

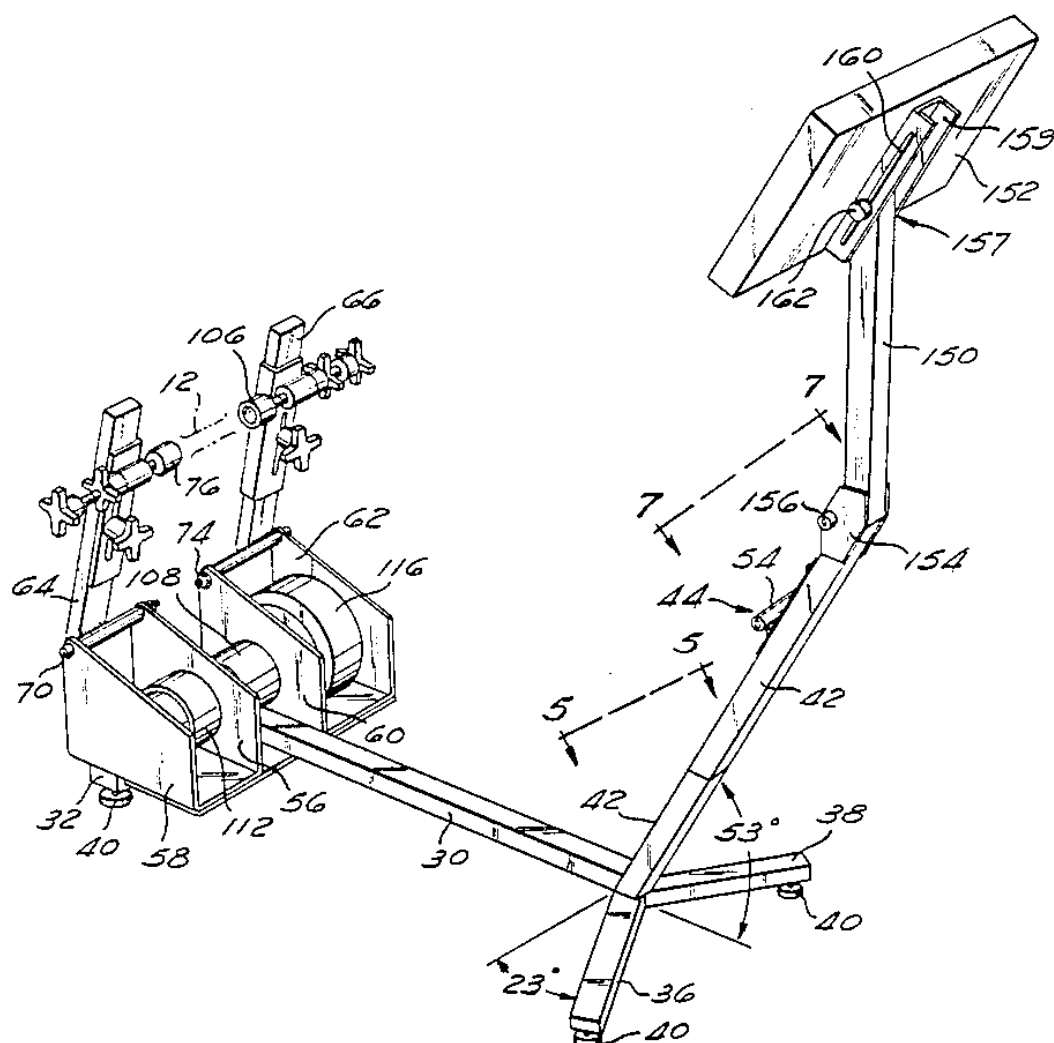
20 Documents

Publication numbers	Title	Current assignees
WO8901806 A1	Bicycle racing training apparatus	BANK OF AMERICA
US4834363 A	Bicycle racing training apparatus	BANK OF AMERICA
WO2012125780 A2	Isolated torque sensor	MOTOR EXCELLENCE
EP2799327 A1	A freewheel hub comprising a magneto-elastic sensor and bicycle, pedelec, fast pedelec or e-bike comprising the freewheel hub	METHODE ELECTRONICS MALTA
US20140182393 A1	Crank arm, crankset, and power measuring device for an at least partially human powered vehicle or training device with a crank drive	STORCK BICYCLE
EP2507123 A2	Hybrid sensor-enabled electric wheel and associated systems, multi-hub wheel spoking systems, and methods of manufacturing and installing wheel spokes	MIT - MASSACHUSETTS INSTITUTE OF TECHNOLOGY
DE102005014447 A1	Bicycle Simulation Apparatus	HONDA MOTOR
EP2623166 A1	Sports training device	BKOOL
DE102005010387 A1	Two-wheeled vehicle simulation apparatus e.g. for bicycle, has mat switch which senses whether driver places his/her foot on floor in vicinity of simulator with saddle and handlebars	HONDA MOTOR
US20160031506 A1	Electric bicycle	FORD GLOBAL TECHNOLOGIES
FR2517547 A1	Indoor cycle training machine with electronic processor - has roller driven electric brake providing programmed resistance to cyclist simulating ride on various slopes, and programmable course	CENTRE STEPHANOIS DE RECHERCHES MECANIQUES
EP2931389 A1	Cycling training device	Michael Freiberg
WO201018936 A2	Exercise bicycle	CUI ZHUANGYUAN
WO9216267 A2	Bicycle and motorcycle riding simulation system	NATIONAL AMUSEMENTS, ...
DE4221558 A1	Driving simulation system for two-wheeled vehicle, e.g. motorcycle - uses video recorder to record images presented in front of driver mounted on motion simulator, for later analysis	HONDA MOTOR
EP1729710 A2	Gait rehabilitation methods and apparatuses	MOTORIKA
KR20120079303 A	Cycling stanchion type trainer controlled cycling computer	VFLUX
EP3341089 A1	Strength training device using magnetorheological fluid clutch apparatus	EXONETIK
EP3343235 A1	Bicycle wireless electronic derailleur	CAMPAGNOLO
EP3343234 A1	Detector for a bicycle	CAMPAGNOLO

Family 1/20 - FAMPAT - ©Questel

Title

(WO8901806)

Bicycle racing **training** apparatus**Images****Publication numbers with kind code & date**

US4976424	A	1990-12-11	US4976424
CN1038222	A	1989-12-27	CN1038222
KR19897001172	A	1989-12-19	KR19897001172
KR890701172	A	1989-12-19	KR19890701172
CN1037280	A	1989-11-22	CN1037280
AU2421988	A	1989-03-31	AU8824219
AU2480288	A	1989-03-31	AU8824802
WO89/01806	A1	1989-03-09	WO8901806
WO89/01807	A1	1989-03-09	WO8901807

**Abstract**

(WO89/01806)

In a exercising apparatus for supporting a **bicycle**, a pivotally mounted support member (65, 66) connects the rear axle (12) of the bike to constrain movement of the axle about the pivot point (70) of the support member. A support **roller** (108) cooperates with the support member to support the rear wheel. A flywheel (116) and variable load means (112) are connected to the **roller** to simulate the inertia and variable load experienced during the riding of a **bicycle**. When a rider of a

bicycle shifts his weight forward the front fork support (42) bends and the rear tire of the **bicycle** pivots toward the **roller** to maintain frictional contact between the tire and **roller**. Frictional losses are determined and the variable load means compensates for the losses, and compensation is made for the inefficiency of the variable load means. The heart rate is monitored and the load is controlled to maintain the heart rate within predetermined limits.

Inventors

SERGEANT MARK A

HOFFENBERG MARK J

REASONS ROB

WALPERT ROBERT A

Latest standardized assignees - inventors removed

BANK OF AMERICA

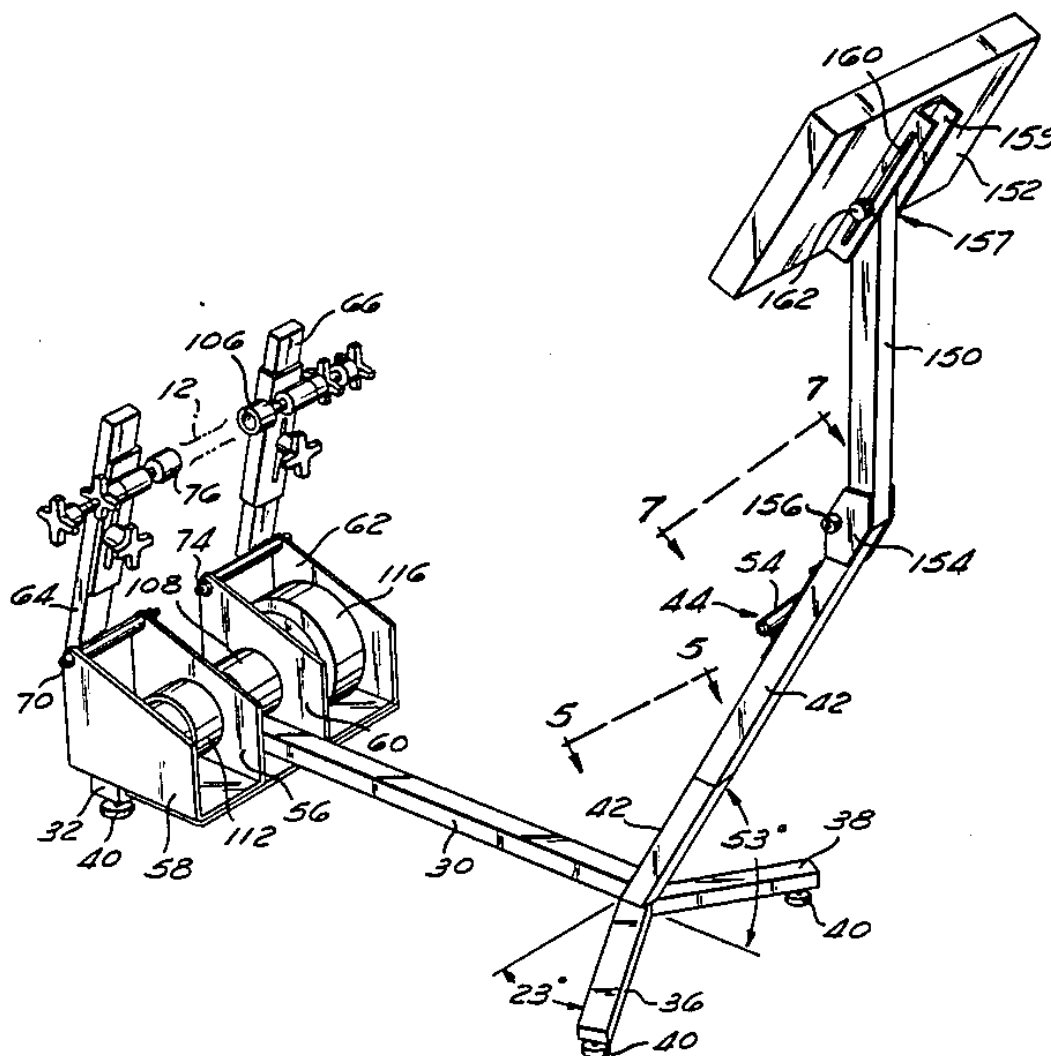
Family 2/20 - FAMPAT - ©Questel

Title

(US4834363)

Bicycle racing training apparatus

Images



Publication numbers with kind code & date

AU610876	B2	1991-05-30	AU-610876
US4938475	A	1990-07-03	US4938475
US4834363	A	1989-05-30	US4834363
AU1530488	A	1988-12-01	AU8815304



Abstract

(US4834363)

In an exercising apparatus for supporting a **bicycle**, a pivotally mounted member connects to a rear axle of the bike to constrain movement of the axle about the pivot point of the support member. A support **roller**, located on the horizontally opposite side of the rear axle as is the pivot point, cooperates with the support member to support the rear wheel. A flywheel and variable load means are connected to the **roller** to simulate the inertia and variable load experienced during the riding of a real **bicycle**. Preferably, a front fork support connects to the front fork of a **bicycle** and has an adjustable feature which can change the elevation of the **bicycle** frame. The front fork support is inclined and connected to the **roller** and rear axle support member so that when a rider of a **bicycle** connected to the apparatus leans toward or shifts his weight toward the front fork support, the front fork support bends and the rear tire of the **bicycle** pivots toward the **roller** to maintain frictional contact between the tire and **roller**.

Inventors

SARGEANT BRUCE A

HOFFENBERG MARK J

REASONS ROB

WALPERT ROBERT A

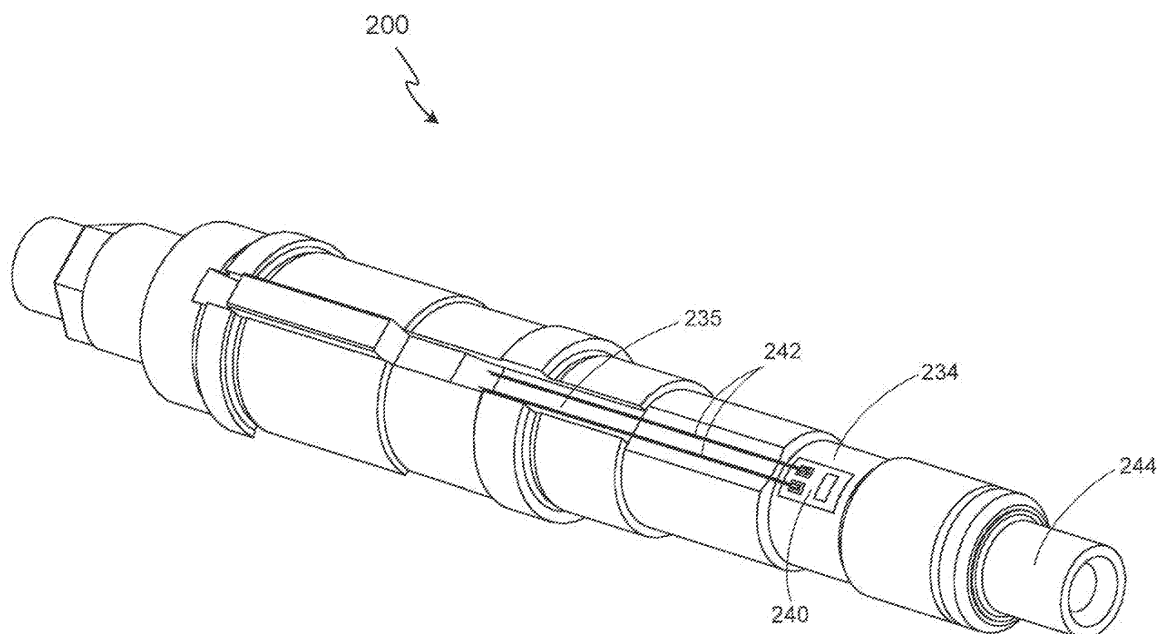
Latest standardized assignees - inventors removed

BANK OF AMERICA

Family 3/20 - FAMPAT - ©Questel

Title

(WO2012125780)

Isolated **torque sensor****Images****Publication numbers with kind code & date**

WO2012/125780	A3	2012-11-08	WO2012125780
US20120234108	A1	2012-09-20	US20120234108
WO2012/125780	A2	2012-09-20	WO2012125780

**Abstract**

(WO2012/125780)

An isolated **torque** sensing device is described having a **torque** tube that may be configured in an axle of a **bicycle** or e-

bike. A strain gauge is configured on either the inner or outer diameter of the **torque** tube. The **torque sensor** system may be configured in a 4-point bending configuration, wherein a bearing applies a force to the **torque** tube.

Inventors

JANECEK THOMAS F

COLE DANIEL S

Latest standardized assignees - inventors removed

MOTOR EXCELLENCE

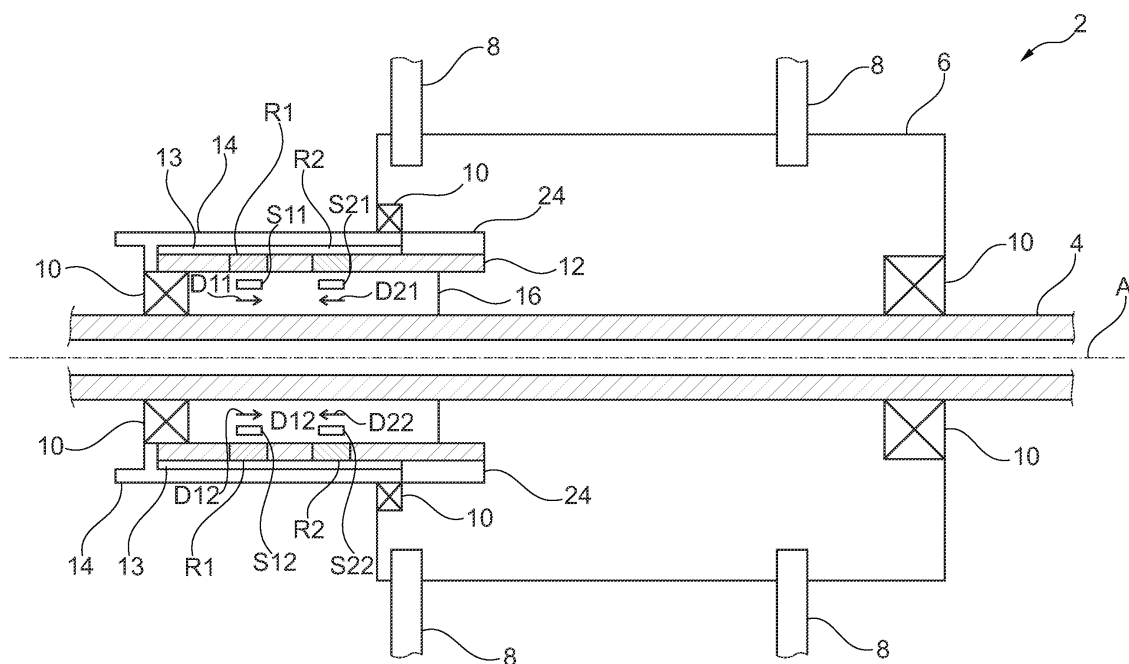
Family 4/20 - FAMPAT - ©Questel

Title

(EP2799327)

A freewheel hub comprising a magneto-elastic **sensor** and **bicycle**, pedelec, fast pedelec or e-bike comprising the freewheel hub

Images



Publication numbers with kind code & date

JP2017138309	A	2017-08-10	JP2017138309
JP6126548	B2	2017-05-10	JP6126548
EP2799327	B1	2016-05-25	EP2799327
US9284998	B2	2016-03-15	US9284998
JP2014219387	A	2014-11-20	JP2014219387
US20140326568	A1	2014-11-06	US20140326568
EP2799327	A1	2014-11-05	EP2799327



Abstract

(EP2799327)

A freewheel hub and a **bicycle**, pedelec, fast pedelec or e-bike comprising this freewheel hub is provided. The freewheel hub comprises a rotating hub shell for carrying a free running wheel. **Torque** is coupled to the rotating hub shell via a **torque** transmitting member. At least one magneto-elastically active region is directly or indirectly attached to or forms a part of the **torque** transmitting member in such a manner that the applied **torque** is transmitted to the active region comprising at least one magnetically polarized region. The magnetic polarization becomes increasingly helically shaped as the applied **torque** increases. A magneto-elastic **sensor** means having at least one magnetic field **sensor** is arranged proximate to the at least

one magneto-elastically active region for outputting a signal corresponding to a **torque**-induced magnetic flux emanating from the magnetically polarized region.

Inventors

GIESSIBL JOHANNES

Latest standardized assignees - inventors removed

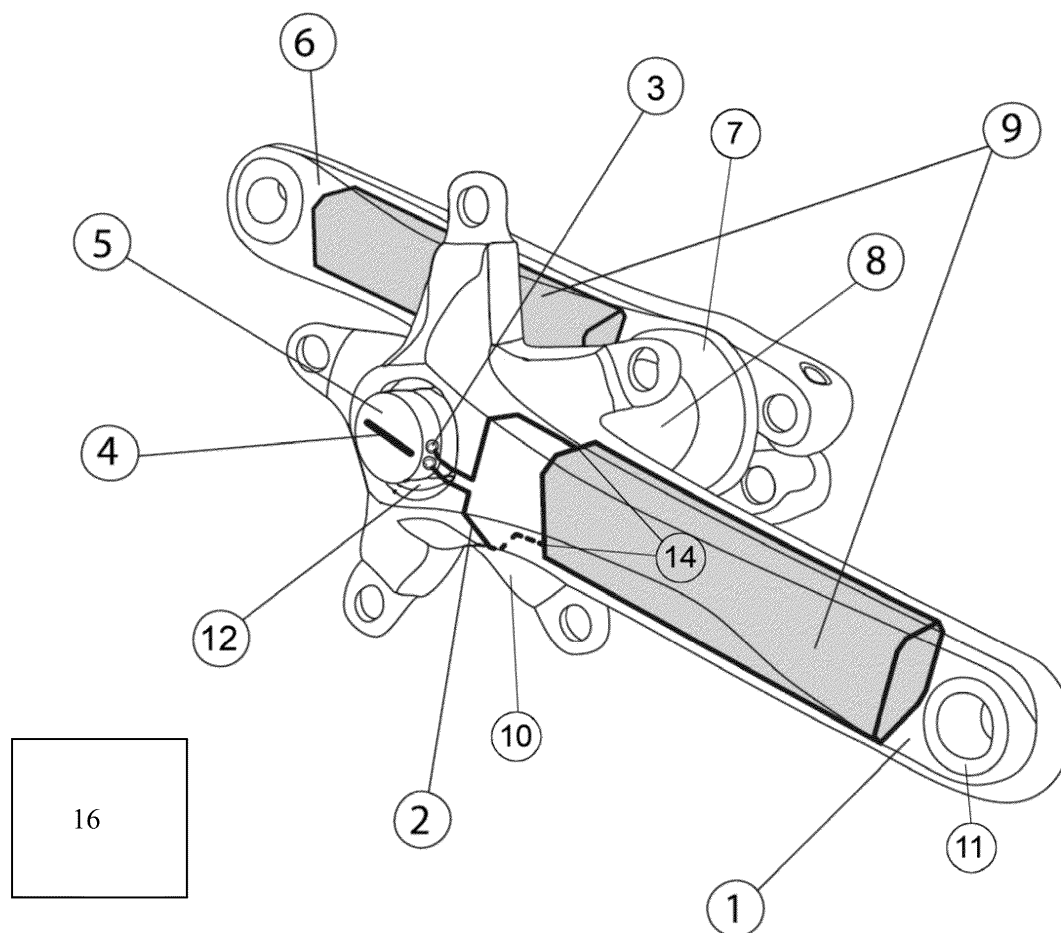
METHODE ELECTRONICS MALTA

Family 5/20 - FAMPAT - ©Questel

Title

(US9459167)

Crank arm, crankset, and power measuring device for an at least partially human powered vehicle or **training** device with a crank drive

Images**Publication numbers with kind code & date**

US9459167	B2	2016-10-04	US9459167
US20140182393	A1	2014-07-03	US20140182393
DE102012022447	A1	2014-05-22	DE102012022447

**Abstract**

(US20140182393)

A power measuring system for an at least partially human powered vehicle or **training** device with a crank drive, in particular a **bicycle**, with at least one crank arm of the **bicycle** being manufactured of fiber-reinforced plastics and the crank arm having a **sensor**, in particular a strain gage, and with the largest part of the **sensor** being directly enclosed on all sides by the fiber-reinforced plastics. The force exerted on the respective pedal and from this the **torque** exerted on the bottom

bracket shaft is determined by an electronics unit, which is preferably arranged in a cavity in the bottom bracket shaft, from the signal of **sensor**. From this, together with the rotational frequency of bottom bracket shaft, which is possibly measured by further sensors or is determined in a calculative way, the power currently generated by the user of the **bicycle** is determined. The power values can, in particular wirelessly, be sent to a display unit and be displayed thereby in the form of power-related information. The sensors in both crank arms, make it possible to determine the power for the left and the right leg of the cyclist separately.

Inventors

HEINKEL ULRICH

WOLF PETER

KRIESTEN DANIEL

ODENWALD STEPHAN

BUDER JENS

Latest standardized assignees - inventors removed

STORCK **BICYCLE**

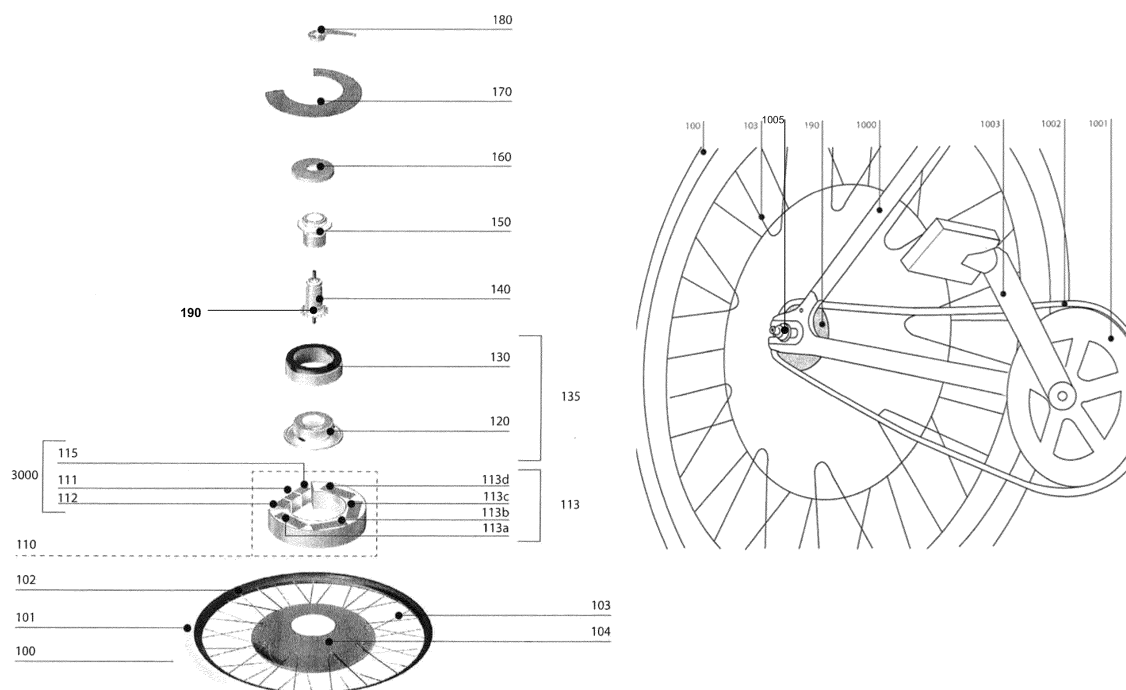
Family 6/20 - FAMPAT - ©Questel

Title

(EP2507123)

Hybrid **sensor**-enabled electric wheel and associated systems, multi-hub wheel spoking systems, and methods of manufacturing and installing wheel spokes

Images



Publication numbers with kind code & date

CN110077167	A	2019-08-02	CN110077167
JP6546875	B2	2019-07-17	JP6546875
CN102781768	B	2019-03-08	CN102781768B
CA2782715	C	2018-05-23	CA2782715
US9944349	B2	2018-04-17	US9944349
USD813777	S1	2018-03-27	USD813777
USD813779	S1	2018-03-27	USD813779
JP2018027778	A	2018-02-22	JP2018027778
USD801249	S1	2017-10-31	USD801249



US20160355233	A1	2016-12-08	US20160355233				
HK1216520	A1	2016-11-18	HK1216520				
US20160304158	A1	2016-10-20	US20160304158				
US20160307376	A1	2016-10-20	US20160307376				
JP2016155549	A	2016-09-01	JP2016155549				
BR112012013491	A2	2016-05-24	BR112012013491				
JP5922583	B2	2016-04-22	JP5922583				
CN105000125	A	2015-10-28	CN105000125				
US20150210350	A1	2015-07-30	US20150210350				
US9027681	B2	2015-05-12	US9027681				
EP2507123	A4	2015-04-01	EP2507123				
JP2013512825	A	2013-04-18	JP2013512825				
BR112012013491	A1	2012-12-11	BR112012013491				
CN102781768	A	2012-11-14	CN102781768				
EP2507123	A2	2012-10-10	EP2507123				
WO2011/069136	A3	2011-09-09	WO201169136				
CA2782715	A1	2011-06-09	CA2782715				
CA2999654	A1	2011-06-09	CA2999654				
CA2999705	A1	2011-06-09	CA2999705				
US20110133542	A1	2011-06-09	US20110133542				
WO2011/069136	A2	2011-06-09	WO201169136				

Abstract

(EP2507123)

Embodiments of hybrid **sensor**-enabled and autonomous electric wheels can include a plurality of systems and devices integrated into a single compact hub unit that can be retrofitted into numerous types of two-wheeled bicycles. In one embodiment, an electrically motorized **bicycle** wheel can include a wheel rim, a wheel hub having an electric **motor**, a battery pack and a control unit configured to control a drive **torque** of the electric **motor**, and a plurality of wheel spokes connecting the wheel rim to the wheel hub. The electric **motor**, the battery pack and the control unit can be positioned within the wheel hub of the electrically motorized **bicycle** wheel.

Inventors

BIDERMAN ASSAF

RATTI CARLO

OUTRAM CHRISTINE LOUISE

Latest standardized assignees - inventors removed

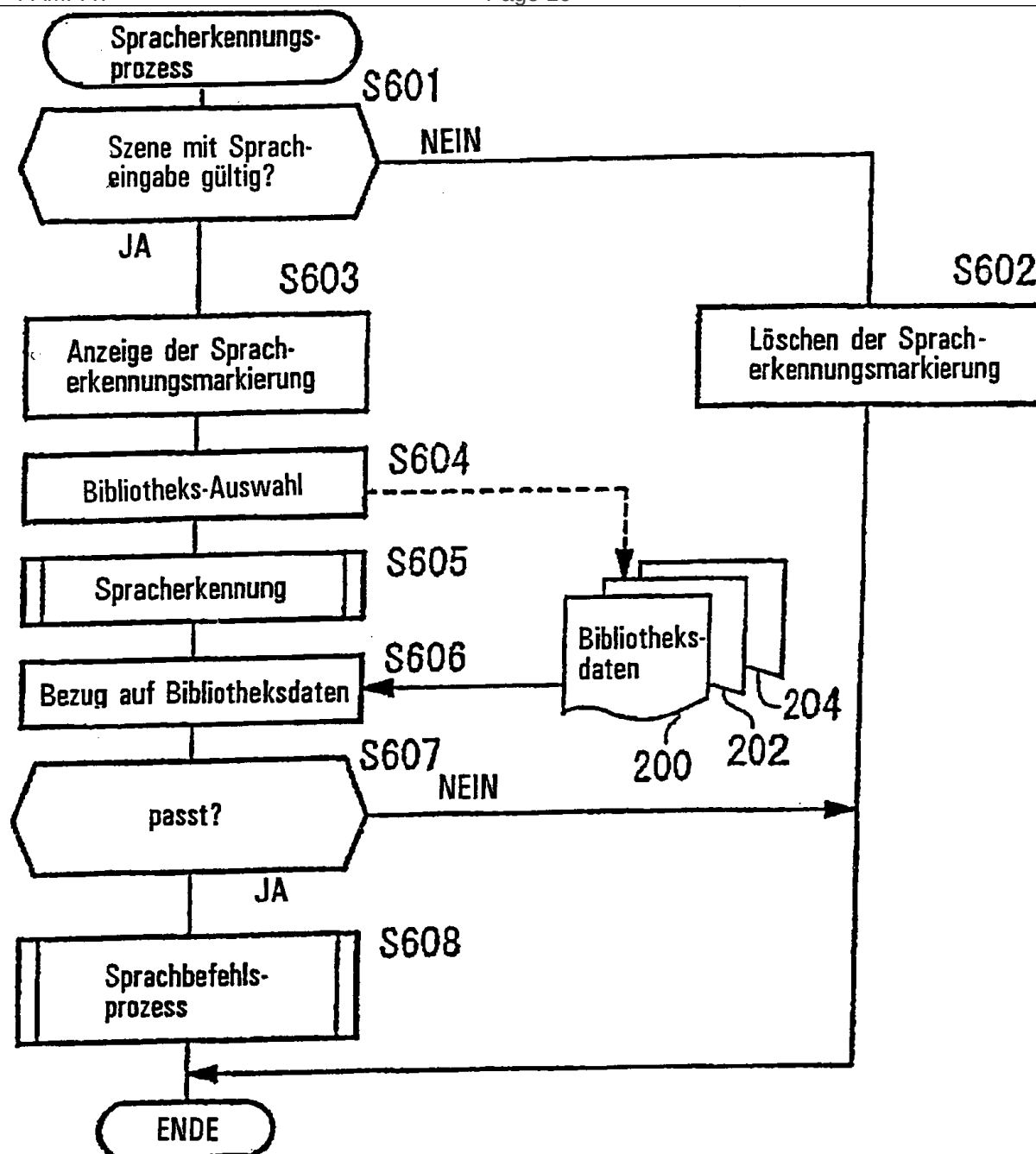
MIT - MASSACHUSETTS INSTITUTE OF TECHNOLOGY

Family 7/20 - FAMPAT - ©Questel

Title

(DE102005014486)

Bicycle Simulation Apparatus**Images**



Publication numbers with kind code & date

DE102005014447	B4	2011-04-28	DE102005014447
DE102005014486	B4	2009-04-09	DE102005014486
DE102005014447	A1	2005-10-27	DE102005014447
DE102005014486	A1	2005-10-27	DE102005014486



Abstract

(DE102005014486)

A recognition unit (190) starts or stops recognition of the speech of a driver of a simulated vehicle, automatically, in response to situation of the simulated driving. An output unit performs predetermined output based on the operation of vehicle and speech of driver.

(From DE102005014447 A1)

Inventors

MIYAMARU YUKIO

YONEHANA ATSUSHI

Latest standardized assignees - inventors removed

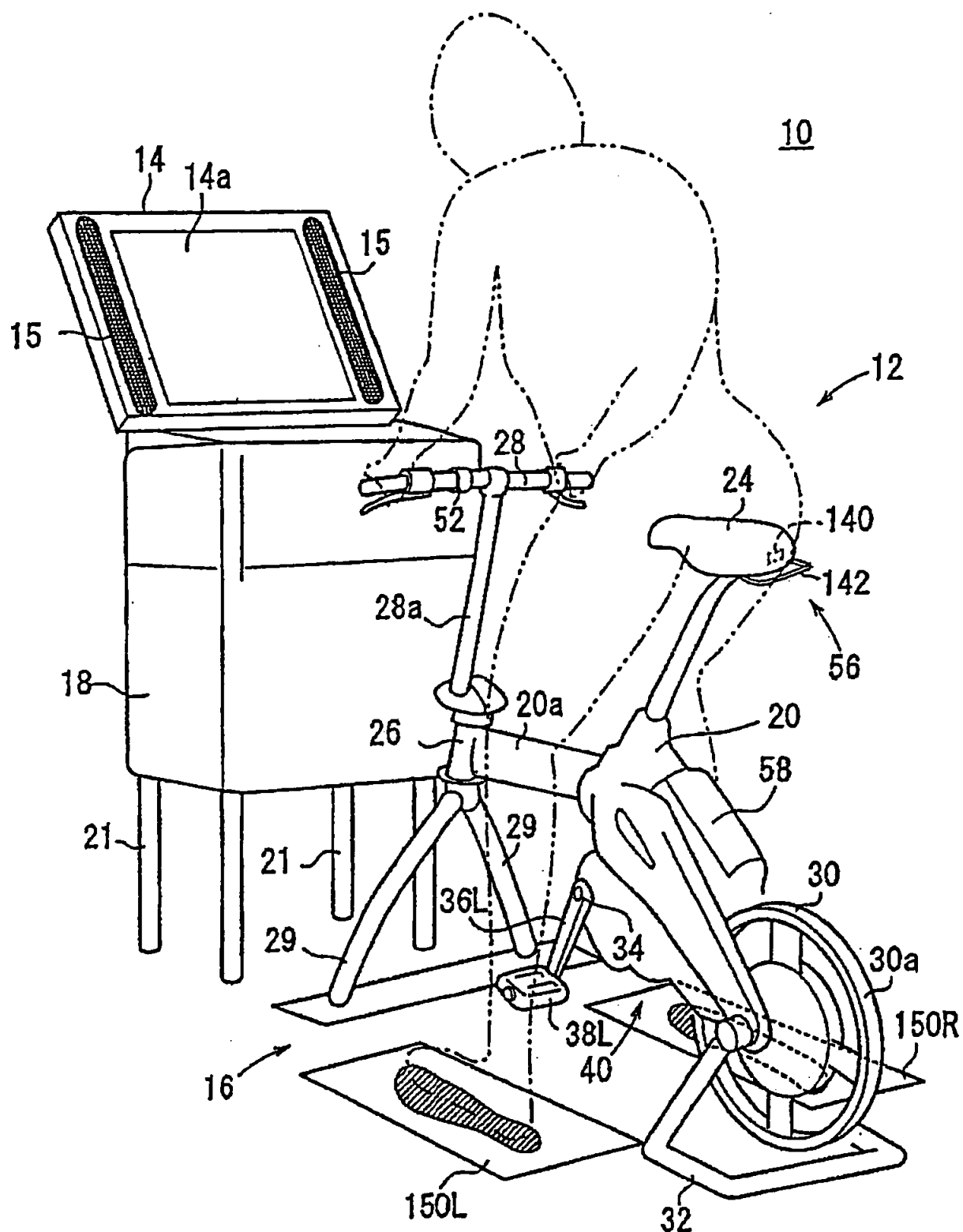
HONDA **MOTOR**

Family 9/20 - FAMPAT - ©Questel

Title

(DE102005010387)

Two-wheeled vehicle simulation apparatus e.g. for **bicycle**, has mat switch which senses whether driver places his/her foot on floor in vicinity of simulator with saddle and handlebars on floor in vicinity of simulator with saddle and handlebars

Images**Publication numbers with kind code & date**

DE102005010408	B4	2011-05-12	DE102005010408
DE102005010387	B4	2009-02-12	DE102005010387
DE102005010387	A1	2005-10-27	DE102005010387
DE102005010408	A1	2005-10-27	DE102005010408



Abstract

(DE102005010387)

A vehicle simulator (12) has saddle (24) for driver, and handlebars (28) operated by the driver. A mat switch (16) senses whether the driver places his/her foot on floor in vicinity of the simulator. A display (14) displays information based on signals received from the handlebars, mat switch and pedals.

Inventors

MIYAMARU YUKIO

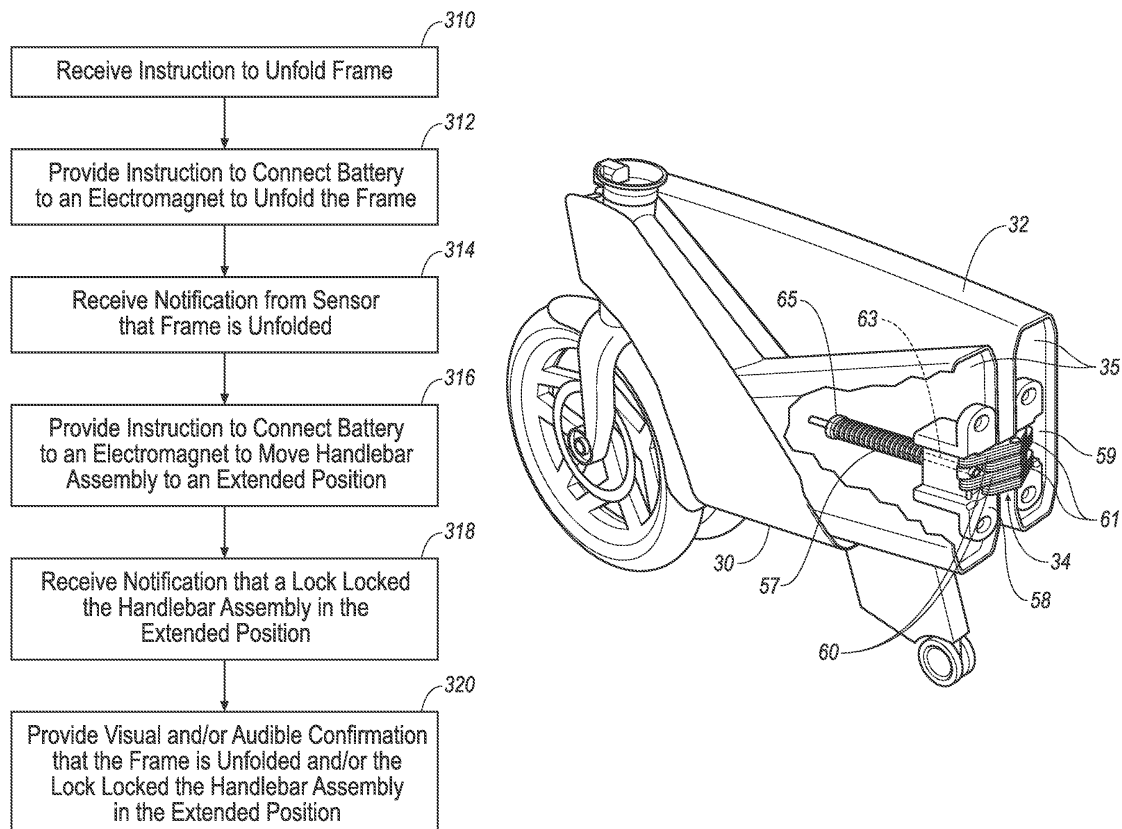
YONEHANA ATSUSHI

Latest standardized assignees - inventors removedHONDA **MOTOR**

Family 10/20 - FAMPAT - ©Questel

Title

(US9573646)

Electric **bicycle****Images****Publication numbers with kind code & date**

CN105314036	B	2019-09-17	CN105314036B
RU2697178	C2	2019-08-12	RU2697178
CN105314039	B	2019-07-19	CN105314039B
CN105365967	B	2019-07-19	CN105365967B
US10336393	B2	2019-07-02	US10336393
MX365106	B	2019-05-21	MX-365106
RU2688405	C2	2019-05-21	RU2688405
RU2688116	C2	2019-05-17	RU2688116
CN105314035	B	2019-04-19	CN105314035B
RU2684825	C2	2019-04-15	RU2684825



MX364058	B	2019-04-09	MX-364058				
RU2683357	C2	2019-03-28	RU2683357				
RU2682945	C2	2019-03-22	RU2682945				
RU2015131810	A3	2019-03-15	RU2015131810				
RU2681993	C2	2019-03-14	RU2681993				
US10202161	B2	2019-02-12	US10202161				
RU2679518	C2	2019-02-11	RU2679518				
RU2015131804	A3	2019-02-06	RU2015131804				
RU2015131812	A3	2019-02-06	RU2015131812				
RU2015131802	A3	2019-01-22	RU2015131802				
GB2530620	B	2019-01-16	GB2530620				
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US9963185	B2	2018-05-08	US9963185				
US9902452	B2	2018-02-27	US9902452				
MX352020	B	2017-11-07	MX-352020				
MX351957	B	2017-11-06	MX-351957				
MX351716	B	2017-10-26	MX-351716				
MX351717	B	2017-10-26	MX-351717				
US20170259879	A1	2017-09-14	US20170259879				
US9701356	B2	2017-07-11	US9701356				
US9663177	B2	2017-05-30	US9663177				
US9616959	B2	2017-04-11	US9616959				
US9610996	B2	2017-04-04	US9610996				
US9573646	B2	2017-02-21	US9573646				
RU2015131806	A	2017-02-08	RU2015131806				
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RU2015131802	A	2017-01-31	RU2015131802				
RU2015131812	A	2017-01-31	RU2015131812				
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GB2530390	A	2016-03-23	GB2530390				
GB2530391	A	2016-03-23	GB2530391				
GB2530392	A	2016-03-23	GB2530392				
GB2530393	A	2016-03-23	GB2530393				
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DE102015111975	A1	2016-02-04	DE102015111975				
DE102015111976	A1	2016-02-04	DE102015111976				
DE102015111977	A1	2016-02-04	DE102015111977				
DE102015111978	A1	2016-02-04	DE102015111978				
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DE102015111983	A1	2016-02-04	DE102015111983				
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US20160031506	A1	2016-02-04	US20160031506				
US20160031507	A1	2016-02-04	US20160031507				
US20160031513	A1	2016-02-04	US20160031513				
US20160031514	A1	2016-02-04	US20160031514				
US20160031516	A1	2016-02-04	US20160031516				
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GB201512935	D0	2015-09-02	GB201512935				
GB201512936	D0	2015-09-02	GB201512936				
GB201512938	D0	2015-09-02	GB201512938				
GB201512939	D0	2015-09-02	GB201512939				
GB201512941	D0	2015-09-02	GB201512941				
GB201512942	D0	2015-09-02	GB201512942				
GB201512943	D0	2015-09-02	GB201512943				
GB201512944	D0	2015-09-02	GB201512944				
GB201512681	D0	2015-08-26	GB201512681				
GB201512700	D0	2015-08-26	GB201512700				
GB201512713	D0	2015-08-26	GB201512713				

Abstract

(US20160031506)

An apparatus includes a **bicycle** frame defining a bore, and a **bicycle** seat assembly including a post received in the bore. An indicating unit is configured to indicate a first position of the post along the bore for a first user and a second position of the post along the bore for a second user. An identification unit is configured to identify the first user and the second user. A computing device includes a processor and a memory, the memory storing instruction such that the processor is programmed to instruct the indicating unit to indicate the first position when the identification unit identifies the first user and to instruct the indicating unit to indicate the second position when the identification unit identifies the second user.

Inventors

LLOYD JAMES

MUNDY JONATHAN

SOUTHEY BRUCE

POTTICARY SIMON

NEUGEBAUER JAMES

GERHARDT TORSTEN

CRAVEN RICHARD

Latest standardized assignees - inventors removed

FORD GLOBAL TECHNOLOGIES

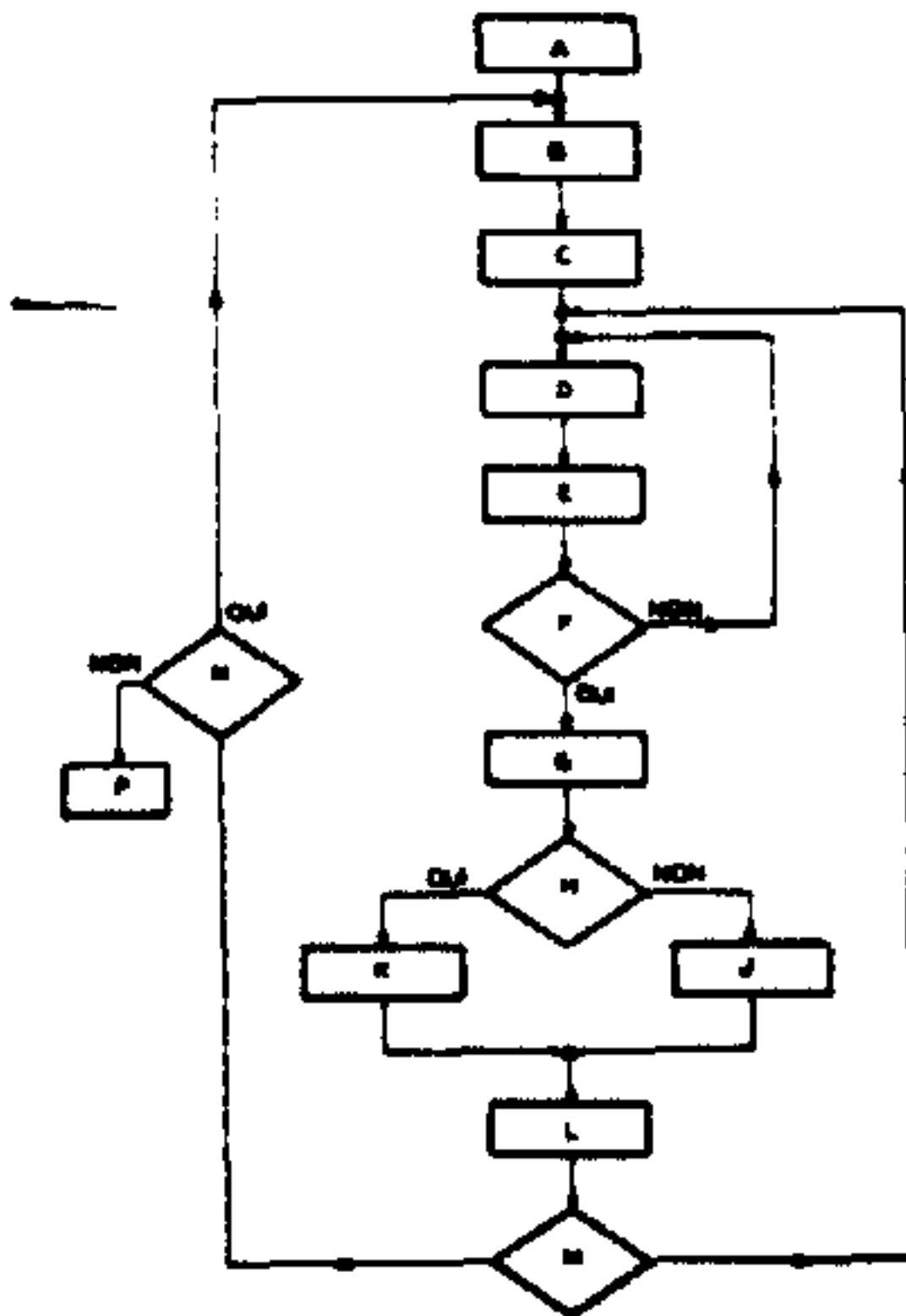
Family 11/20 - FAMPAT - ©Questel

Title

(FR2517547)

Indoor cycle **training** machine with electronic processor - has **roller** driven electric brake providing programmed resistance to cyclist simulating ride on various slopes, and programmable course

Images



Publication numbers with kind code & date

FR2517547	B1	1984-12-07	FR2517547
FR2517547	A1	1983-06-10	FR2517547



Abstract

(FR2517547)

The trainer includes a frame with two rollers (R1) supporting the back wheel of the **bicycle**. Inside one of the rollers is an electrically controlled **motor** brake, and an opto-electronic device for measuring the speed of rotation of the **roller** in order to determine the comparable real speed of the cyclist. The front wheel of the **bicycle** is driven by a belt driven **roller** attached to the back **roller**. The unit is linked to a programmable calculator (5,6) with a keyboard for control and a tv type display. The unit which uses a microprocessor is able to simulate a route over various slopes, varying the load according to the slope, and monitoring the effort force applied to the pedals. Data entered into the processor include the combined weight of the cyclist and **bicycle**, and the derived operating mode.

Inventors

TERRASSE YVON

LACOUR GILLES

Latest standardized assignees - inventors removed

CENTRE STEPHANOIS DE RECHERCHES MECANIQUES

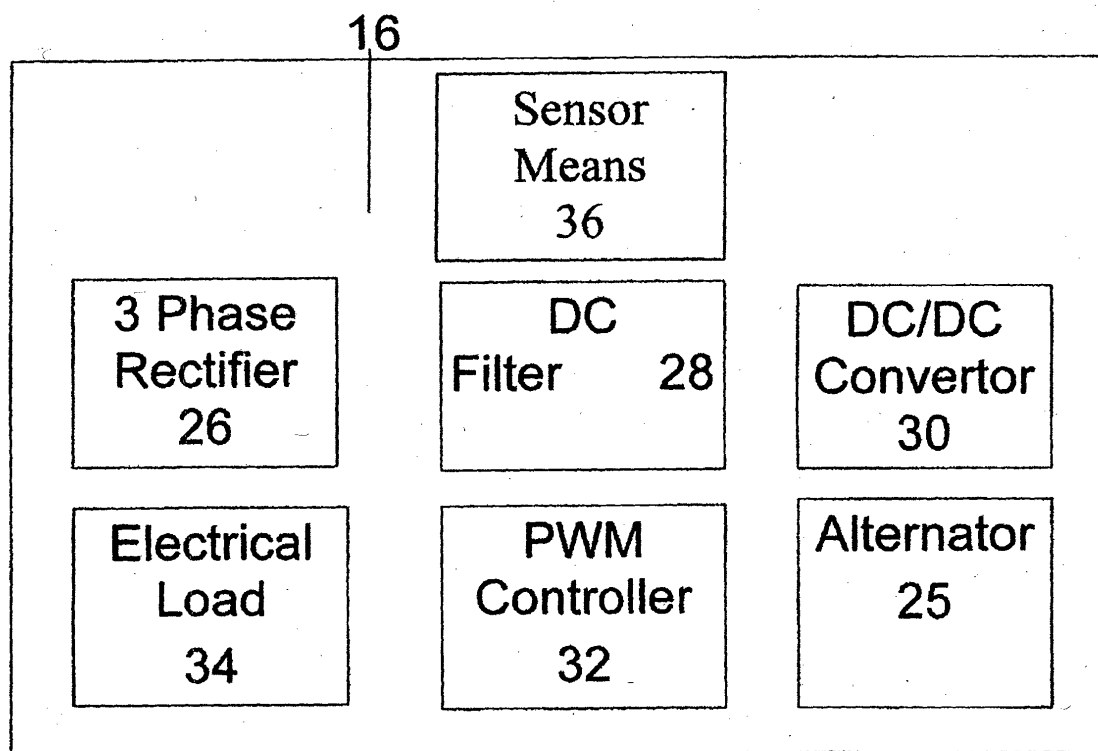
Family 12/20 - FAMPAT - ©Questel

Title

(EP2931389)

Cycling training device

Images



Publication numbers with kind code & date

AU2013360007	B2	2019-08-15	AU2013360007
ES2706389	T3	2019-03-28	ES2706389
EP2931389	B1	2018-10-17	EP2931389
CN104884137	B	2018-06-05	CN104884137B
EP2931389	A4	2016-08-24	EP2931389
US20150343290	A1	2015-12-03	US20150343290
EP2931389	A1	2015-10-21	EP2931389
CN104884137	A	2015-09-02	CN104884137



[AU2013360007](#)

A1 2015-06-11

[AU2013360007](#)[WO2014/089606](#)

A1 2014-06-19

[WO201489606](#)**Abstract**

(EP2931389)

Discloses is a cycling **training** device arranged to control the rolling resistance experienced by the rider, such that the rolling resistance experienced by the rider is varied in accordance with a **training** programme. The cycling **training** device comprises an electronic control unit and a variable resistance unit, the variable resistance unit engaging with or mounted in a wheel of a **bicycle** such that the effective rolling resistance of the **bicycle** may be controlled.

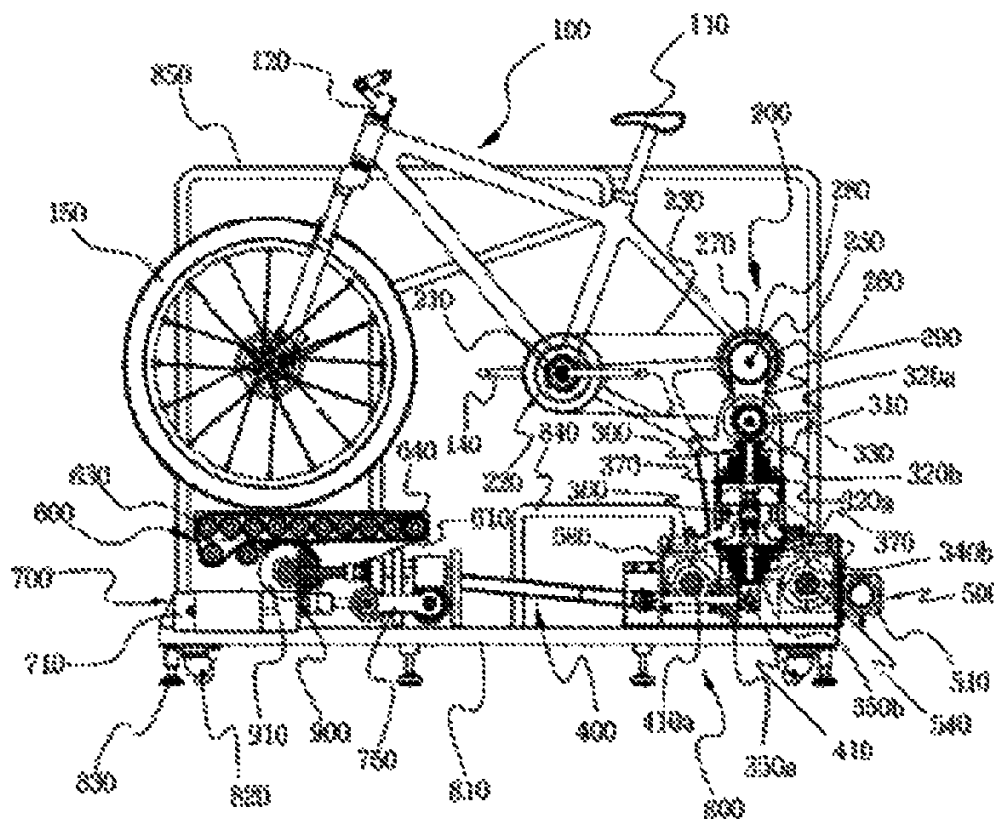
Inventors

FREIBERG MICHAEL

Family 13/20 - FAMPAT - ©Questel

Title

(WO201018936)

Exercise **bicycle****Images****Publication numbers with kind code & date**[JP5795257](#)

B2 2015-08-21

[JP5795257](#)[US8808150](#)

B2 2014-08-19

[US8808150](#)[CN102123767](#)

B 2013-11-13

[CN102123767B](#)[KR101124643](#)

B1 2012-03-19

[KR101124643](#)[JP2011530374](#)

A 2011-12-22

[JP2011530374](#)[CN102123767](#)

A 2011-07-13

[CN102123767](#)[US20110143887](#)

A1 2011-06-16

[US20110143887](#)[WO2010/018936](#)

A3 2010-06-03

[WO201018936](#)[KR20100020337](#)

A 2010-02-22

[KR20100020337](#)[WO2010/018936](#)

A2 2010-02-18

[WO201018936](#)

Abstract

(WO2010/018936)

An exercise **bicycle** wherein when rotating the wheels by rotating pedals, the user feels the **bicycle** moving forward and being tilted left and right as when riding a **bicycle** outdoors, and also feels as if the user is riding on a slope, a plain road, etc., thus preventing the user from feeling monotonous and tedious and allowing the user to feel as if the user is riding a **bicycle** outdoors, thereby increasing the amount of exercise.

Inventors

CHOI JANG WON

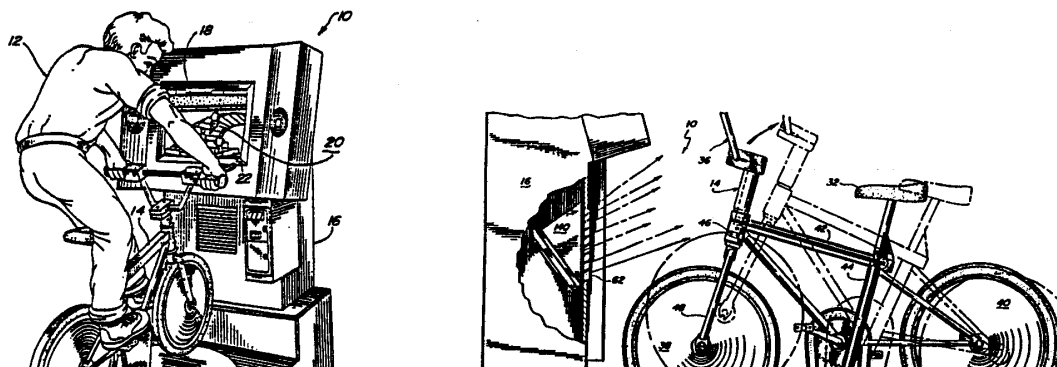
Latest standardized assignees - inventors removed

CUI ZHUANGYUAN

Family 14/20 - FAMPAT - ©Questel

Title

(WO9216267)

Bicycle and motorcycle riding simulation system**Images****Publication numbers with kind code & date**

US5364271	A	1994-11-15	US5364271
US5240417	A	1993-08-31	US5240417
WO92/16267	A3	1992-11-26	WO9216267
WO92/16267	A2	1992-10-01	WO9216267

**Abstract**

(WO92/16267)

The simulation system comprises a **bicycle** or motorcycle of conventional appearance, combined with a computer and video display. It allows the user to control the video display in response to pedalling or throttle position as well as braking and steering. Furthermore means are provided to allow the user to perform a "wheelie" and to lean the cycle from side to side. In addition the computer may be connected to a **motor** to simulate changing road conditions such as uphill and downhill gradients.

Inventors

SMITHSON BONNIE J

AKNIN JACQUES D

WINBLAD WADE

LICHAC GERALD J

MONCRIEF RICH L

HARPER DENNIS

Latest standardized assignees - inventors removed

NATIONAL AMUSEMENTS

WARNER BROS ENTERTAINMENT

Family 15/20 - FAMPAT - ©Questel

Title

(DE4221558)

Driving simulation system for two-wheeled vehicle, e.g. motorcycle - uses video recorder to record images presented in front of driver mounted on motion simulator, for later analysis

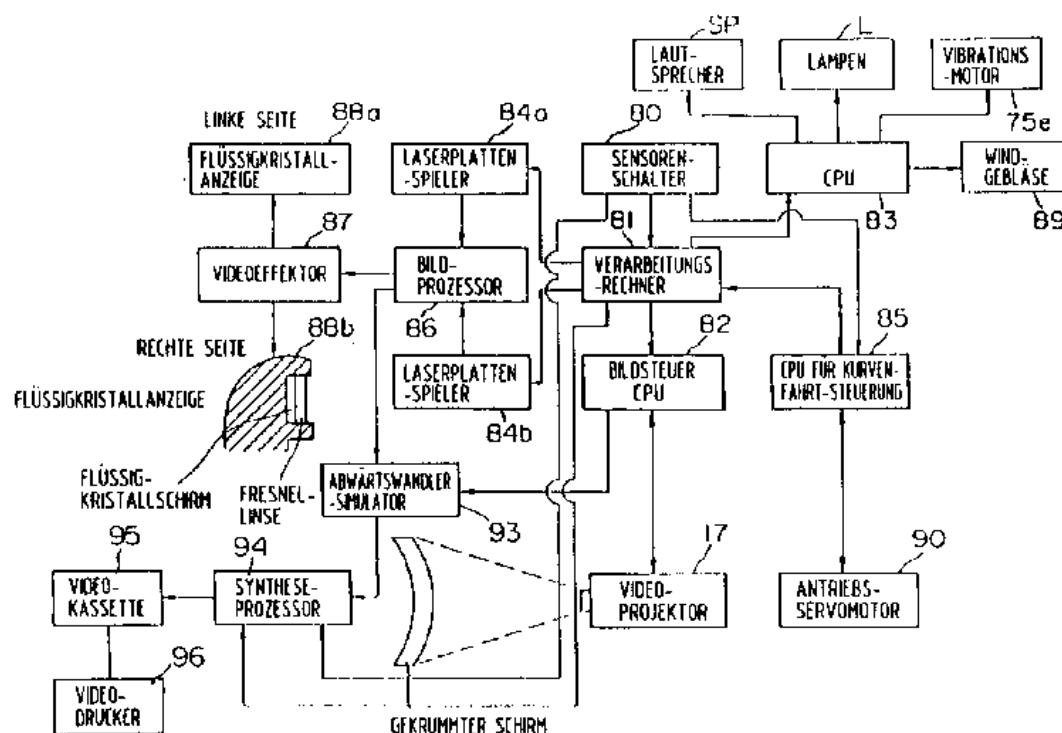
Images

Fig. 18

Publication numbers with kind code & date

JP3499572	B2	2004-02-23	JP3499572
DE4221558	C2	1996-01-25	DE4221558
JP05113746	A	1993-05-07	JP05113746
JP05088606	A	1993-04-09	JP05088606
DE4221558	A1	1993-02-04	DE4221558

**Abstract**

(DE4221558)

The simulation system includes a two-wheeled vehicle (3) with a display device (4). The latter displays pre-recorded scenes, depending on the actions of the driver. A movement appts. (2) transfers simulated driving conditions to the two-wheeled vehicle. An image recording device e.g. a video recorder is used to record the images shown on the display. The recorded images may then be reproduced at any time. The images of the rear-view mirrors are pref. recorded along with the front view. ADVANTAGE - Driver and teacher can review journey for more effective learning.

Inventors

MIYAMARU YUKIO

ISENO MITSURU

Latest standardized assignees - inventors removed

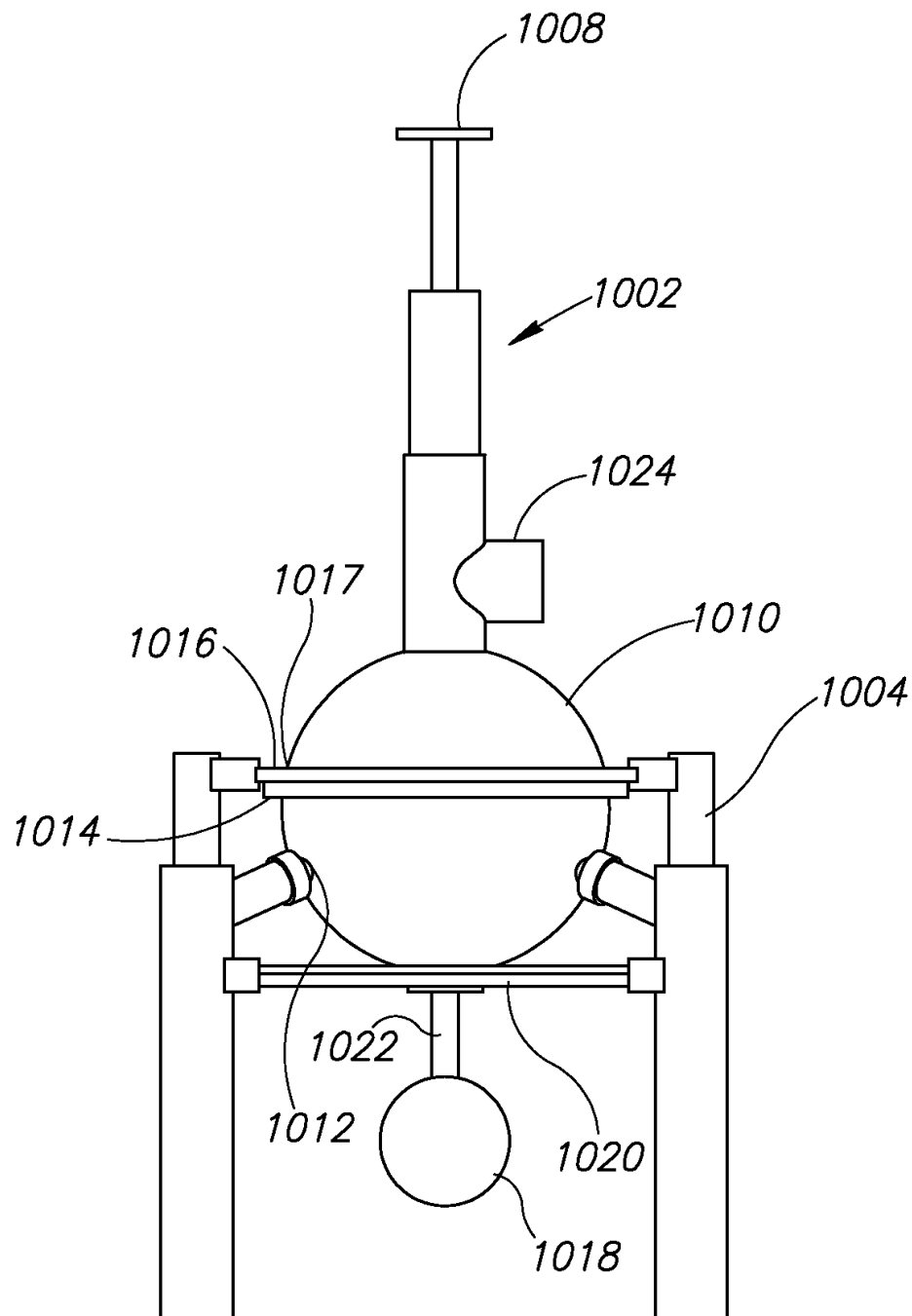
HONDA **MOTOR**

Family 16/20 - FAMPAT - ©Questel

Title

(EP1729710)

Gait rehabilitation methods and apparatuses

Images**Publication numbers with kind code & date**

US20190021929	A1	2019-01-24	US20190021929
EP1734912	B1	2018-09-26	EP1734912
US10039682	B2	2018-08-07	US10039682



US8915871	B2	2014-12-23	US8915871				
US8888723	B2	2014-11-18	US8888723				
US20140296750	A1	2014-10-02	US20140296750				
US8753296	B2	2014-06-17	US8753296				
US8545420	B2	2013-10-01	US8545420				
EP1729858	B1	2013-04-10	EP1729858				
JP5117726	B2	2012-10-26	JP5117726				
JP5105508	B2	2012-10-12	JP5105508				
JP5088771	B2	2012-09-21	JP5088771				
EP1732495	A4	2012-08-08	EP1732495				
EP1734912	A4	2012-08-08	EP1734912				
EP1734913	A4	2012-08-08	EP1734913				
EP1729710	A4	2012-03-07	EP1729710				
JP4927111	B2	2012-02-17	JP4927111				
JP4864725	B2	2011-11-18	JP4864725				
US8012107	B2	2011-09-06	US8012107				
EP1729858	A4	2009-08-05	EP1729858				
JP2009131647	A	2009-06-18	JP2009131647				
US20090062698	A1	2009-03-05	US20090062698				
US20080242521	A1	2008-10-02	US20080242521				
US20080234113	A1	2008-09-25	US20080234113				
US20080004550	A1	2008-01-03	US20080004550				
US20070299371	A1	2007-12-27	US20070299371				
US20070282228	A1	2007-12-06	US20070282228				
JP2007526030	A	2007-09-13	JP2007526030				
IN3232/CHENP/2006	A	2007-08-10	IN2006CN03232				
JP2007520310	A	2007-07-26	JP2007520310				
JP2007520311	A	2007-07-26	JP2007520311				
JP2007520312	A	2007-07-26	JP2007520312				
JP2007520313	A	2007-07-26	JP2007520313				
IN3230/CHENP/2006	A	2007-07-06	IN2006CN03230				
IN3231/CHENP/2006	A	2007-07-06	IN2006CN03231				
MXPA06008914	A	2007-07-04	MX2006PA008914				
MXPA06008919	A	2007-07-04	MX2006PA008919				
MXPA06008920	A	2007-07-04	MX2006PA008920				
KR20070061475	A	2007-06-13	KR20070061475				
CN1972732	A	2007-05-30	CN1972732				
KR20070054595	A	2007-05-29	KR20070054595				
KR20070054596	A	2007-05-29	KR20070054596				
CN1956692	A	2007-05-02	CN1956692				
EP1734912	A2	2006-12-27	EP1734912				
EP1734913	A2	2006-12-27	EP1734913				
EP1732495	A2	2006-12-20	EP1732495				
EP1729710	A2	2006-12-13	EP1729710				
EP1729858	A2	2006-12-13	EP1729858				
WO2005/074373	A3	2006-09-08	WO200574373				
WO2005/074369	A3	2006-06-29	WO200574369				
WO2005/074371	A3	2006-03-16	WO200574371				

WO2005/074372	A3	2006-01-12	WO200574372				
WO2005/074370	A3	2005-11-24	WO200574370				
WO2005/074370	A8	2005-10-20	WO200574370				
WO2005/074371	A8	2005-10-13	WO200574371				
CA2555231	A1	2005-08-18	CA2555231				
CA2555239	A1	2005-08-18	CA2555239				
CA2561140	A1	2005-08-18	CA2561140				
WO2005/074369	A2	2005-08-18	WO200574369				
WO2005/074370	A2	2005-08-18	WO200574370				
WO2005/074371	A2	2005-08-18	WO200574371				
WO2005/074372	A2	2005-08-18	WO200574372				
WO2005/074373	A2	2005-08-18	WO200574373				

Abstract

(EP1729710)

A method for gait rehabilitation, including, identifying at least one deficient gait element; exercising the deficient gait element individually using a rehabilitation apparatus (300); and exercising the deficient gait element in concert with at least one other gait element using the rehabilitation apparatus.

Inventors

EINAV OMER

Latest standardized assignees - inventors removed

MOTORIKA

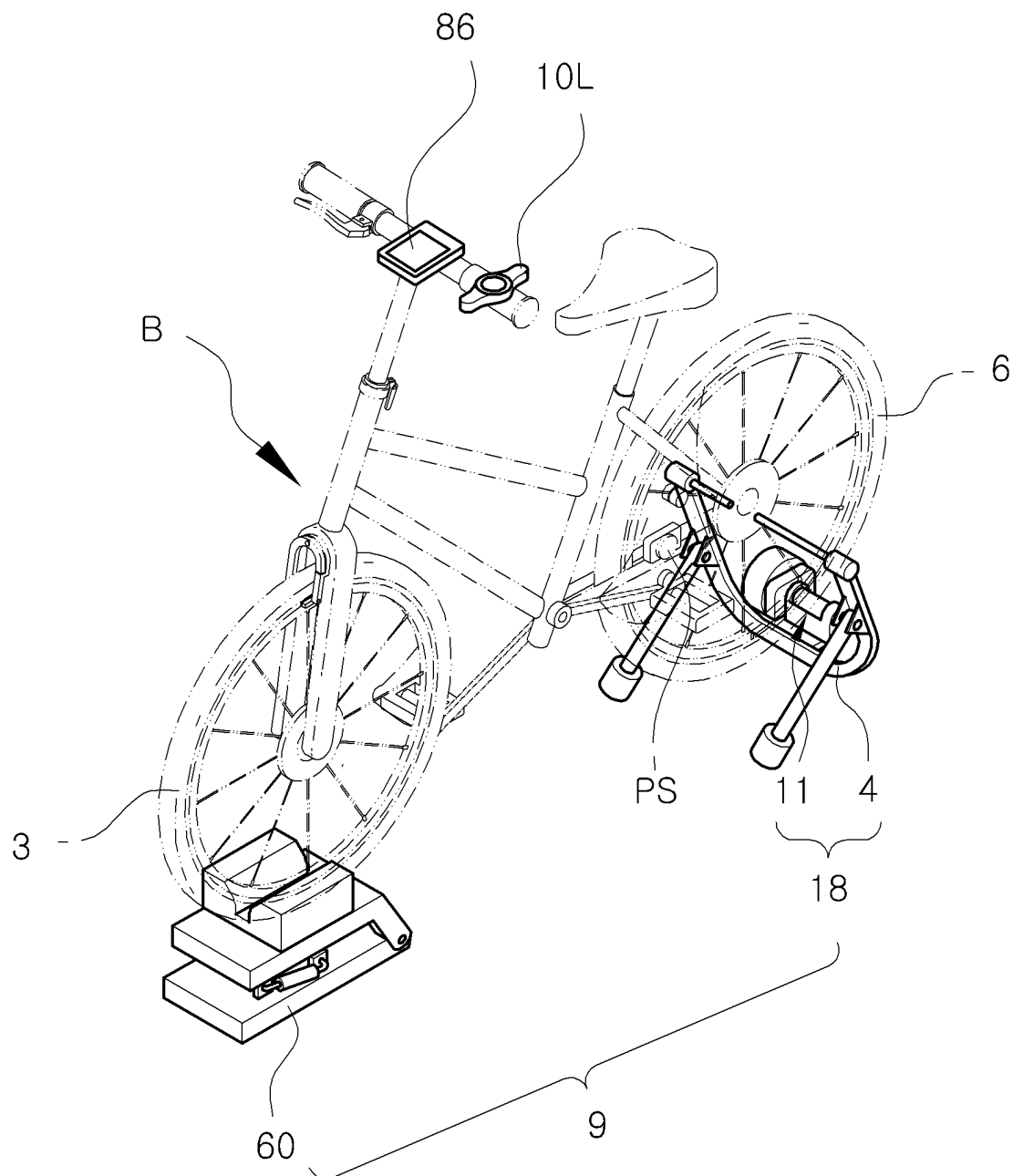
Family 17/20 - FAMPAT - ©Questel

Title

(KR101233974)

Cycling stanchion type trainer controlled cycling computer

Images



Publication numbers with kind code & date

KR101233974	B1	2013-02-18	KR101233974
KR20120079303	A	2012-07-12	KR20120079303



Abstract

(KR20120079303)

PURPOSE: A **bicycle** notched trainer controlled by a cycling computer is provided to control a trainer when using the **bicycle** indoor and control image indication by using a cycling computer.

CONSTITUTION: A **bicycle** notched trainer controlled by a cycling computer comprises a **bicycle** (B), a front-wheel trainer(60), and rear wheel trainers(18). The rear wheel traitor is fixed in the rear axle. A loading generator is installed so that the rear wheel can be put on the rigid frame. The front-wheel trainer can confirm travel information and biorhythm information. The front-wheel trainer fixes the front wheel and controls by the cycling computer. The front-wheel trainer comprises a trainer supporting plate, a lift supporting plate in which one end is installed in the hinge shaft, a front-wheel supporting part which is formed for front-wheel not to be secede, and an actuator installed at the bottom surface.

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Inventors

CHUNG BYUNG HYUN

LIM, SANG BUM

CHOI, JAE-WON

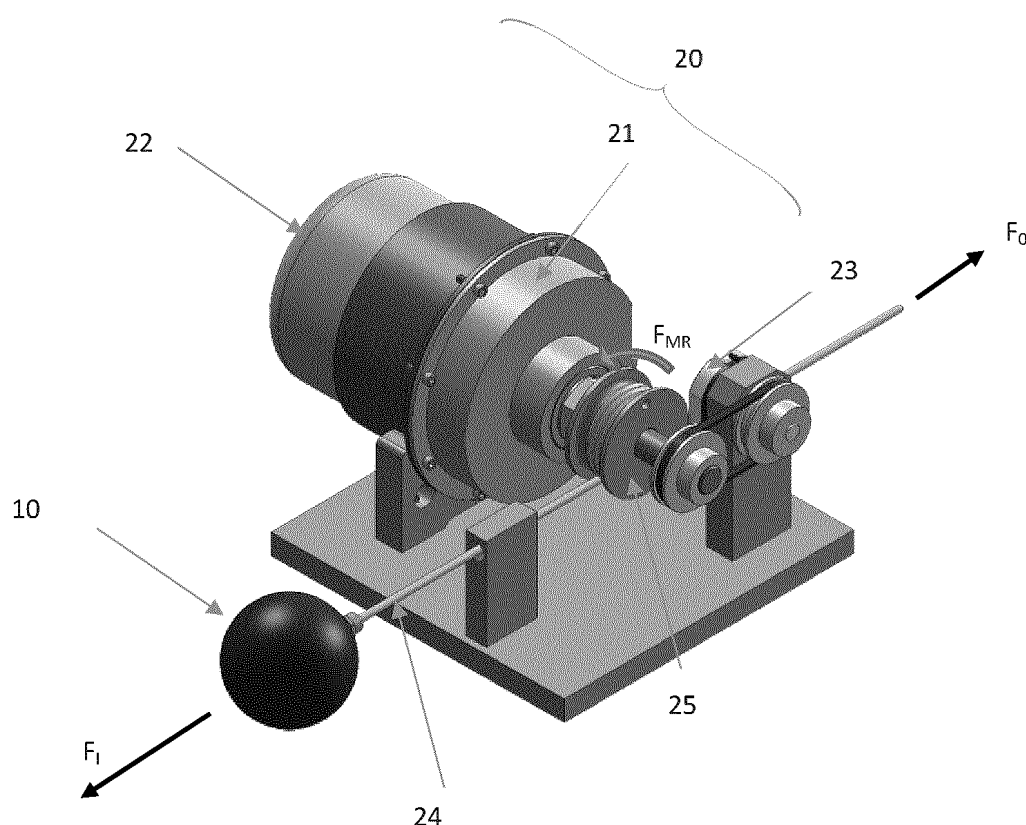
Latest standardized assignees - inventors removed

VFLUX

Family 18/20 - FAMPAT - ©Questel

Title

(EP3341089)

Strength **training** device using magnetorheological fluid clutch apparatus**Images****Publication numbers with kind code & date**

EP3341089	A4	2019-04-24	EP3341089
US20180214730	A1	2018-08-02	US20180214730
EP3341089	A1	2018-07-04	EP3341089
IN201817008040	A	2018-05-25	IN201817008040
CN107921307	A	2018-04-17	CN107921307
CA2991929	A1	2017-03-02	CA2991929
WO2017/031585	A1	2017-03-02	WO201731585

**Abstract**

(EP3341089)

A system for assisting a user in strength **training** with a strength **training** device comprises a **torque** source. One or more magnetorheological (MR) fluid clutch apparatuses has an input coupled to **torque** source to receive **torque** from the **torque** source, the MR fluid clutch apparatus controllable to transmit a variable amount of **torque** via an output thereof. A modulation interface couples the output of the at least one MR fluid clutch apparatus to a force transmission of the **training**

device. One or more sensors provide information indicative of a **training** action by the user. A **training** processor comprises a **training** effort calculator module for receiving the information indicative of the **training** action and for characterizing the **training** action, a **training** assistance controller module for determining a level of force assistance from the characterizing of the **training** action, and an assistance generator module for controlling the at least one MR fluid clutch apparatus in exerting the force assistance at said level on the force transmission of the **training** device to assist the user in the **training** action. A method for assisting a user in strength **training** with a MR fluid clutch apparatus is also provided.

Inventors

LAROSE PASCAL

DENNINGER MARC

JULIO GUIFRÉ

PLANTE JEAN-SÉBASTIEN

Latest standardized assignees - inventors removed

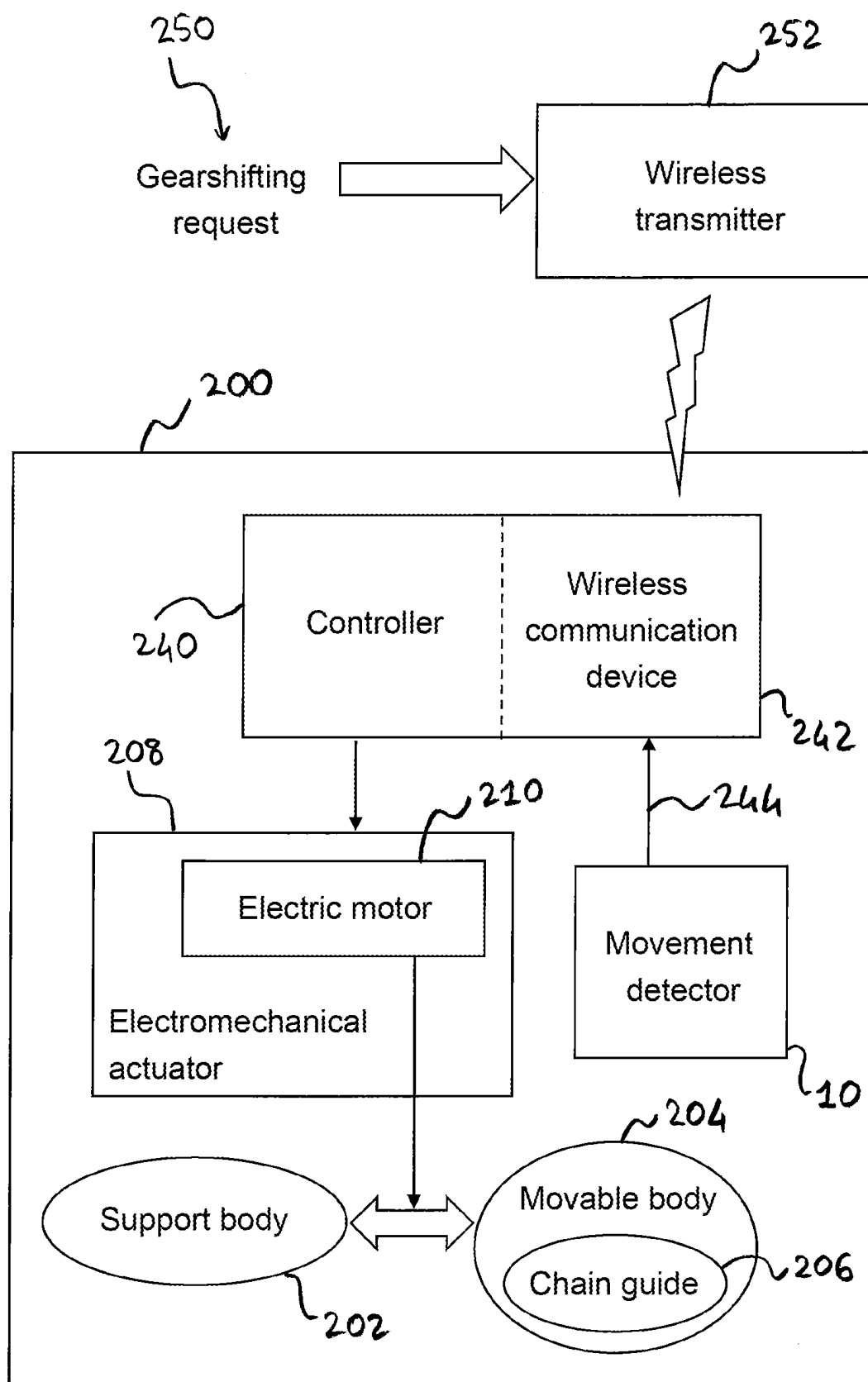
EXONETIK

Family 19/20 - FAMPAT - ©Questel

Title

(EP3343235)

Bicycle wireless electronic derailleur**Images**



Publication numbers with kind code & date

JP2018122850	A	2018-08-09	JP2018122850
TW201827294	A	2018-08-01	TW201827294
CN108313192	A	2018-07-24	CN108313192



EP3343235	A1	2018-07-04	EP3343235
US20180178881	A1	2018-06-28	US20180178881
IT201600131314	A1	2018-06-27	IT201600131314



Abstract

(EP3343235)

A **bicycle** wireless electronic derailleur (200, 300), comprising a support body (202, 302), a movable body (204, 304), comprising a chain guide (204, 306), actuation means (208, 308) configured to move the movable body (204, 304) with respect to the support body (202, 302), comprising an electric **motor** (210, 310), a controller (240) of the electric **motor** (210, 310), a wireless **communication** device (242), part of or in **communication** with the controller (240), configured to receive gearshifting request signals from a wireless transmitter (252) and housed in a first casing (202, 208, 302, 413, 513), and a **bicycle** movement detector (10) configured to emit a wake signal (244) for the wireless **communication** device (242). The movement detector (10) is at least partially housed in at least one second casing (22, 22A) different from the first casing (202, 208, 302), and is in **communication** through at least one cable (320, 320A) with the wireless **communication** device (242).

Inventors

MIGLIORANZA FEDERICO

Latest standardized assignees - inventors removed

CAMPAGNOLO

Family 20/20 - FAMPAT - ©Questel

Title

(EP3343234)

Detector for a **bicycle**

Images

actual portion of the movable element, the **sensor** (14) detects the magnetic field perturbed by said actual portion of the movable element. A **bicycle** equipment and a **bicycle** derailleur are also described.

Inventors

MIGLIORANZA FEDERICO

Latest standardized assignees - inventors removed

CAMPAGNOLO