria al cuerpo de neumático [200], conectándose el elemento de sellado flexible [400] al cuerpo de neumático [200] antes de disponer el conjunto de neumático [100] en la llanta [700]; y una boquilla [300] dispuesta en el elemento de sellado flexible [400], estando configurada la boquilla [300] para permitir que entre un gas al espacio de inflado [240], comprendiendo la boquilla [300]: una base [310] comprendiendo un agujero roscado [311] o un agujero de holgura, donde el agujero roscado [311] o el agujero de holgura corresponde al agujero pasante [430]; y un vástago de válvula [320], comprendiendo: un extremo de sujeción [321] configurado para inserción en el agujero roscado [311] o el agujero de holgura; y un canal de inflado [322] configurado para permitir que el gas pase a su través; caracterizándose el conjunto de neumático porque: la base [310] está dispuesta en la superficie exterior [450] del elemento de sellado flexible [400]; donde el extremo de sujeción [321] del vástago de válvula [320] sobresale de la superficie interior [440] y el agujero pasante [430] después de insertarse en el agujero roscado [311] o el agujero de holgura de tal manera que el canal de inflado [322] comunique con el espacio de inflado [240].

137. 2019200176 BICYCLE AND TIRE STRUCTURE

AU - 24.01.2019

Int.Class B60C 5/14 Appl.No 2019200176 Applicant **Giant Manufacturing Co. Ltd** Inventor HSU, Che-Wei

A tire structure disposed at a rim is provided. The tire structure includes a tire body, a flexible sealing member and a nozzle. The tire body is ring-shaped and includes a groove and two beads. The flexible sealing member is connected to the tire body to form an inflating space with the groove, and the flexible sealing member includes a through hole. The nozzle is disposed at the flexible sealing member. The nozzle includes a base and a valve stem. The base includes a screw hole and is disposed at a far side of the flexible sealing member. The screw hole corresponds to the through hole. The valve stem includes a fastening end and an inflating channel. The fastening end is configured to insert into the screw hole, and the inflating channel is configured to allow the gas to pass therethrough.

138. 2891765 APPARATUS FOR DETECTING RIDING POSTURE

CA - 13.02.2016

Int.Class B62H 7/00 Appl.No 2891765 Applicant **GIANT MANUFACTURING CO., LTD.** Inventor LIN, CHUNG-WEI

An apparatus for detecting a riding posture is suitable for detecting a riding posture of a rider riding a bicycle. The apparatus for detecting a riding posture includes a sensor and a controller. The sensor is connected to the bicycle to sense a relationship between the rider and the bicycle and output a sensing signal accordingly. The controller receives the sensing signal and determines whether the riding posture of the rider is a sitting posture or a standing posture according to the sensing signal.

139. 2548081 SILLÍN DE BICICLETA

ES - 13.10.2015

Int.Class B62J 1/00 Appl.No 13183937 Applicant **Giant Manufacturing Co., Ltd** Inventor Wu, Chi-Ming

Un sillín de bicicleta, que comprende: Un cuerpo [200] que comprende un tramo de apoyo [210] y una funda de sillín [220], en el que un espacio de deformación [221] está ubicado entre el tramo de apoyo [210] y la funda de sillín [220], Caracterizado por el hecho de que una pluralidad de partículas de relleno llena el espacio de deformación [221], en el que la pluralidad de partículas de relleno se limita en el espacio de deformación [221] y se dispone tal que las partículas en el espacio de deformación [221] se deslizan y mueven bajo presión.

140. 2708455 CYKELSADEL

DK - 02.11.2015

Int.Class B62J 1/00 Appl.No 13183937 Applicant **Giant Manufacturing Co., Ltd** Inventor Wu, Chi-Ming

A bicycle seat includes a deformation space that corresponds to a pressure deformation of a bicycle rider. Wherein, a plurality of filler particles is filled in the deformation space. Therefore, the plurality of filler particles in the deformation space is sliding and rolling under pressure, and the bicycle seat can average support the body of the rider and bring lower friction.

141. 6786498 SHOCK ABSORBING DEVICE FOR A BICYCLE

US - 07.09.2004



Int.Class [B62K 1/00](#) Appl.No 10423934 Applicant Giant Manufacturing Co., Ltd. Inventor Chang, Owen

A shock absorbing device is provided to reduce shock that is transmitted to a handlebar of a bicycle, and includes a damping member disposed between a mount and a leg member and having a damping capacity. A driven member is rotatably mounted on the mount and is turned by a twist actuating member which is in synchronized operation with a brake actuating member of the bicycle. A regulating member is disposed to be actuated, in response to the angular movement of the driven member, to vary the damping capacity of the damping member, thereby enhancing the safety and comfort of the rider when the bicycle is braked.

142. [20030214112](#) BICYCLE HAVING A CRANK MECHANISM FOR ADJUSTING POSITION OF A HANDLE RELATIVE TO A HEAD TUBE US - 20.11.2003

Int.Class [B62K 1/00](#) Appl.No 10234100 Applicant Giant Manufacturing Co., Ltd. Inventor Chou, Joe

A bicycle includes a stem extending downwardly from a handle, and a crank mechanism interconnecting the stem and a head tube. The crank mechanism includes a frame fixed on the head tube, a lever pivoted to a front end of the frame and extending uprightly therefrom, a crank pivoted to the rear end of the frame and extending uprightly therefrom, and a coupler member pivoted to an upper end of the crank and movably connected to an upper end of the lever so as to permit co-movement of the lever, the crank and the coupler member relative to the frame and so as to permit frontward and rearward movement of the handle together with the stem relative to the head tube. A locking unit is selectively and movably connected to two of the frame, the lever, the crank and the coupler member, and is operable between locking and unlocking positions.

143. [6779853](#) SPOKE FASTENER FOR MOUNTING A SPOKE ON A WHEEL RIM US - 24.08.2004

Int.Class [B60B 1/14](#) Appl.No 10429850 Applicant Giant Manufacturing Co. Ltd. Inventor Chang, Owen

A spoke fastener includes a shank extending along a shank axis and having an anchoring portion and an operating portion. The anchoring portion is formed with resilient arm segments that are angularly spaced apart from each other relative to the shank axis. Each of the resilient arm segments has a distal end formed with a radial outward anchor projection to form the anchoring portion with an initial cross-section. The anchor projections are forcible radially and inwardly toward the shank axis to form the anchoring portion with a restricted cross-section, there by permitting extension of the anchoring portion through a spoke fastening hole in a wheel rim and retention of the anchoring portion on the wheel rim. A through hole extends through the operating and anchoring portions, permits extension of a spoke into the shank, and has a threaded segment for threaded engagement with the spoke.

144. [5779323](#) SPOKED WHEEL WITH AERODYNAMIC AND RIGIDITY IMPARTING SPOKES US - 14.07.1998

Int.Class [B60B 1/02](#) Appl.No 08845692 Applicant Giant Manufacturing Co., Ltd. Inventor Burrows Mike

A spoked wheel includes a wheel rim, a wheel hub, and a plurality of spokes that are formed integrally from fiber reinforced plastic and that interconnect the wheel rim and wheel hub. Each spoke has an intermediate portion with a symmetrical oval cross-section, a nub larger than spoke apertures in hub flanges of the wheel hub, and a bend interconnecting the nub and the intermediate portion. The bend changes gradually from the circular cross-section of the nub to the oval cross-section of the intermediate portion. The nub and the bend have abutment faces which contact tightly inclined faces of a corresponding spoke aperture so as to secure the nub and the bend on inner and outer sides of the hub flange. Each spoke further has a foot portion and a transitional portion extending from the intermediate portion and changing gradually from the oval cross-section to an elliptical cross-section of the foot portion. Each of a plurality of washers is disposed between the wheel rim and one of the spokes. Each of a plurality of spoke fasteners extends through the wheel rim and one of the washers, and engages a metal fastener axially embedded in the foot portion of one of the spokes so that the spokes can be placed under tension when connecting the wheel rim to the wheel hub to impart rigidity to the spoked wheel.

145. [6398247](#) BICYCLE HAVING AN EASILY MOUNTABLE REAR CARRIER US - 04.06.2002

Int.Class [B62J 7/04](#) Appl.No 09703805 Applicant Giant Manufacturing Co., Ltd. Inventor Kuo, Chang-Chung

A bicycle includes a frame which has a seat tube, a crossbar, and a tubular connection part connected to and projecting upward from a rear end of the crossbar and sleeved around the seat tube. The tubular connection part has an integral first engagement block. A rack support rod has a front end face extending in a plane transverse to the rack support rod, a rear support portion to support a rack, and a second engagement block connected integrally to the front end face. A mortise-tenon engagement unit is formed in the first and second engagement blocks so as to releaseably interlock the first and second engagement blocks. The second engagement block is slidable relative to the first engagement block along a direction substantially parallel to the plane of the front end face.

146. [6047981](#) SUPPORTING DEVICE FOR A BICYCLE WHEEL US - 11.04.2000

Int.Class [B62K 25/08](#) Appl.No 09027335 Applicant Giant Manufacturing Co., Ltd. Inventor Burrows Mike

A supporting device for a bicycle wheel includes a bicycle frame, a single vertical support tube and restraining unit. The single vertical support tube has upper and lower sections telescoped to one another and a shock-absorbing unit disposed between the upper and lower sections. The upper section is connected to the bicycle frame. The lower section is adapted to carry the bicycle wheel. The restraining unit interconnects the upper and lower sections of the supporting tube and prevents the upper and lower sections of the support tube from rotating about an axis of the support tube with respect to one another.

147. [20100199801](#) AERODYNAMICALLY CONFIGURED HANDLEBAR ASSEMBLY FOR A BICYCLE US - 12.08.2010

Int.Class [B62K 21/12](#) Appl.No 12370349 Applicant GIANT MANUFACTURING CO., LTD. Inventor Huang Hua-Chun

An aerodynamically configured handlebar assembly for use in a bicycle includes a mounting head which has a rear clamping body for clamping an upper end of a steering stem of a bicycle front fork so as to cantilever a front aerodynamic body of the mounting head, a handlebar body which extends laterally from opposite sides of the front aerodynamic body and which has handgrips at leftmost and rightmost ends thereof, and an aerodynamic bracket member which is disposed beneath the front aerodynamic body and which has a rear crosspiece. The crosspiece is secured to a crotch segment of the bicycle front fork by a fastening unit so as to enable the bracket member to better support weight of the cantilevered front aerodynamic body.

148. [2544465](#) SYSTEM FOR MONITORING EXERCISE PERFORMANCE CA - 21.10.2007

Int.Class [A63B 24/00](#) Appl.No 2544465 Applicant GIANT MANUFACTURING CO., LTD. Inventor CHEN, MIN-CHANG

A system adapted for use with an exercise machine for monitoring exercise performance includes: a pulse detecting unit adapted for detecting a pulse of a user; a torque detecting unit adapted to detect a torque exerted by the user; a user interface unit for allowing user input of user-specific parameters and



displaying data to the user; and a control unit electrically coupled to the other elements. The control unit determines a target exercise amount for the user with reference to the pulse, the torque, and the user-specific parameters. The control unit further determines an actual exercise amount during exercise by the user with reference to the torque. The user interface unit displays the target exercise amount through an exercise indicating pattern that is selectively activated according to the actual exercise amount.

149. [20170334514](#) BICYCLE SYSTEM AND AUTOMATIC CONTROL SYSTEM THEREOF

US - 17.12.2019

Int.Class [B62M 6/50](#) Appl.No 15598310 Applicant Giant Manufacturing Co., Ltd. Inventor Min-Chang Chen

An automatic control method suitable for a bicycle system is provided. The bicycle system has a gear ratio and a torque ratio formed by an auxiliary torque and a pedaling torque. The automatic control method includes following steps: sensing a pedaling cadence and the pedaling torque of the bicycle system in a riding state; setting a first cadence threshold and a second cadence threshold according to a preset pedaling cadence while the first cadence threshold is greater than the second cadence threshold; and determining whether the pedaling cadence is greater than the first cadence threshold or less than the second cadence threshold so as to set to increase or decrease the gear ratio. In addition, a bicycle system suitable for the automatic control method is also provided.

150. [20170240235](#) BICYCLE SEAT

US - 24.08.2017

Int.Class [B62J 1/26](#) Appl.No 15592040 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chi-Ming Wu

A bicycle seat includes a deformation space that corresponds to a pressure deformation of a bicycle rider. Wherein, a plurality of filler particles is filled in the deformation space. Therefore, the plurality of filler particles in the deformation space is sliding and rolling under pressure, and the bicycle seat can average support the body of the rider and bring lower friction.

151. [10201407426V](#) LOCKING APPARATUS FOR BICYCLE

SG - 30.07.2015

Int.Class [B63H 5/00](#) Appl.No 10201407426V Applicant GIANT MANUFACTURING CO., LTD. Inventor Mu-Tsun CHEN

13 LOCKING APPARATUS FOR BICYCLE ABSTRACT A locking apparatus for a bicycle is provided. The locking apparatus is for locking with a public bicycle station and includes a body, a locking portion and a controlling portion. The body is connected to the bicycle. The locking portion is located on one side of the body and includes a rotating unit, a locking member and an ejecting member. The rotating unit includes a locking groove, wherein a locking head can be inserted into the locking groove, and the rotating unit is rotated between a first position and a second position. When the rotating unit is located at the first position, the ejecting member is corresponded to the locking member and is ejected from the locking groove. The controlling portion is located on the other side of the body and includes an operating unit rotatably coupled to the rotating unit. FIG. 2

152. [2013228007](#) BICYCLE SEAT

AU - 26.09.2013

Int.Class [B62J 1/26](#) Appl.No 2013228007 Applicant GIANT MANUFACTURING CO. LTD Inventor HSU, Che-Wei

A bicycle seat includes a deformation space that corresponds to a pressure deformation of a bicycle rider. Wherein, a plurality of filler particles is filled in the deformation space. Therefore, the plurality of filler particles in the deformation space is sliding and rolling under pressure, and the bicycle seat can average support the body of the rider and bring lower friction.

153. [6129645](#) CHAIN TENSION ADJUSTMENT ASSEMBLY FOR A BICYCLE

US - 10.10.2000

Int.Class [F16H 7/14](#) Appl.No 09298780 Applicant Giant Manufacturing Co., Ltd. Inventor Burrows Mike

A bicycle chain tension adjustment assembly includes a clamping member and a clamped member. The clamping member is attached to a rear bracket in which a rear shaft of a rear wheel hub of a bicycle is mounted, and has left and right ends and an inner annular wall with an annular cam surface of an adjustable dimension so as to be placed at tightening and loosening positions. The clamped member extends rightwardly of the right end of the rear shaft, and has a peripheral wall with an axis that is offset from the axis of the rear shaft to mate with the annular cam surface when the annular cam surface is in the tightening position.

154. [20040075333](#) WHEEL ASSEMBLY WITH SPOKE-COVERING MEMBERS

US - 22.04.2004

Int.Class [B60B 7/14](#) Appl.No 10274984 Applicant Giant Manufacturing Co., Ltd. Inventor Shih, Steven

A wheel assembly includes a wheel rim, a hub radially spaced from the wheel rim, a plurality of spoke units interconnecting the hub and the wheel rim. Left and right spoke-covering members are mounted respectively on left and right ends of the hub and abutting against and cooperating with each other to confine a spoke-receiving space for receiving the spoke units. Each of the spoke-covering members has a central portion extending radially from the hub, and a plurality of equi-angularly spaced apart blade portions extending radially from the central portion of each of the left and right spoke-covering members to the wheel rim. A fastener fastens the spoke-covering members to prevent removal of the same from the hub and the wheel rim.

155. [20050285367](#) BICYCLE REAR SUSPENSION SYSTEM

US - 29.12.2005

Int.Class [B62K 25/04](#) Appl.No 10878542 Applicant Giant Manufacturing Co., Ltd. Inventor Chang Owen

A bicycle rear suspension system has a virtual pivot point that is close to a junction between a chain and a front driving sprocket when a piston rod travels relative to a cylinder body by $\frac{1}{4}$ to $\frac{1}{2}$ of a maximum displacement value, and that moves rearwardly when a rear wheel moves upwardly away from the ground. A line interconnecting an instant center of a rear triangular frame and a contacting point between a rear wheel and the ground forms an angle of about 45° with respect to a horizontal line.

156. [20070063477](#) BICYCLE FRAME PART HAVING A DISPROPORTIONALLY ENLARGED END SECTION AND PROCESS FOR MAKING THE SAME

US - 22.03.2007

Int.Class [B62K 19/00](#) Appl.No 11527753 Applicant Giant Manufacturing Co., Ltd. Inventor Wu K. U.

A bicycle frame part having a disproportionately enlarged end section and a method for making the same. The tube may be used as a bicycle frame part, and it may include a first section having a thickness, a second section configured to be forged from a first shape having a thickness that is different from the



thickness of the first section to a second shape having a thickness that is less than the thickness of the first shape. The second shape of the second section may be proportionally enlarged relative to the first shape of the second section.

157. [7779970](#) BRAKE ASSEMBLY AND A BRAKE SHOE THEREOF FOR A BICYCLE

US - 24.08.2010

Int.Class [B62L 1/00](#) Appl.No 12469817 Applicant Giant Manufacturing Co., Ltd. Inventor Huang Chin-Lai

A brake assembly for braking a wheel of a bicycle includes left and right brake arms and left and right brake shoes. Each brake shoe includes a holder mounted to the respective brake arm, a pad unit mounted on the holder and having a friction surface that is brought to frictionally engage a rim side of a wheel rim of the wheel, and a magnetically attracting unit mounted on the holder for establishing a magnetic field such that, in the course of a braking action, the strength of the established magnetic field is gradually increased to be of a magnitude sufficient to generate a dragging force to decelerate the running speed of the wheel rim until the friction surface frictionally engages the rim side.

158. [20160101926](#) BICYCLE HELMET PACKAGING BOX

US - 14.04.2016

Int.Class [A45C 11/02](#) Appl.No 14581856 Applicant GIANT MANUFACTURING CO., LTD. Inventor Jian-Lin Tseng

A bicycle helmet packaging box includes a box body including a top wall, a bottom wall and a peripheral wall connected between the top wall and the bottom wall, and an accommodation chamber surrounded by the peripheral wall for accommodating a bicycle helmet in an upright position with a top portion thereof facing toward the top wall. The box body defines an imaginary axis that extends substantially perpendicular to the top wall and the bottom wall. The peripheral wall includes a door panel turnable about the imaginary axis. The box body has a side opening selectively closable by the door panel and adapted for the passing of the bicycle helmet to access to the accommodation chamber. The user can conveniently take the bicycle helmet out of the bicycle helmet packaging box, or put it back to the inside of the bicycle helmet packaging box.

159. [2876286](#) PROCEDIMIENTO DE CAMBIO DE VELOCIDAD DE BICICLETA

ES - 12.11.2021

Int.Class [B62M 25/08](#) Appl.No 17200620 Applicant Giant Manufacturing Co., Ltd. Inventor LIN, Chung-Wei

Un procedimiento de cambio de velocidad de bicicleta, adecuado para controlar una relación de marcha de una bicicleta [100], la bicicleta [100] tiene una cadena [110], una pluralidad de anillos de cadena delanteros [120], una pluralidad de anillos de cadena traseros [130], un desviador electrónico delantero [140], un desviador electrónico trasero [150], un controlador [160] y un interruptor de control [170], la cadena [110] es accionada por el desviador electrónico delantero [140] para moverse hacia adelante y hacia atrás entre los anillos de cadena delanteros [120] y es accionada por el desviador electrónico trasero [150] para moverse hacia atrás y hacia adelante entre los anillos de cadena traseros [130], y el controlador [160] almacena una tabla de relación de marcha, el procedimiento de cambio de velocidad de bicicleta comprende: activar el interruptor de control [170] para generar una señal correspondiente; y controlar el desviador electrónico delantero [140] y el desviador electrónico trasero [150] por medio del controlador [160] de acuerdo con la señal, si la señal es una señal de aumento de velocidad, el controlador [160] controla el desviador electrónico delantero [140] y el desviador electrónico trasero [150] para mover la cadena [110] de uno de los anillos de cadena traseros [130] a otro de los anillos de cadena traseros [130] a lo largo de una trayectoria de aumento de velocidad [P1] de la tabla de relación de marcha para aumentar la relación de marcha y controla el desviador electrónico delantero [140] para desplazar la cadena [110] de uno de los anillos de cadena delanteros [120] a otro de los anillos de cadena delanteros [120] en un primer punto de conmutación [C1] de la trayectoria de aumento de velocidad [P1], si la señal es una señal de reducción de la labor física, el controlador [160] controla el desviador electrónico delantero [140] y el desviador electrónico trasero [150] para mover la cadena [110] de uno de los anillos de cadena traseros [130] a otro de los anillos de cadena traseros [130] a lo largo de una trayectoria de reducción de la labor física [P2] de la tabla de relación de marcha para reducir la relación de marcha y controla el desviador electrónico delantero [140] para desplazar la cadena [110] de uno de los anillos de cadena delanteros [120] a otro de los anillos de cadena delanteros [120] en un segundo punto de conmutación [C2] de la trayectoria de reducción de la labor física [P2], en el que el primer punto de conmutación [C1] es diferente del segundo punto de conmutación [C2], y el desviador electrónico delantero [140] y el desviador electrónico trasero [150] se inician simultáneamente en el primer punto de conmutación [C1] o el segundo punto de conmutación [C2], en el que en el primer punto de conmutación [C1], el desviador electrónico delantero [140] y el desviador electrónico trasero [150] se inician simultáneamente, el desviador electrónico delantero [140] mueve la cadena [110] de uno de los anillos de cadena delanteros [120] a otro de los anillos de cadena delanteros [120] en un primer tiempo [T1] y el desviador electrónico trasero [150] mueve la cadena [110] de uno de los anillos de cadena traseros [130] a otro de los anillos de cadena traseros [130] en un segundo tiempo [T2], en el que en el segundo punto de conmutación [C2], el desviador electrónico delantero [140] y el desviador electrónico trasero [150] se inician simultáneamente, el desviador electrónico delantero [140] mueve la cadena [110] de uno de los anillos de cadena delanteros [120] a otro de los anillos de cadena delanteros [120] en un tercer tiempo [T3] y el desviador electrónico trasero [150] mueve la cadena [110] de uno de los anillos de cadena traseros [130] a otro de los anillos de cadena traseros [130] en un cuarto tiempo [T4], caracterizado porque el primer tiempo [T1] es más largo que el segundo tiempo [T2], y el tercer tiempo [T3] es más corto que el cuarto tiempo [T4].

160. [20180127059](#) SPEED-CHANGING METHOD OF BICYCLE

US - 10.05.2018

Int.Class [B62M 25/08](#) Appl.No 15806276 Applicant Giant Manufacturing Co., Ltd. Inventor Chung-Wei Lin

A speed-changing method of bicycle suitable for controlling a gear ratio of a bicycle is provided. The bicycle has a front electronic derailleur, a rear electronic derailleur, a controller, and a controlling switch. The controller stores a gear-ratio table. The speed-changing method of bicycle includes the following steps. The controlling switch is triggered to generate a speed-increasing signal or a laborsaving signal. The controller controls the front and rear electronic derailleurs according to the speed-increasing signal or the laborsaving signal to increase the gear ratio along a speed-increasing path of the gear-ratio table or decrease the gear ratio along a laborsaving path of the gear-ratio table respectively. On the other hand, the front and rear electronic derailleurs are started simultaneously at a first switch point of the speed-increasing path or a second switch point of the laborsaving path, and the first switch point is different from the second switch point.

161. [20210048360](#) BICYCLE AND SPIDER CAPABLE OF MEASURING POWER

US - 18.02.2021

Int.Class [G01L 5/00](#) Appl.No 16542404 Applicant Giant Manufacturing Co. Ltd. Inventor Chih-Kai Chang

A bicycle has a spider including a torque input section and at least one torque output section; a crank assembly coupled with the spider through the torque input section and applying an input torque to the spider; a chainring mounted to the spider through the at least one torque output section and receiving an output torque from the spider; a gauge disposed and oriented generally along a tangential direction or a quasi-tangential direction with respect to the torque input section and the at least one torque output section; and a circuitry coupled to the gauge and receiving a signal from the gauge.

162. [5855410](#) ANGULAR POSITION TRANSFORMING DEVICE FOR A BICYCLE SADDLE

US - 05.01.1999

Int.Class [B62J 1/00](#) Appl.No 09087004 Applicant Giant Manufacturing Co., Ltd. Inventor Lin Ming-Shyang

An angular position transforming device shifts a bicycle saddle relative to a seat post which has front and rear upright portions, and an anchoring head portion connected to the front and rear upright portions and having two opposite anchoring walls and a sliding wall joining transversely the anchoring walls. The device includes a support frame having right and left lug portions fixed to a rear portion of the saddle about a first pivot, and a front seat portion with an



upper support wall, a releasably retaining device to retain angular positions of the lug portions on the anchoring portion between a position of use, and a lifted position. A detent lever includes a fulcrum pivoted under the upper support wall of the front seat portion around a second pivot parallel to the first pivot, an actuating arm extending outwardly of the upper support wall so as to be operated manually, and a catch arm disposed at an opposite side of the actuating arm relative to the fulcrum portion for engaging releasably the front upright portion when the lug portions are in the position of use.

163. [5779253](#) MOUNTING DEVICE FOR MOUNTING ADJUSTABLY A HANDLEBAR ON A HEAD TUBE OF A BICYCLE US - 14.07.1998
Int.Class [B62K 21/24](#) Appl.No 08709194 Applicant Giant Manufacturing Co., Ltd. Inventor Lee Kun-Ho

A mounting device is used to mount a handlebar on a head tube of a bicycle and includes a positioning member which is adapted to be mounted on the head tube and a holding member which includes complementary first and second holding arms. Each holding arm has a pivot end portion, a gripping end portion and an abutment face which extends between the pivot and gripping end portions. The pivot end portion of each of the holding arms is mounted pivotally on the positioning member. The gripping end portion of each of the holding arms is formed with a grip section with an axis that is parallel to an axis of the pivot hole. The grip sections of the holding arms are adapted to grip fittingly the handlebar therebetween. The abutment faces of the holding arms are complementary and are formed as twisted faces that abut against each other. A first fastener extends through the pivot end portion of each of the holding arms and the positioning member to mount the holding member onto the positioning member. A second fastener extends through the holding arms on one side of the grip section to secure the holding member on the handlebar.

164. [7419034](#) V-TYPE BRAKE US - 02.09.2008
Int.Class [B62L 3/00](#) Appl.No 11808837 Applicant Giant Manufacturing Co., Ltd. Inventor Wu Leo

A V-type brake is adapted to slow down or stop a wheel, and includes a pair of first and second brake arms, a brake cable assembly connected to a free end of the second brake arm, and a linkage. The linkage is connected pivotally to a free end of the first brake arm, and is interconnected between the free end of the first brake arm and the brake cable assembly in such a manner that the linkage is in a folded state. The linkage is operable to unfold so as to pivot the free ends of the first and second brake arms away from each other, thereby increasing the distance between brake shoes on the first and second brake arms for removal or remounting of the wheel.

165. [20190358996](#) WEAR-RESISTANT LAYER STRUCTURE OF BRAKING TRACK AND REINFORCED PREPREG THEREOF US - 28.11.2019
Int.Class [B60B 21/08](#) Appl.No 16420177 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chih-Kai CHANG

A reinforced prepreg which is applied to a wear-resistant layer structure of a braking track is provided. The reinforced prepreg includes a fiber fabric and a mixture mixed with the fiber fabric. The mixture includes a resin and a plurality of needle-shaped crystals having microscale or nanoscale sizes mixed with the resin.

166. [2880433](#) DISPOSITIVO DE MEDICIÓN Y PROCEDIMIENTO DE MEDICIÓN DE ÁNGULO DE PLANO DE PEDAL DE BICICLETA ES - 24.11.2021

Int.Class [B62M 3/00](#) Appl.No 17163567 Applicant Giant Manufacturing Co., Ltd. Inventor SHEN, Chih-Hsiang

Un dispositivo de medición de un ángulo de plano de pedal de una bicicleta, que está configurado para conectarse de manera pivotante a un mandril [13] de la bicicleta, comprendiendo dicho dispositivo de medición: un cuerpo [10] de pedal, que comprende una porción [15] pivotante para su conexión de manera pivotante al mandril [13], un plano [12] de pedal, una cámara [11] de alojamiento y una ranura [14] de batería; una unidad [20] de detección de ángulo, dispuesta en la cámara [11] de alojamiento; y una unidad central de procesamiento [CPU] [30], conectada de manera eléctrica a la unidad [20] de detección de ángulo; en el que la unidad [20] de detección de ángulo está configurada para detectar un ángulo del cuerpo [10] de pedal y enviar una señal de detección de ángulo; estando configurada la CPU [30] para analizar la señal de detección de ángulo y obtener datos de ángulo del cuerpo [10] de pedal con relación a un ángulo de un plano de referencia, caracterizado por que el mandril [13] y la ranura [14] de batería están dispuestos entre el plano [12] de pedal y la cámara [11] de alojamiento.

167. [20180036572](#) MAGNETO-RHEOLOGICAL FLUID ROTARY RESISTANCE DEVICE US - 08.02.2018
Int.Class [F16F 9/53](#) Appl.No 15608504 Applicant GIANT MANUFACTURING CO., LTD. Inventor Hsaio-Wen Hsu

A resistance device applied to relative rotations between a flywheel and an axis includes an inner stator, an outer rotor, a conductive wire and a magneto-rheological fluid. The inner stator is fixedly joined with the axis and includes an accommodating space surrounding the axis at a position away from the axis. The outer rotor, fixedly joined with the flywheel, encloses and rotates relative to the inner stator. An accommodating gap is formed between the outer rotor and the inner stator at a position away from the axis. The conductive wire is wound in the accommodating space, and generates a magnetic line passing the accommodating gap when applied by an electric current. The magneto-rheological fluid is filled in the accommodating gap. Thus, the outer rotor is disposed at the outer most region of the resistance device to increase the braking torque, and the magneto-rheological fluid is away from the axis to increase the braking moment.

168. [2017221795](#) ADJUSTABLE SEAT TUBE STRUCTURE AND BICYCLE AU - 14.09.2017
Int.Class [B62J 1/06](#) Appl.No 2017221795 Applicant GIANT MANUFACTURING CO., LTD Inventor HSU, Che-Wei

An adjustable seat tube structure which is for adjusting a height of a saddle for a bicycle includes a lower tube, an upper tube and a piston set. The lower tube includes a top end. The upper tube is disposed at the lower tube and is limitedly moved relative to the lower tube. The upper tube is linked with the saddle and includes an upper end, an inner space, and a lower end. The upper end is protruded out of the top end, and the inner space is for receiving a gas. The lower end is corresponded to the upper end. The piston set includes a piston, a valve and a rod. The piston is disposed inside the inner space, and the lower end is moved relative to the piston. The valve is disposed inside the piston and the rod is connected to the piston.

169. [2891545](#) APARATO DE BIELA, BICICLETA Y BICICLETA DE EJERCICIO ESTÁTICA ES - 28.01.2022
Int.Class [B62M 3/00](#) Appl.No 18215177 Applicant Giant Manufacturing Co., Ltd. Inventor Lin, Chung-Wei

Un aparato de biela [100, 100A, 200, 200A, 200B], que comprende: un brazo de biela [110, 110A, 210, 210A, 210B], que tiene al menos una cavidad [111, 211, 211A] en una de las superficies [115, 116] del brazo de biela [110, 110A, 210, 210A, 210B]; al menos una capa delgada de material [120, 220, 220A, 220B] que tiene una superficie exterior expuesta [122, 222, 222A, 222B], una superficie incrustada [126] dispuesta SOBRE otra superficie de la al menos una capa delgada de material [120, 220, 220A, 220B] relativamente alejada de la superficie exterior expues- ta [122, 222, 222A, 222B], y una pluralidad de superficies laterales [128] conectadas respectivamente entre la superficie exterior expuesta [122, 222, 222A, 222B] y la superficie incrustada [126]; y al

menos un elemento sensor [130, 230, 230A1, 230A2, 230A3, 230A4, 230B1, 230B2, 230B3, 230B4]; en el que el brazo de biela [110, 110A, 210, 210A, 210B] está fabricado con un material que tiene una característica de deformación no uniforme, la al menos una capa delgada de material [120, 220, 220A, 220B] está fabricada con un material que tiene una característica de deformación uniforme, el brazo de biela [110, 110A, 210, 210A, 210B] está adaptado para ser sometido a una fuerza y ser deformado, la al menos una capa delgada de material [120, 220, 220A, 220B] está adaptada para ser deformada en correspondencia con la deformación del brazo de biela [110, 110A, 210, 210A, 210B], y el al menos un elemento sensor [130, 230, 230A1, 230A2, 230A3, 230A4, 230B1, 230B2, 230B3, 230B4] está adaptado para medir la tensión correspondiente de la al menos una capa delgada de material [120, 220, 220A, 220B] causada por una fuerza aplicada al brazo de biela [110, 110A, 210, 210A, 210B]; caracterizado porque la al menos una cavidad [111, 211, 211A] del brazo de biela [110, 110A, 210, 210A, 210B] comprende una pluralidad de paredes salientes [112] que bloquean respectivamente una parte de la al menos una cavidad [111, 211, 211A] y cubren al menos un borde [124] de la al menos una capa delgada de material [120, 220, 220A, 220B] de tal manera que el movimiento de la al menos una capa delgada de material [120, 220, 220A, 220B] a lo largo de tres direcciones axiales ortogonales cualesquiera en el brazo de biela [110, 110A, 210, 210A, 210B] está limitado por la pluralidad de paredes salientes [112] y la al menos una capa delgada de material [120, 220, 220A, 220B] está sujeta y firmemente incrustada en la al menos una cavidad [111, 211, 211A] por la pluralidad de paredes salientes [112], en el que el al menos un elemento sensor [130, 230, 230A1, 230A2, 230A3, 230A4, 230B1, 230B2, 230B3, 230B4] está unido a la superficie exterior expuesta [122, 222, 222A, 222B] de la al menos una capa delgada de material [120, 220, 220A, 220B].

170. [20170296896](#) MEASURING DEVICE AND MEASURING METHOD FOR PEDAL PLANE ANGLE OF BICYCLE US - 19.10.2017

Int.Class [A63B 69/16](#) Appl.No 15475936 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chih-Hsiang Shen

A measuring device for a pedal plane angle of a bicycle includes a pedal body, an angle sensing unit and a central processing unit (CPU). The angle sensing unit is disposed in an accommodating chamber of the pedal body, and senses an angle of the pedal body to send an angle sensing signal. The CPU analyzes the angle sensing signal to obtain angle data of the pedal body relative to an angle of a reference plane to accordingly learn an angle relationship between the pedal body and the reference plane. The angle relationship may coordinate with other sensing units, for example, data of a pedaling force sensing unit to mutually correct and analyze the data, so as to obtain correct pedaling force information. With the angle data, whether a pedaling angle of a rider is correct can be learned to prevent sports injuries caused by incorrect pedaling angles.

171. [2712056](#) DISPOSITIVO DE FRENO DE DISCO HIDRÁULICO PARA UNA BICICLETA ES - 09.05.2019

Int.Class [B62K 21/00](#) Appl.No 16198530 Applicant Giant Manufacturing Co., Ltd Inventor Chen, I-Teh

172. [2016256815](#) HYDRAULIC DISC BRAKE DEVICE FOR A BICYCLE AU - 24.11.2016

Int.Class [B62L 3/02](#) Appl.No 2016256815 Applicant GIANT MANUFACTURING CO., LTD Inventor

A hydraulic disc brake device includes a cover, a hydraulic unit, an oil tube and a disc brake unit. The cover includes at least one accommodating space, at least one oil route, a proximal end and a distal end. The distal end towards a moving direction of the bicycle. The hydraulic unit includes a hydraulic cylinder and a piston. The hydraulic cylinder is assembled in the accommodating space. The piston is assembled in the hydraulic cylinder for controlling a pressure of the oil route. The disc brake unit is connected with the oil tube and controlled by a pressure of the oil tube.

173. [20190201736](#) CRANK APPARATUS, BICYCLE AND STATIONARY EXERCISE BICYCLE US - 04.07.2019

Int.Class [A63B 21/00](#) Appl.No 16226679 Applicant Giant Manufacturing Co., Ltd. Inventor Chung-Wei Lin

A crank apparatus includes a crank arm having at least one cavity on one of the surfaces of the crank arm, at least one thin material layer embedded within the at least one cavity and having an exposed outer surface, and at least one sensing element attached to the outer surface of the thin material layer. The crank arm is manufactured of a material with non-uniform strain characteristics, the thin material layer is manufactured of a material with uniform strain characteristics, the crank arm is adapted to be deformed by a force, the thin material layer is adapted to be deformed correspondingly with the deformation of the crank arm, the at least one sensing element is adapted to measure the corresponding strain of the thin material layer to measure the force applied on the crank arm. A bicycle and a stationary exercise bicycle equipped with the crank apparatus are further provided.

174. [2820349](#) DISPOSITIVO DE RESISTENCIA ROTATORIO CON FLUIDO MAGNETORREOLÓGICO ES - 20.04.2021

Int.Class [A63B 21/008](#) Appl.No 17172392 Applicant Giant Manufacturing Co., Ltd. Inventor HSU, Hsiao-Wen

Un dispositivo de resistencia rotatorio con fluido magnetorreológico, para frenar una rotación relativa entre un volante y un eje [20], que comprende un estator interior [30], un rotor exterior [40], una línea conductora [50] y un fluido magnetorreológico [60], en el que el estator interior [30] está unido de manera fija con el eje [20] y está provisto de un espacio de alojamiento [31] que rodea el eje [20] en una posición alejada del eje [20], el rotor exterior [40] está unido de manera fija con el volante, que encierra el estator interior [30] que está configurado para rotar con respecto al estator interior [30], y la línea conductora [50] está bobinada dentro del espacio de alojamiento [31], caracterizado porque un espacio de alojamiento [70] está formado entre el rotor exterior [40] y el estator interior [30] en una posición alejada del eje [20] y el fluido magnetorreológico [60] es introducido en el espacio de alojamiento [70] sin entrar en contacto con la línea conductora [50], en el que la línea conductora [50] genera una línea magnética [51], que atraviesa el espacio de alojamiento [70], cuando es alimentada por una corriente eléctrica y el fluido magnetorreológico [60] bajo la influencia de la línea magnética [51] genera un efecto viscoso, y en el que el espacio de alojamiento [31] está provisto de una abertura [35] en comunicación con el espacio de alojamiento [70] en una dirección alejada del eje [20] y una placa magnética deflectora [80] está dispuesta en la abertura [35] para sellar la abertura [35].

175. [2977784](#) ADJUSTABLE SEAT TUBE STRUCTURE AND BICYCLE CA - 28.02.2018

Int.Class [B62J 1/08](#) Appl.No 2977784 Applicant GIANT MANUFACTURING CO., LTD. Inventor JHOU, SHU-YU

An adjustable seat tube structure which is for adjusting a height of a saddle for a bicycle includes a lower tube, an upper tube and a piston set. The lower tube includes a top end. The upper tube is disposed at the lower tube and is limitedly moved relative to the lower tube. The upper tube is linked with the saddle and includes an upper end, an inner space, and a lower end. The upper end is protruded out of the top end, and the inner space is for receiving a gas. The lower end is corresponded to the upper end. The piston set includes a piston, a valve and a rod. The piston is disposed inside the inner space, and the lower end is moved relative to the piston. The valve is disposed inside the piston and the rod is connected to the piston.

176. [6394479](#) FOLDABLE FRAME FOR A BICYCLE US - 28.05.2002

Int.Class [B62K 15/00](#) Appl.No 09634266 Applicant Giant Manufacturing Co., Ltd. Inventor Liu, Shao-Chieh

A frame for a bicycle includes first and second frame halves disposed one behind another. A pivot member interconnects pivotally connecting end portions of the first and second frame halves to permit relative rotation between the first and second frame halves. A locking device locks the first and second frame halves on each other, thereby preventing relative rotation therebetween. The connecting end portion of the first frame half has a vertical end surface that is perpendicular to a longitudinal direction of the bicycle, an integral upper lateral projection, and an integral lower lateral projection that is located under the upper lateral projection to define a recess therebetween. The connecting end portion of the second frame half has a vertical end surface which is perpendicular to the longitudinal direction and which abuts against the vertical end surface of the first frame half so as to prevent relative movement between the first and second frame halves in the longitudinal direction. The end surface of the second frame half is formed with an integral tongue which engages the recess in the first frame half to prevent relative vertical movement between the first and second frame halves.

177. [20040144152](#) METHODS FOR MAKING A BICYCLE FRAME PART HAVING A DISPROPORTIONALLY ENLARGED END SECTION US - 29.07.2004

Int.Class [B21D 39/08](#) Appl.No 10756367 Applicant Giant Manufacturing Co., Ltd. Inventor Wu K. U.

A bicycle frame part having a disproportionately enlarged end section and a method for making the same. The method may include disproportionately enlarging an end section of an aluminum alloy tube of a bicycle frame part includes the steps of (a) drawing the tube to form a thin section and a thick end section, (b) radially and proportionally enlarging the cross-section of the thick end section of the tube by forging the tube in such a manner that the wall thickness of the thick end section after being enlarged is substantially the same as that of the thin section, and (c) disproportionately varying the cross-section of the thick end section of the tube by forging the tube obtained in step (b).

178. [2012203171](#) BICYCLE FITTING METHOD FOR PRODUCING BICYCLE, BICYCLE FITTING SYSTEM AND COMPUTER PROGRAM PRODUCT AU - 14.06.2012

Int.Class [A63B 71/00](#) Appl.No 2012203171 Applicant Giant Manufacturing Co., Ltd. Inventor Chen, Chien-Hung

A bicycle fitting method for producing a bicycle is provided. The method includes the steps of receiving [S101] a bicycle riding information and a body measurement corresponding to a cyclist. According to the bicycle riding information, a bicycle model is provided [S105]. According to the body measurement and the selected bicycle model, a bicycle frame size and a set of bicycle geometric adjustment parameters are provided [S11]. According to the bicycle model, the bicycle frame size, and the set of bicycle geometric adjustment parameters, a bicycle which fits the cyclist is produced [S15]. Receive a bicycle riding information and a body measurement corresponding to a cyclist S101 Provide a bicycle frame size and a set of bicycle geometric adjustment parameters according S11, to the body measurement and the selected bicycle model Produce a bicycle which fits the cyclist according to the bicycle model, the bicycle frame S115 size, and the set of calculated bicycle geometric adjustment parameter

179. [2015200112](#) BICYCLE FITTING METHOD FOR PRODUCING BICYCLE, BICYCLE FITTING SYSTEM AND COMPUTER PROGRAM PRODUCT AU - 05.02.2015

Int.Class [A63B 71/00](#) Appl.No 2015200112 Applicant Giant Manufacturing Co., Ltd. Inventor Chen, Chien-Hung

A bicycle fitting method for producing a bicycle is provided. The method includes the steps of receiving [S101] a bicycle riding information and a body measurement corresponding to a cyclist. According to the bicycle riding information, a bicycle model is provided [S105]. According to the body measurement and the selected bicycle model, a bicycle frame size and a set of bicycle geometric adjustment parameters are provided [S11]. According to the bicycle model, the bicycle frame size, and the set of bicycle geometric adjustment parameters, a bicycle which fits the cyclist is produced [S15].

180. [107054525](#) BICYCLE FITTING PRODUCING METHOD, BICYCLE FITTING SYSTEM AND BICYCLE MODEL PROVIDING METHOD AND SYSTEM CN - 18.08.2017

Int.Class [B62K 3/02](#) Appl.No 102016000969613 Applicant GIANT MANUFACTURING CO LTD Inventor CHEN CHIEN-HUNG

A bicycle fitting producing method, a bicycle fitting system, and a bicycle model providing method and system are provided. The method includes the steps of receiving a bicycle riding information and a body measurement corresponding to a cyclist. According to the bicycle riding information, a bicycle model is provided. According to the body measurement and the selected bicycle model, a bicycle frame size and a set of bicycle geometric adjustment parameters are provided. According to the bicycle model, the bicycle frame size, and the set of bicycle geometric adjustment parameters, a bicycle which fits the cyclist is produced. According to the invention, a special bicycle which fits a cyclist most can be produced quickly.

181. [2612167](#) MÉTODO DE ADAPTACIÓN DE BICICLETA PARA PRODUCIR UNA BICICLETA, SISTEMA DE ADAPTACIÓN DE BICICLETA Y PRODUCTO DE PROGRAMA DE ORDENADOR ES - 12.05.2017

Int.Class [B62K 19/00](#) Appl.No 12169767 Applicant Giant Manufacturing Co., Ltd Inventor Chen, Chien-Hung

182. [5072930](#) LOAD APPLYING DEVICE FOR AN EXERCISE BICYCLE US - 17.12.1991

Int.Class [A63B 21/005](#) Appl.No 07488673 Applicant Giant Manufacturing Co., Ltd. Inventor Sun Paul

A device for applying a load to a rotating shaft of an exercise bicycle which receives the load. A rotor, which is to be rotated by the rotating shaft of the exercise bicycle, is rotatably mounted by a bearing to a fixed main shaft of the load applying device. The rotor is a tubular magnetic conductor having a closed end, and an open end and a cylindrical wall. An electromagnet includes a first and a second disk coaxially fixed to the main shaft and sleeved by the cylindrical wall of the rotor. The first and second disks respectively serve as a first and a second pole in a magnetic field created by the electromagnet. An annular exciting coil is fixed between the first and second disks. Each of the first and second disks has radially projecting teeth extending from the periphery thereof but not in contact with the cylindrical wall of the rotor. A closed magnetic flux in the magnetic field of the electromagnet passes through the first and second poles of the electromagnet and the cylindrical wall of the rotor. When the rotor is rotated, the rotor cuts the magnetic field and thereby produces an induced eddy current, causing an eddy current brake effect to the rotor.

183. [2016269517](#) WHEEL RIM AND METHOD OF MANUFACTURING THE SAME AU - 22.12.2016

Int.Class [B60B 21/08](#) Appl.No 2016269517 Applicant GIANT MANUFACTURING CO., LTD Inventor

A wheel rim includes a rim body, two firm tracks, and a plurality of hollow anti-thermal unit. The two firm tracks were mounted on two sides of the rim body, and these hollow anti-thermal units are spread in two firm tracks. The hollow anti-thermal unit can reduce transfer rate of the thermal when braking a car.

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184. [20170166005](#) WHEEL RIM AND METHOD OF MANUFACTURING THE SAME

US - 15.06.2017

Int.Class [B60B 21/08](#) Appl.No 15373381 Applicant GIANT MANUFACTURING CO., LTD. Inventor Wei-Cheng LIN

A wheel rim includes a rim body, two firm tracks, and a plurality of hollow anti-thermal unit. The two firm tracks were mounted on two sides of the rim body, and these hollow anti-thermal units are spread in two firm tracks. The hollow anti-thermal unit can reduce transfer rate of the thermal when braking a car.

185. [2704145](#) LLANTAS DE RUEDA Y PROCEDIMIENTO DE FABRICACIÓN DE LA MISMA

ES - 14.03.2019

Int.Class [B60B 21/08](#) Appl.No 16203313 Applicant Giant Manufacturing Co., Ltd Inventor Lin, Wei-Cheng

Una llanta [100] dispuesta en uso entre dos elementos de frenado correspondientes, que comprende: un cuerpo de la llanta [110] que adopta un material compuesto de fibra de carbono; caracterizado por una pluralidad de unidades anti-térmicas huecas [130] que se extienden en dos superficies del cuerpo de la llanta [110] correspondientes a los dos elementos de frenado.

186. [107031282](#) WHEEL RIM AND METHOD OF MANUFACTURING THE SAME

CN - 11.08.2017

Int.Class [B60B 21/02](#) Appl.No 201611124235.7 Applicant GIANT MANUFACTURING CO., LTD. Inventor LIN WEI-CHENG

A wheel rim [100] includes a rim body and a plurality of hollow anti-thermal units [130]. The rim body [110] adopts a carbon fiber composite material. The hollow anti-thermal units [130] are spread in two surfaces of the rim body [110] corresponding to two braking elements. The hollow anti-thermal units [130] can reduce transfer rate of the thermal when braking a car.

187. [4902160](#) JOINT FOR A BICYCLE FRAME

US - 20.02.1990

Int.Class [B62K 19/00](#) Appl.No 07309876 Applicant Giant Manufacturing Co., Ltd. Inventor Jeng Tom

A joint is used for a bicycle frame. The joint includes a composite material first tubular member, and a metal second tubular member fitting having a laterally extending insertion portion. A coating is made of the same composite material as that of the first tubular member and is applied to the entire fitting, except for the end portion of the insertion portion. The first member is sleeved on and adhered to the end portion of the insertion portion and contacts the coating. The abutting surfaces of the coating and the first member are of the same outer and inner diameters so that the joint looks like a unitary composite material frame.

188. [2015202008](#) DISTINGUISHING SYSTEM FOR SADDLE CONTACTING MODE

AU - 07.05.2015

Int.Class [B62J 1/02](#) Appl.No 2015202008 Applicant Giant Manufacturing Co., Ltd Inventor Hsu, Che-Wei

A distinguishing system for a saddle contacting mode includes a saddle and a deformable pressure sensing apparatus. The deformable pressure sensing apparatus is disposed on the saddle, wherein the deformable pressure sensing apparatus deforms in response to a sitting pressure, and a saddle type is determined in accordance with the deformation. The deformable pressure sensing apparatus can actually acquire the pelvis contact shape. The deformation is visible on the saddle after the sitting pressure is released, and the deformation can be compared with a comparison table to determine the suitable saddle type for the user instantly. Therefore, the distinguishing system could save the test time and reduce the production cost.

189. [2774324](#) MÉTODO PARA DIFERENCIAR SILLINES

ES - 20.07.2020

Int.Class [B62J 1/00](#) Appl.No 15164330 Applicant Giant Manufacturing Co., Ltd Inventor Hsu, Che-Wei190. [2016269484](#) DISTINGUISHING SYSTEM FOR SADDLE CONTACTING MODE

AU - 22.12.2016

Int.Class [B62J 1/02](#) Appl.No 2016269484 Applicant Giant Manufacturing Co., Ltd Inventor Hsu, Che-Wei

A distinguishing system for a saddle contacting mode includes a saddle and a deformable pressure sensing apparatus. The deformable pressure sensing apparatus is disposed on the saddle, wherein the deformable pressure sensing apparatus deforms in response to a sitting pressure, and a saddle type is determined in accordance with the deformation. The deformable pressure sensing apparatus can actually acquire the pelvis contact shape. The deformation is visible on the saddle after the sitting pressure is released, and the deformation can be compared with a comparison table to determine the suitable saddle type for the user instantly. Therefore, the distinguishing system could save the test time and reduce the production cost.

191. [5397286](#) EXERCISE BICYCLE

US - 14.03.1995

Int.Class [A63B 21/00](#) Appl.No 08283062 Applicant Giant Manufacturing Co., Ltd. Inventor Chang Chi-Ming

The transmission system of an exercise bicycle includes a first drive shaft mounted rotatably on the rear end portion of a frame and provided with foot pedal cranks on two ends thereof, second and third drive shafts mounted rotatably on the frame, a one-way clutch secured on the second drive shaft, a first sprocket mounted securely on the first drive shaft, second and third sprockets mounted securely on the second drive shaft, a fourth sprocket mounted securely on the third drive shaft, a fifth sprocket mounted securely on an axle of a resistance wheel that is mounted rotatably on a front end portion of the frame, a first drive chain trained between the first sprocket and the one-way clutch, a second drive chain trained between the second and fifth sprockets, and a third drive chain trained between the third and fourth sprockets. The exercise bicycle has a reciprocating arm assembly which includes a pair of reciprocating arm levers mounted pivotally on the front end portion of the frame and a pair of crank arms, each of which having a first end connected pivotally to a lower end of a respective one of the arm levers and a second end connected eccentrically to a respective end of the third drive shaft.

192. [20100051768](#) BICYCLE ACCESSORY DEVICE

US - 04.03.2010

Int.Class [A47B 96/06](#) Appl.No 12230579 Applicant Giant Manufacturing Co., Ltd. Inventor Yang Morder

A bicycle accessory assembly is mounted to inner and outer tubes of a bicycle frame. The outer tube is sleeved on the inner tube. The bicycle accessory assembly includes a clamp, an accessory, and a fastening unit. The clamp includes a sleeve portion sleeved on the outer tube, and first and second clamp ears connected respectively to two ends of the sleeve portion. The accessory has a connecting portion and an abutment portion. The fastening unit extends through the connecting portion and the first and second clamp ears along an axis. The fastening unit is operable to move the first clamp ear toward and

away from the second clamp ear. The axis is oriented such that rotation of the accessory about the axis is prevented as a result of contact of the abutment portion with the inner tube and a top end of the inner tube.

193. [20180170097](#) CARBON FIBER WHEEL RIM AND METHOD OF MANUFACTURING THE SAME US - 21.06.2018

Int.Class [B60B 5/02](#) Appl.No 15588708 Applicant GIANT MANUFACTURING CO., LTD. Inventor Chi-Wei LO

A carbon fiber wheel rim is disclosed. The carbon fiber wheel rim is corresponding disposed between two braking elements, and includes a rim body and a reinforcing layer. The rim body is made of a carbon fiber composites material. The reinforcing layer is disposed on a surface of the rim body, wherein the reinforcing layer is made of a fibrous veil having an isotropy.

194. [20210323622](#) APPARATUS AND METHOD FOR BICYCLE ANTI-THEFT US - 21.10.2021

Int.Class [B62H 5/18](#) Appl.No 17361350 Applicant Giant Manufacturing Co., Ltd. Inventor Chih-Hsiang Shen

An apparatus and a method for bicycle anti-theft are provided. When a biometric feature of a user matches a preset biological feature, a brake lever is fixed at a preset position to lock the bicycle.

195. [20190202512](#) APPARATUS AND METHOD FOR BICYCLE PERSONALIZED ADJUSTMENT US - 04.07.2019

Int.Class [B60N 2/02](#) Appl.No 16029656 Applicant Giant Manufacturing Co., Ltd. Inventor Chih-Hsiang Shen

An apparatus and a method for bicycle anti-theft and personalized adjustment are provided. When a biometric feature of a user matches a preset biological feature, a brake lever is fixed at a preset position to lock the bicycle, and a variable structure is driven to make personalized adjustments according to bicycle adjustment parameters corresponding to the biometric feature of the user.

196. [206233072](#) TELESCOPIC IRONING TABLE CN - 09.06.2017

Int.Class [E01C 19/48](#) Appl.No 201621082254.3 Applicant HEFEI GIANT MACHINERY MANUFACTURING CO., LTD. Inventor SU HAO

Telescopic ironing table, including the base member screed, the screed includes the principal piece and extends the section, and the principal piece includes left principal piece and youzhu section, extend the section and extend section and the right side including a left side and extend section, be equipped with the installation piece that assembles mutually with the youzhu section in the principal piece of a left side, the youzhu section is equipped with and installs a mounting groove that assembles mutually, and left principal piece passes through the installation piece with the youzhu section and the mounting groove cooperation is assembled, the link that the section is extended on a left side is connected with left principal piece, the link that the section is extended on the right side is connected with the youzhu section, its characterized in that, between being connected with right side extension section, left principal piece is equipped with the telescoping device with left side extension section and youzhu section. The expansion box constitutes for integrated into one piece. The beneficial effect of the utility model: this telescopic ironing table is simple structure not only, and the preparation is convenient, and the installation of this telescopic ironing table telescoping device can the effectual work efficiency who improves the screed moreover.

197. [206070317](#) DOUBLE -DECK WIDTH ADJUSTABLE SCREED CN - 05.04.2017

Int.Class [E01C 19/48](#) Appl.No 201621080544.4 Applicant HEFEI GIANT MACHINERY MANUFACTURING CO., LTD. Inventor ZHAO XUESONG

Double -deck width adjustable screed, including the screed body, the screed body includes the principal piece and extends the section, and the principal piece includes left principal piece and youzhu section, extend the section and extend section and the right side including a left side and extend section, be equipped with the installation piece that assembles mutually with the youzhu section in the principal piece of a left side, the youzhu section is equipped with and installs a mounting groove that assembles mutually, and left principal piece passes through the installation piece with the youzhu section and the mounting groove cooperation is assembled, the link that the section is extended on a left side is connected with left principal piece, the link that the section is extended on the right side is connected with the youzhu section, the extension section of screed body is relative passes through the width of sliding bracket regulation screed body with the principal piece. The beneficial effect of the utility model: sliding bracket and principal piece assembly are passed through to this double -deck width adjustable screed's extension section, and through sliding bracket adjustable width, sliding bracket includes mounting hole, dog and slide moreover, and the one end of dog is arranged in the principal piece to prevent sliding bracket from principal piece internal separation through the dog, simple structure like this, convenient to use.

198. [206070318](#) HYDRAULIC STRETCHING SCREED CN - 05.04.2017

Int.Class [E01C 19/48](#) Appl.No 202016001082222 Applicant HEFEI GIANT MACHINERY MANUFACTURING CO., LTD. Inventor PAN CHAOJUN

Hydraulic stretching screed, including the base member screed, the screed includes hydraulic telescopic device, principal piece and extension section, and the principal piece includes left principal piece and youzhu section, extend the section and extend section and the right side including a left side and extend section, be equipped with the installation piece that assembles mutually with the youzhu section in the principal piece of a left side, the youzhu section is equipped with and installs a mounting groove that assembles mutually, and left principal piece passes through the installation piece with the youzhu section and the mounting groove cooperation is assembled, the link that the section is extended on a left side is connected with left principal piece to hydraulic telescopic device has been penetrated, the link that the section is extended on the right side is connected with the youzhu section to be equipped with flexible hydraulic means. The beneficial effect of the utility model: this hydraulic stretching screed is simple structure not only, and the preparation is convenient, is fit for the multiple construction operating mode of road surface construction adaptation moreover, can pave asphalt concrete and stabilizing layer, application scope is wide, the annex is connected conveniently, and it is fast to cut to.

199. [206070306](#) DOUBLE -DECK PRESTRESSING FORCE SCREED CN - 05.04.2017

Int.Class [E01C 19/16](#) Appl.No 201621080534.0 Applicant HEFEI GIANT MACHINERY MANUFACTURING CO., LTD. Inventor ZHAO XUESONG

Double -deck prestressing force screed, including the base member screed, shown screed includes the principal piece, extends section and bottom plate, the principal piece is assembled through the bottom plate with the extension section each other, and the bottom plate is fixed in principal piece and extension section through the pin, and it is fixed further to pass through the nut, the bottom plate is hiberarchy, is equipped with resilient means between the level. The beneficial effect of the utility model: in order to overcome the defects of the prior art, the utility model provides a double -deck prestressing force screed, this bilayer not only simple structure of screed that does all can in advance, the preparation is convenient, and the bottom plate is bilayer structure moreover, for convenient construction during resilient means's installation, avoids the harm that the construction brought to the screed.



200. [WO/2005/051681](#) A WHEEL PROVIDED WITH A DRIVE-DEPENDENT, EXCHANGEABLE COUPLING ELEMENT

WO - 09.06.2005

Int.Class [B60B 5/02](#)

Appl.No PCT/NL2004/000737

Applicant GIANT MANUFACTURING CO. LTD

Inventor VRIELINK, Johan

There is disclosed a wheel (1) that comprises a hollow central body (2), in which a coupling element (6) to be coupled to a wheel shaft (5) and to the central body (2) is present. The coupling element (6) is a coupling element that is exchangeable in dependence on the fact whether the wheel shaft (5) is a driven shaft or not. In the case of a wheel driven by the wheel shaft (5), the wheel (1) comprises an insert (6-2) as the coupling element. In the case of a wheel (1) not driven via the wheel shaft (5), comprises a shaft bearing (6-1) as the coupling element. One and the same wheel can be used in a vehicle as a driven wheel but also as a non-driven wheel, which can be realised by exchanging the coupling element (6). Furthermore the wheel can be used as a front wheel, but also as a rear wheel.