

25 Documents

Publication numbers	Title	Current assignees
JP2005082138 A	Driving device for hybrid car	TOYOTA MOTOR
CA2378774 A1	Hybrid energy power management system and method	GENERAL ELECTRIC
US20060250902 A1	Plug-in hybrid vehicle with fast energy storage	AFS TRINITY POWER
CN102649397 A	Energy-saving self-pushing system of wheel	DEHUA LIU
CN106655605 A	Magnetic suspension flywheel battery for sandwich-type electric car and work method thereof	JIANGSU UNIVERSITY
JP10295002 A	Braking and auxiliary accelerating equipment for internal combustion engine	HINO MOTORS
DE102006039319 A1	Stepless friction gear for vehicles, particularly small car class, has function designed as centrifugal mass according to available output-sided universal ball, for energy storage, which is used for increasing accelerating power	HORSTHEMKE STEPHAN, ...
WO2010149149 A2	Electricity generating suspension system for hybrid and electric automobiles	INTERTRONIC GRESSER
CN102975610 A	Power assembly of kinetic energy hybrid car and method thereof	ALBERT LIM
CN201001064U Y	Combined flywheel battery for hybrid power vehicle	WENZHI ZHANG
DE4133014 A1	Non-trackbound vehicle with an electrodynamic converter and a hand throttle.	MANNESMANN
CN106385203 A	Axial split-phase internal stator permanent magnet biased magnetic suspension switched reluctance flywheel motor	NANJING INSTITUTE OF TECHNOLOGY
CN104097497 A	Energy-storage and driving device applicable to hybrid vehicle	CHANGZHOU HAIKE NEW ENERGY TECHNOLOGY
US20130159371 A1	Acoustic processing unit interface	CYPRESS SEMICONDUCTOR
US20070007059 A1	Drive device for hybrid vehicle	AISIN AW
DE102011116127 A1	Fuel cell device operating method for fuel cell hybrid car , involves compensating difference between momentary performance requirement of load and reference value of performance requirement by charging or discharging energy storage unit	VOLKSWAGEN
CN205736908U U	Novel sanitation car driving system and novel sanitation car	ZHENGZHOU YUTONG BUS
CN201881879U U	Multi-power-source hybrid automobile	YANCHENG HENENG MACHINERY & ELECTRONICS TECHNOLOGY DEVELOPMENT
JP10075504 A	Hybrid fuel-cell car	ISHIKAWAJIMA HARIMA

Publication numbers	Title	Current assignees
		HEAVY INDUSTRIES IHI
CN205706194U U	Solar panel mixing enhancement power car duration system	WANG YONGLI
CN102545717 A	Heat energy generator of hybrid power automobile	ZHENHUAN ZHAI
CN103414432 A	Construction method of hybrid electric vehicle belt driven starter generator controller	JIANGSU UNIVERSITY
CN103192817 A	Braking energy recycling device and automobile applying same	GREAT WALL MOTOR
CN105644565 A	Measuring method for load of hybrid electric vehicle	WEICHAI POWER
CN102050000 A	Composite energy power automobile with multiple power sources	YANCHENG HENENG ELECTROMECHANICAL TECHNOLOGY DEVELOPMENT

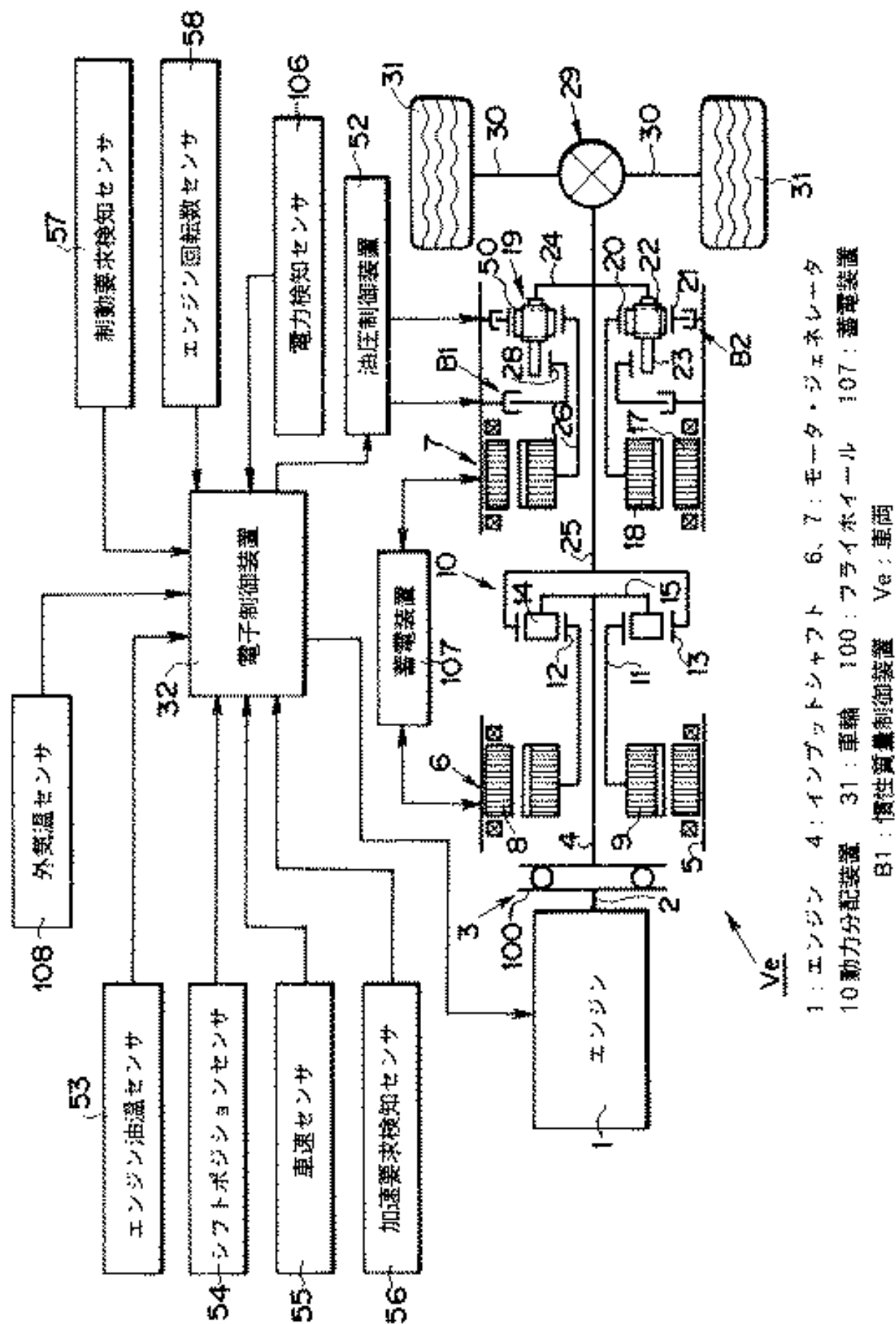
Family 1/25 - FAMPAT - ©Questel

Title

(JP2005082138)

Driving device for hybrid car

Images



[JP2005082138](#)

A 2005-03-31 JP2005082138

[JP3976717](#)

B2 2007-09-19 JP3976717

**Abstract**

(JP3976717)

PROBLEM TO BE SOLVED: To provide a driving device for a **hybrid car** capable of improving vibration reducing **performance**.

SOLUTION: The driving device for a **hybrid car** has a power distributing device 10 having a function for transmitting motive power of a first driving force source **1** to a rotary device 6 and wheels 31 and a function for transmitting motive power of the rotary device 6 to the first driving force source **1** to raise the number of revolution of the first driving force source **1**, and a second driving force source 7 separately provided from the first driving force source **1** to transmit motive power to the wheels 31. This driving device for a **hybrid car** is provided with an inertia mass control device for controlling inertia mass of the first driving force source **1**.

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Inventors

MOTOIKE KAZUTOSHI

ADACHI MASATOSHI

ICHIYANAGI JUN

Latest standardized assignees - inventors removed

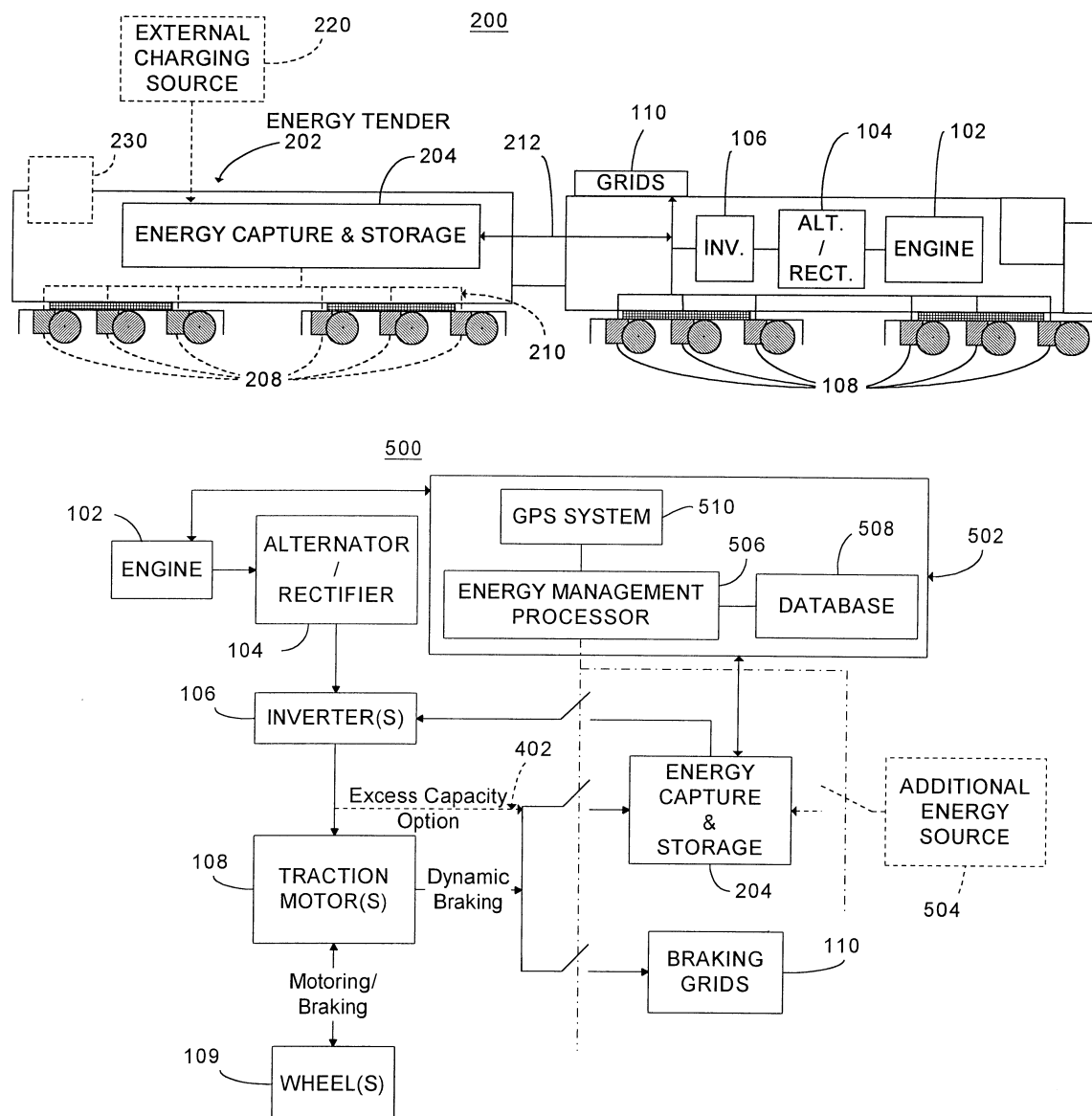
TOYOTA MOTOR

Family 2/25 - FAMPAT - ©Questel

Title

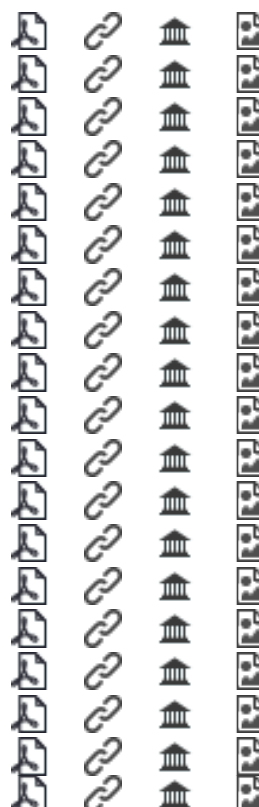
(EP1245431)

Hybrid energy power management system and method**Images**



Publication data including kind & date

CA2378774	A1	2002-09-27	CA2378774
EP1245431	A2	2002-10-02	EP1245431
US2002174796	A1	2002-11-28	US20020174796
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US6591758	B2	2003-07-15	US6591758
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US2003150352	A1	2003-08-14	US20030150352
US6612245	B2	2003-09-02	US6612245
US6612246	B2	2003-09-02	US6612246
US6615118	B2	2003-09-02	US6615118
EP1245431	A3	2003-11-26	EP1245431
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WO2006020476	A3	2006-03-23	WO200620476				
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US7137344	B2	2006-11-21	US7137344				
CN1906050	A	2007-01-31	CN1906050				
US7185591	B2	2007-03-06	US7185591				
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US7325498	B2	2008-02-05	US7325498				
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US7430967	B2	2008-10-07	US7430967				
US7448328	B2	2008-11-11	US7448328				
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CA2378774	C	2009-12-22	CA2378774				
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IN4339/CHENP/2009	A	2010-06-11	IN2009CN04339				
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US8371230	B2	2013-02-12	US8371230				
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CN101687506	B	2013-07-31	CN101687506B				
CN103770659	A	2014-05-07	CN103770659				
US9193268	B2	2015-11-24	US9193268				
US9233612	B2	2016-01-12	US9233612				
IN295085	B	2018-04-06	IN-295085				

Abstract

(EP1245431)

An energy management system (502) for use with off-highway vehicles, including locomotives, that traverse a known course. A processor (506) determines power storage and transfer parameters, including data indicative of present and future track profile information. The energy management system (502) controls the storage and regeneration of electrical energy. A **hybrid** energy locomotive system has an energy storage and regeneration system (204). In one form, the system can be retrofitted into existing locomotives or installed as original equipment. The energy storage and regeneration system (204) captures dynamic braking energy, excess motor energy, and or externally supplied energy. The captured energy is stored in an energy storage system such as a battery, a flywheel system, or a capacitor system. The energy storage and regeneration system can be located in a separate energy tender vehicle. The separate energy tender vehicle is optionally

equipped with traction motors. <IMAGE>

Inventors

KUMAR AJITH KUTTANNAIR

Latest standardized assignees - inventors removed

GENERAL ELECTRIC

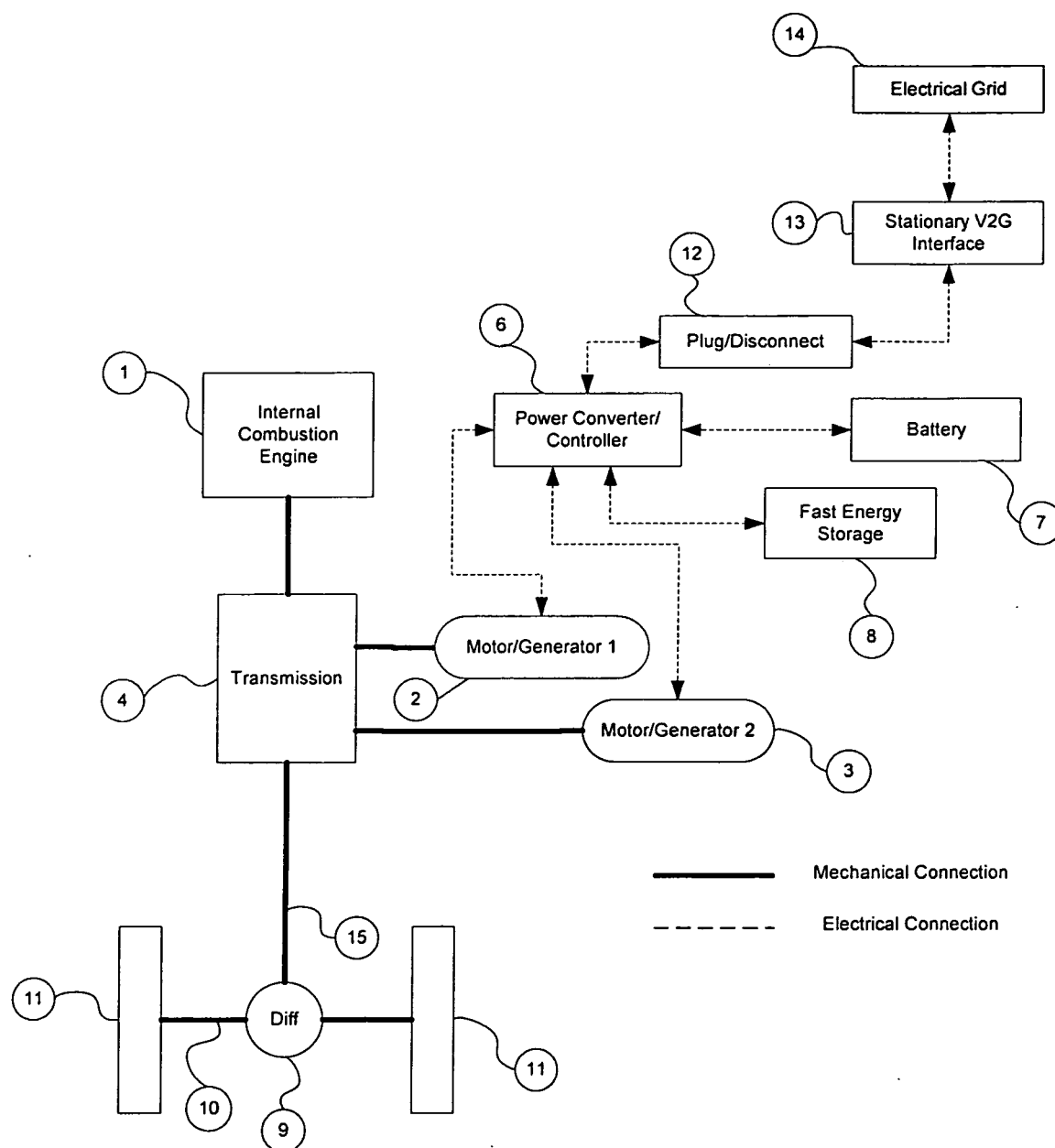
Family 3/25 - FAMPAT - ©Questel

Title

(EP1883552)

Plug-in **hybrid** vehicle with fast energy storage

Images



Publication data including kind & date

US2006250902	A1	2006-11-09	US20060250902
WO2006121761	A2	2006-11-16	WO2006121761
CA2647638	A1	2006-11-16	CA2647638
WO2006121761	A3	2007-11-29	WO2006121761
KR20080003905	A	2008-01-08	KR20080003905
EP1883552	A2	2008-02-06	EP1883552



IN8500/DELNP/2007	A	2008-07-04	IN2007DN08500				
CN101218119	A	2008-07-09	CN101218119				
CN101218119	B	2011-01-12	CN101218119B				
EP1883552	A4	2011-04-27	EP1883552				
HK1123017	A1	2011-10-21	HK1123017				
EP1883552	B1	2012-06-20	EP1883552				
HK1112604	A1	2012-10-12	HK1112604				

Abstract

(EP1883552)

This invention relates to plug-in **hybrid** propulsion systems where the energy storage element of the **hybrid** drive train may be charged with externally supplied electricity as well as energy from the engine or regenerative braking. The invention is a plug-in **hybrid** system with a fast energy storage and delivery system. In a preferred embodiment the invention comprises a fuel powered engine, a battery, a fast energy storage system, power converters, controllers, drive motors, an electrical distribution system, and a drive train. Additionally, the invention relates to plug-in hybrids that provide services to the electrical utility when the vehicle is connected to the utility grid.

Inventors

BENDER DONALD ARTHUR

DESHMANE ATUL

MEANS ANDREW ELDON

Latest standardized assignees - inventors removed

AFS TRINITY POWER

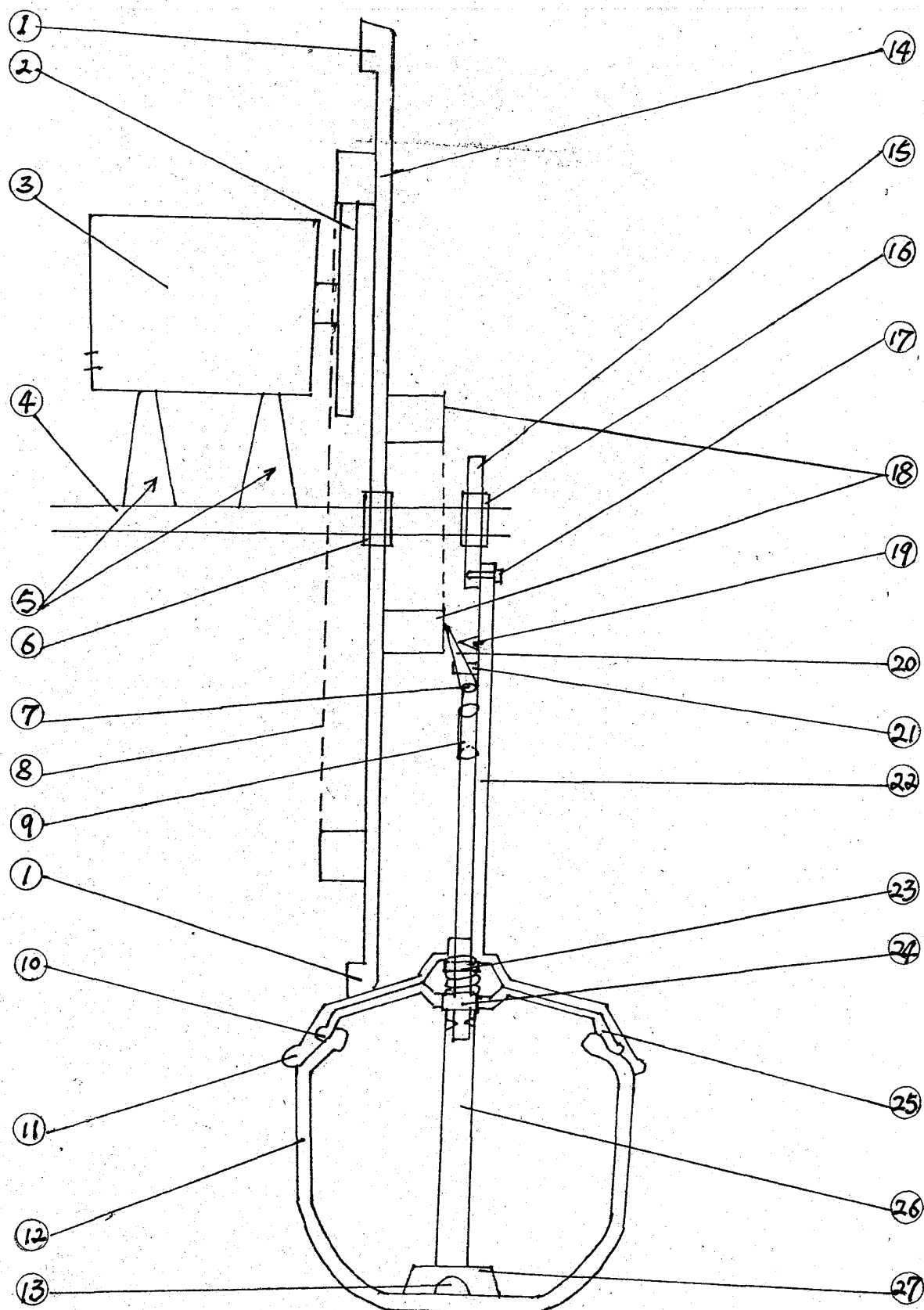
Family 4/25 - FAMPAT - ©Questel

Title

(CN102649397)

Energy-saving self-pushing system of wheel

Images



Publication data including kind & date

[CN102649397](#)

A 2012-08-29 CN102649397

[CN102649397](#)

B 2015-08-05 CN102649397B



Abstract

(CN102649397B)

The invention relates to an energy-saving self-pushing system of a wheel, which is a device used for auxiliary drive and power generation by the deformation of the wheel, is a study on the field of automobile energy saving, and is shown in an attached drawing. The energy-saving self-pushing system is technically characterized in that when a tire is deformed by being extruded by a road surface, the deformation is transmitted through a foot stall, an internal transmission rod, a

transmission joint, an external transmission rod and a prop tongue which are arranged on the tire and a steel bowl, a transmission plate arranged on a wheel axle is pushed to rotate to generate a driving force consistent to the forwarding direction of the wheel, a contact driver is used for auxiliarily pushing the wheel to move forwards, at the same time a belt pulley of an electric generator arranged on a wheel axle is driven to generate power, and the electric current is accessed into a main driving power source. When the wheel runs, the deformation can be generated continuously and recovered, so that continuous driving force and electric energy are provided. The system aims to reduce energy consumption in the movement of an automobile, and the key point is that an idea of an energy-saving transmission spoke is introduced. The energy-saving self-pushing system disclosed by the invention is mainly used for electric automobiles, gas-electric hybrid vehicles, ordinary cars and the like.

Inventors

DEHUA LIU

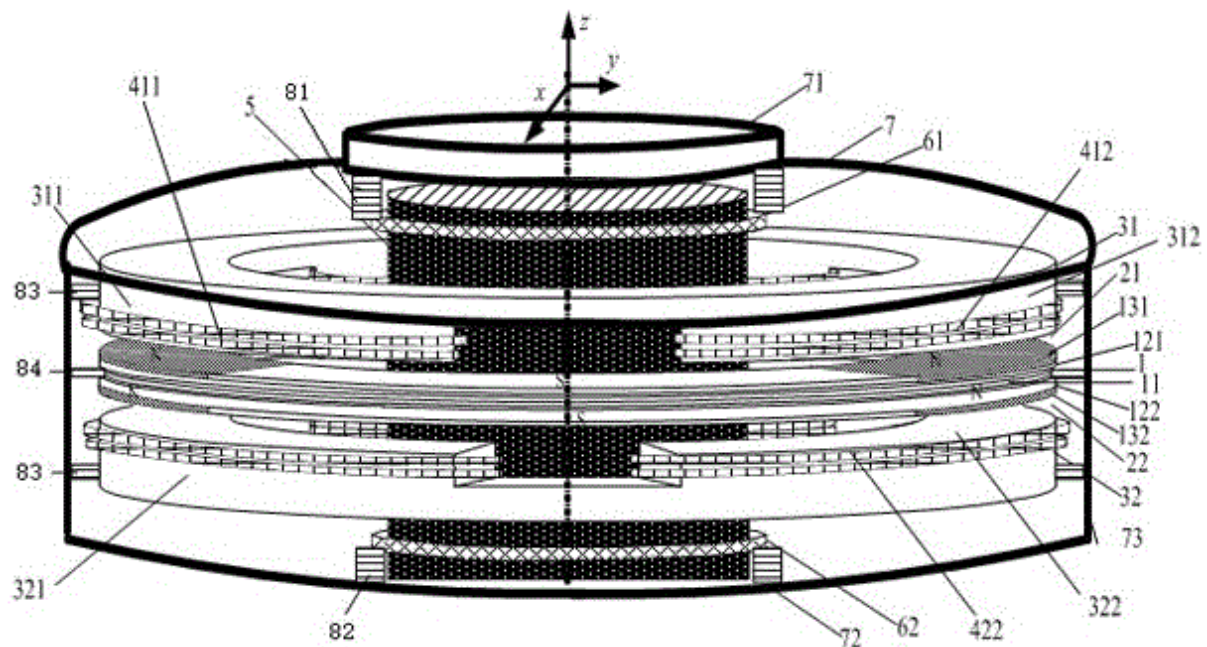
Family 5/25 - FAMPAT - ©Questel

Title

(CN106655605)

Magnetic suspension flywheel battery for sandwich-type electric car and work method thereof

Images



Publication data including kind & date

CN106655605

A 2017-05-10 CN106655605



Abstract

(CN106655605)

The present invention discloses a magnetic suspension flywheel battery for a sandwich-type electric car and a work method thereof. A vertical rotation shaft is arranged at the center of the internal portion of a vacuum chamber, a disc-type flywheel motor is coaxially arranged at the center of the axial direction of the vertical rotation shaft, disc-type magnetic bearings having the same structure, being arranged at the axial direction in the longitudinal symmetry mode relative to the disc-type flywheel motor and being sleeved at the outer portion of the vertical rotation shaft are coaxially arranged at the upper portion and the lower portion of the disc-type flywheel motor, and each disc-type magnetic bearing is wound with a set of radial control coils; the disc-type flywheel motor is composed of a stator, two rotors and two sets of permanent magnets, the stator is located at the center of the disc-type flywheel motor and coaxially arranged at the outer portion of the vertical rotation shaft, and the two rotors are respectively and symmetrically arranged at upper and lower sides of the stator and coaxially and fixedly sleeved on the vertical rotation shaft; and the two sets of the permanent magnets are respectively pasted on the surfaces, back to the stator, of the two rotors along the peripheral directions, the whole structure of the flywheel battery is a disc-type structure, the disc-type magnetic bearings and the disc-type flywheel motor are both the flat

structures to inhibit the gyroscopic effect of the rotors.

Inventors

ZHANG WEIYU

ZHU HUANGQIU

CHEN TAO

YANG HENGKUN

Latest standardized assignees - inventors removed

JIANGSU UNIVERSITY

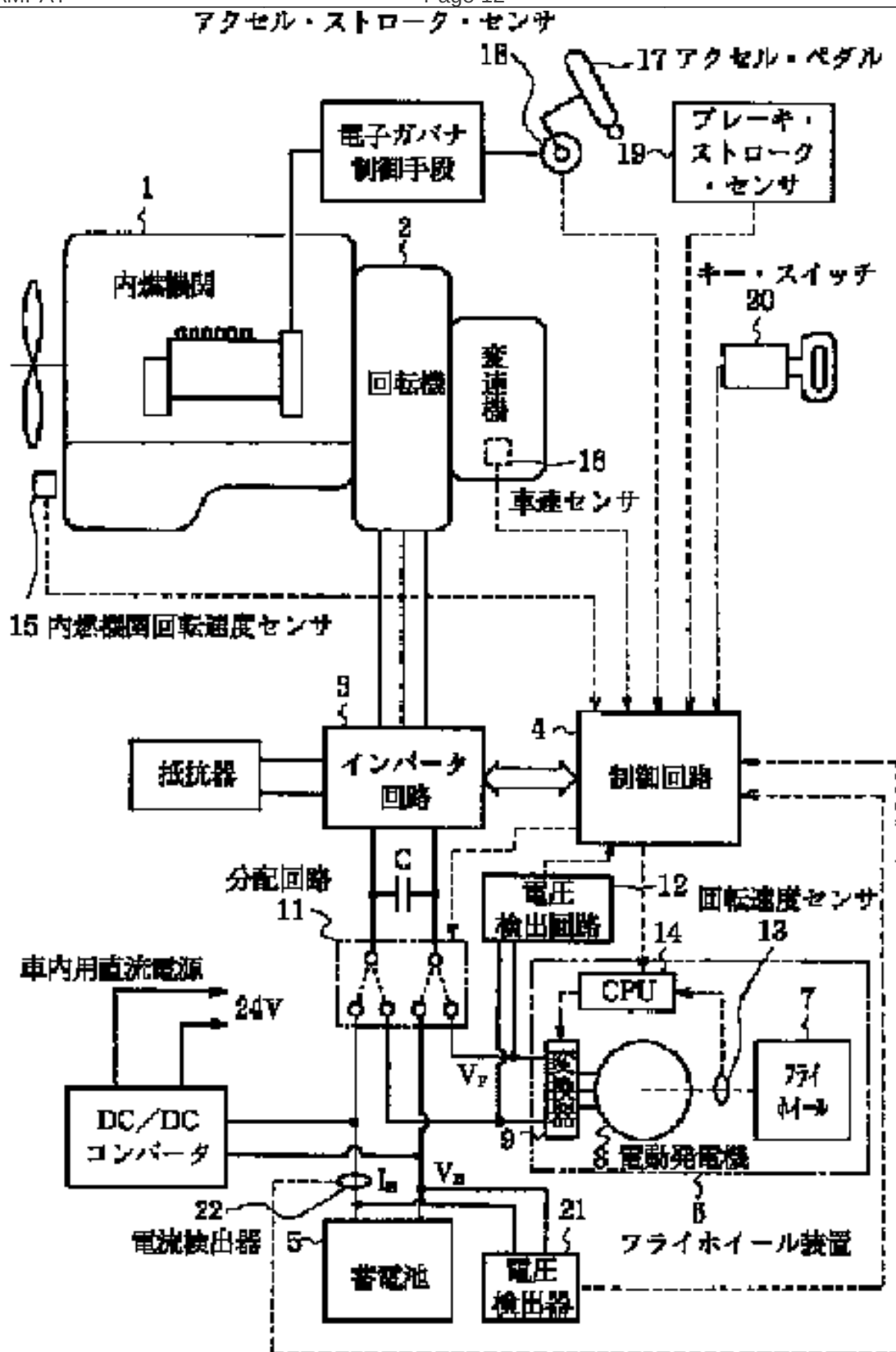
Family 6/25 - FAMPAT - ©Questel

Title

(JP10295002)

Braking and auxiliary accelerating equipment for internal combustion engine

Images



Publication data including kind & date

JPH10295002

A 1998-11-04 JP10295002



Abstract

(JP10295002)

PROBLEM TO BE SOLVED: To rapidly store and release energy during braking and acceleration of a **hybrid car**, and to reduce the size of a battery. SOLUTION: As power storing means, a flywheel equipment 6, in which a motor generator 8 is coupled to the rotating shaft of a flywheel and the voltage at its electric terminal and a terminal voltage of a battery 5 are matched by a converter 9, is installed together with a battery 5, and energy generated in a rotary machine 2 during braking is regenerated from an inverter circuit 3 to the flywheel equipment 6 and the battery 5. Energy stored during auxiliary acceleration is supplied from an inverter circuit 3 to the rotary machine 2, and a drive force is given to an internal

combustion engine. By doing this, the repetition number of times of charging/discharging of the battery 5 can be reduced, and the life and maintenance period of the battery can be made long.

Inventors

MIYAJIMA TOSHIHIDE

HIJIKATA SADAHITO

Latest standardized assignees - inventors removed

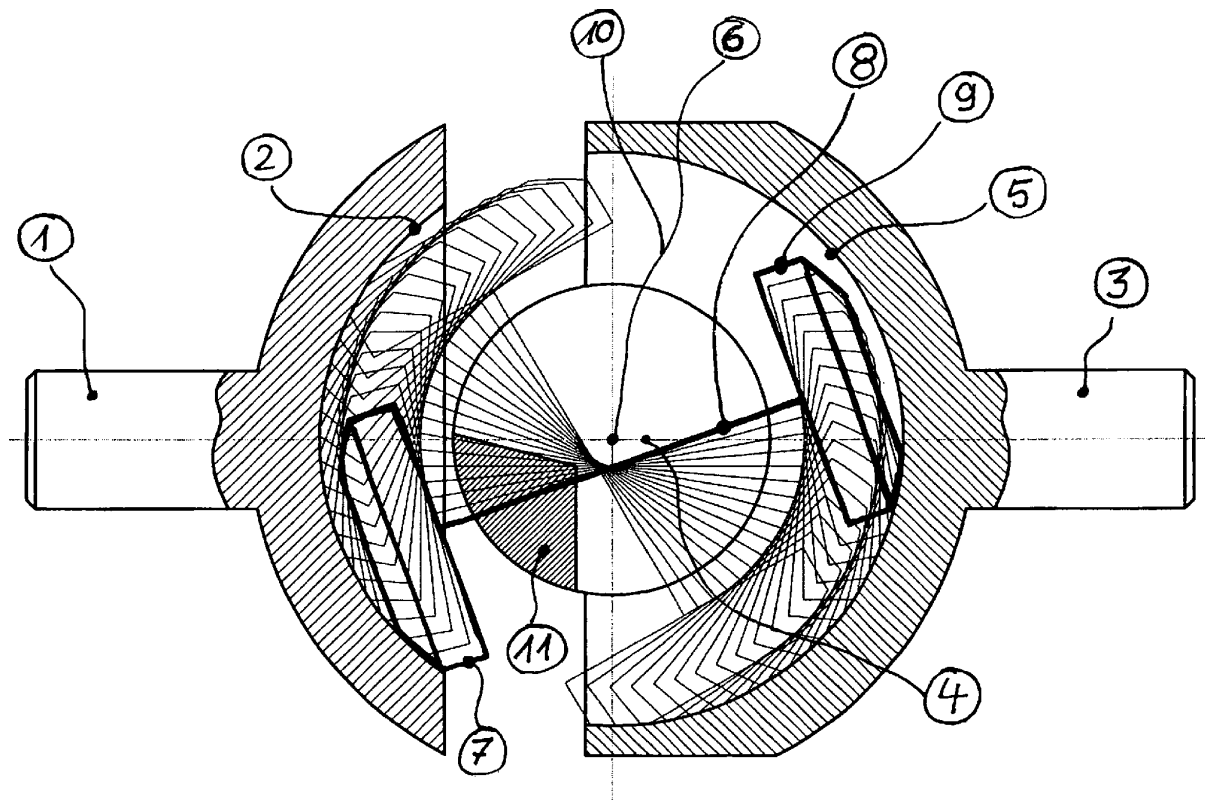
HINO MOTORS

Family 7/25 - FAMPAT - ©Questel

Title

(DE102006039319)

Stepless friction gear for vehicles, particularly small **car** class, has function designed as centrifugal mass according to available output-sided universal ball, for energy storage, which is used for increasing accelerating power

Images**Publication data including kind & date**[DE102006039319](#)

A1 2008-02-28

DE102006039319

**Abstract**

(DE102006039319)

The stepless friction gear has pairs of friction wheels with spherical pitch surfaces, with coaxial drives and output shaft, for use as mechanical **hybrid** drive. The function is designed as centrifugal mass according to available output-sided universal ball (2,5), for the energy storage. The attained energy storage is used for increasing the accelerating power, with priority for the lowering of the consumption by use before stored brake energy, as well as by optimal utilization of required engine **performance** use finds.

Inventors

HORSTHEMKE STEPHAN

KNOOP PATRICK

MUES TILMAN

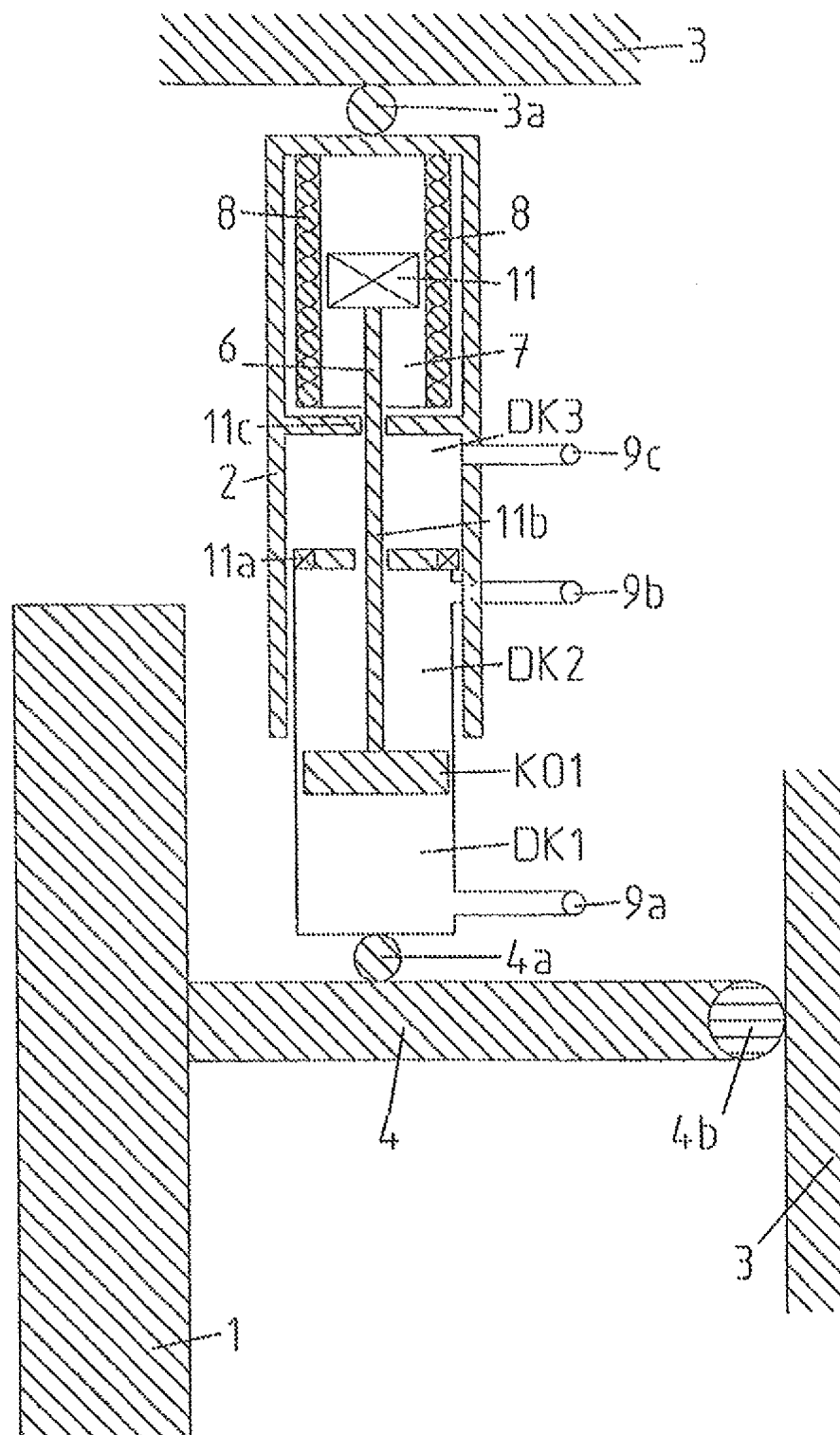
REHAGE DAVID

SCHLOTHANE THOMAS

Family 8/25 - FAMPAT - ©Questel

Title

(EP2445735)

Electricity generating suspension system for **hybrid** and electric automobiles**Images**

DE102009060999	A1	2011-01-05	DE102009060999				
WO2010149149	A3	2011-06-03	WO2010149149				
WO2010149149	A4	2011-07-21	WO2010149149				
EP2445735	A2	2012-05-02	EP2445735				
CN102481821	A	2012-05-30	CN102481821				
US2012303193	A1	2012-11-29	US20120303193				
IN0612/CHENP/2012	A	2013-04-19	IN2012CN00612				
US8874291	B2	2014-10-28	US8874291				
EP2445735	B1	2016-04-06	EP2445735				
CN102481821	B	2016-04-27	CN102481821B				

Abstract

(EP2445735)

The invention relates to vehicles for transporting persons and/or goods, which vehicles travel on roads or alternatively on rails and at least partially use electrical energy using electric motors as drive units, wherein the electrical energy used is predominantly or substantially produced within the vehicle by converting kinetic energy, in particular components of the kinetic energy that are caused on the vehicle bodywork as gravitation effects and components of the kinetic energy from curve centrifugal forces and acceleration motions of the vehicle body, the vertical dynamic acceleration motions of the wheels and wheel suspensions, and other components, wherein the electrical energy generated in such way is temporarily stored in chemical energy stores (batteries) and/or other suitable storage media, for example, high-power capacitors or flywheel stores, until the electricity is used in the vehicle drive motors and/or other loads.

Inventors

GRESSER GERMAN

Latest standardized assignees - inventors removed

INTERTRONIC GRESSER

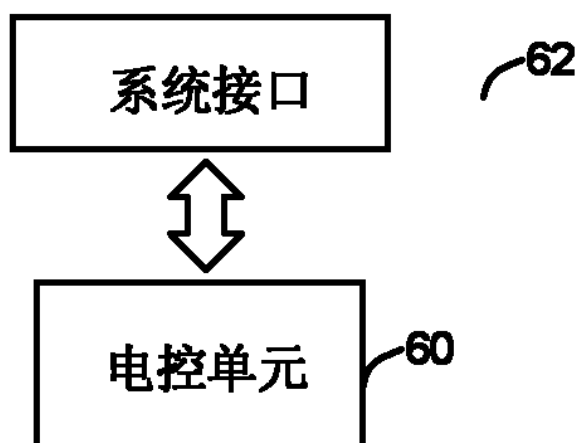
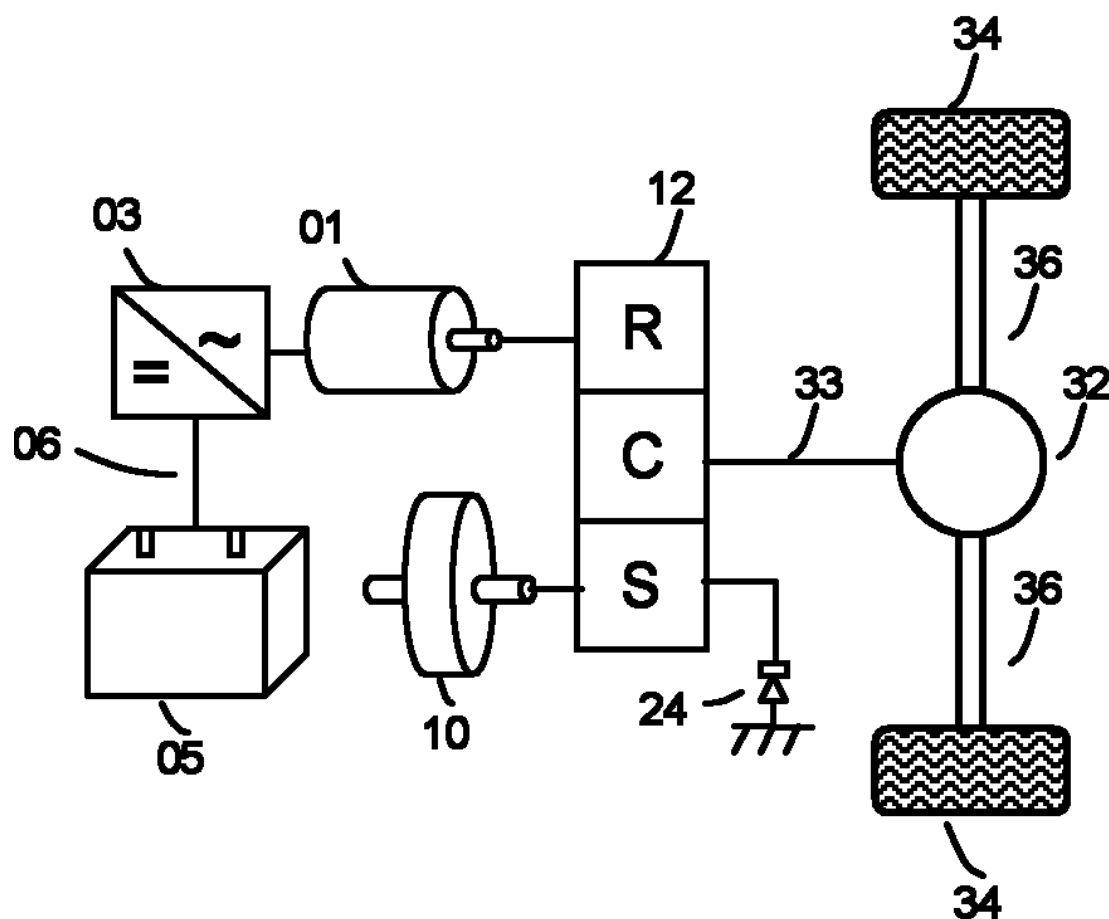
Family 9/25 - FAMPAT - ©Questel

Title

(CN102975610)

Power assembly of kinetic energy **hybrid car** and method thereof**Images**

$$(k+1) \omega_c = k \omega_r + \omega_s \quad (1)$$



Publication data including kind & date

CN102975610

A 2013-03-20 CN102975610

**Abstract**

(CN102975610)

The invention discloses a kinetic energy **hybrid car** system and a method of a power assembly of the kinetic energy **hybrid car**. The kinetic energy **hybrid** power system mainly comprises a kinetic energy storing and kinetic energy power device and electric motive power or fuel oil motive power in a combined mode to form a kinetic energy-electric power **hybrid car** or a kinetic energy-fuel oil **hybrid car**. The kinetic energy storing and kinetic energy power device is composed of a flywheel and an electronic control motive power distribution continuously variable transmission used for controlling the flywheel. The motive power distribution device is composed of a three-port planetary gear train or a four-port composite planetary gear train, wherein the flywheel is connected with a first port, a power train of a drive wheel is connected with a second port, an adjustable-speed motor is connected with a third port and a motive power motor and/or an internal-combustion engine is connected with a fourth port or is connected with the first port together with the flywheel (in a condition that the number of the ports is three). Kinetic energy is stored in the kinetic energy and motive power **hybrid** power system and the kinetic energy is adopted by the **car** so that storage and usage of the energy is free of energy conversion, and therefore compared with oil and electronic power **hybrid** power system required four times of energy conversion, energy saving efficiency is improved obviously.

Inventors

HE HONGPING

HE JING

Latest standardized assignees - inventors removed

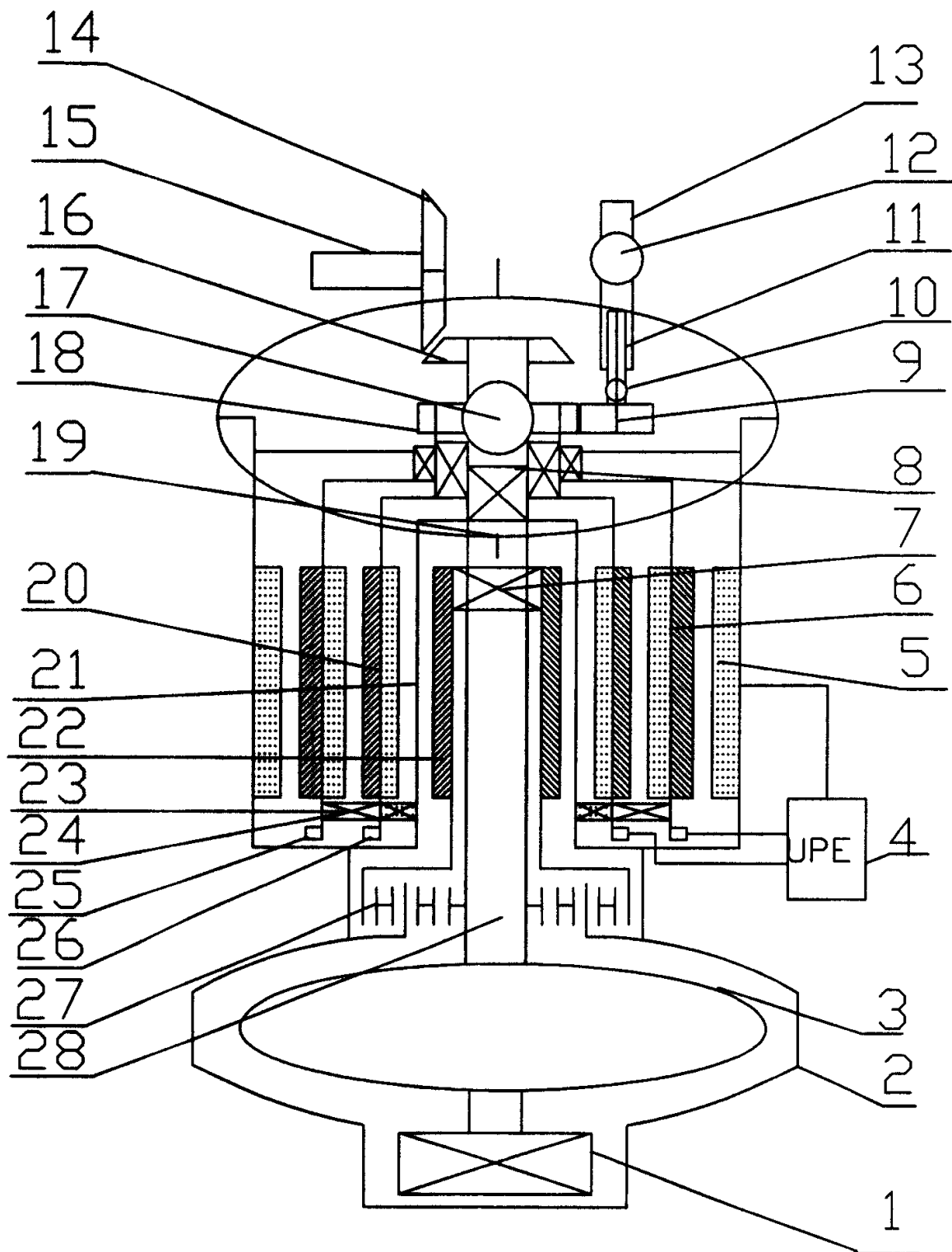
ALBERT LIM

Family 10/25 - FAMPAT - ©Questel

Title

(CN201001064U)

Combined flywheel battery for **hybrid** power vehicle**Images**



Publication data including kind & date

CN201001064

Y

2008-01-02

CN201001064U



Abstract

(CN201001064U)

The utility model discloses a composite flywheel battery used for a mixed power vehicle, which mainly consists of a super flywheel, a double rotor permanent magnetism compound motor, a dynamic transmission mechanism and a three axle orthogonal support mechanism, wherein the super flywheel mainly consists of a magnetic bearing, a flywheel fixed at the magnetic bearing end, a permanent magnetism planet gear reducing device positioned at the inner side of the flywheel and fixed on the axle of the magnetic bearing, and a reduction axle connected with the gear ring of the permanent magnetism planet gear reducing device. The utility model integrates the respective advantages of the flywheel battery and the dual rotors permanent magnetism brushless direct current motor to design the composite flywheel battery based on the dual rotors permanent magnetism brushless direct current motor, the utility model is an energy charging and discharging

system, the electric generator and the motor are not required to additionally arrange, and the system efficiency is evidently improved. The three axle orthogonal support system eliminates the gyro moment when the vehicle runs in non-straight line, thus very suitable for applying to the mixed power vehicle to use. Compared with the traditional mixed power vehicle, the mixed power vehicle has higher efficiency, better power performance, and lower emission.

Inventors

WENZHI ZHANG

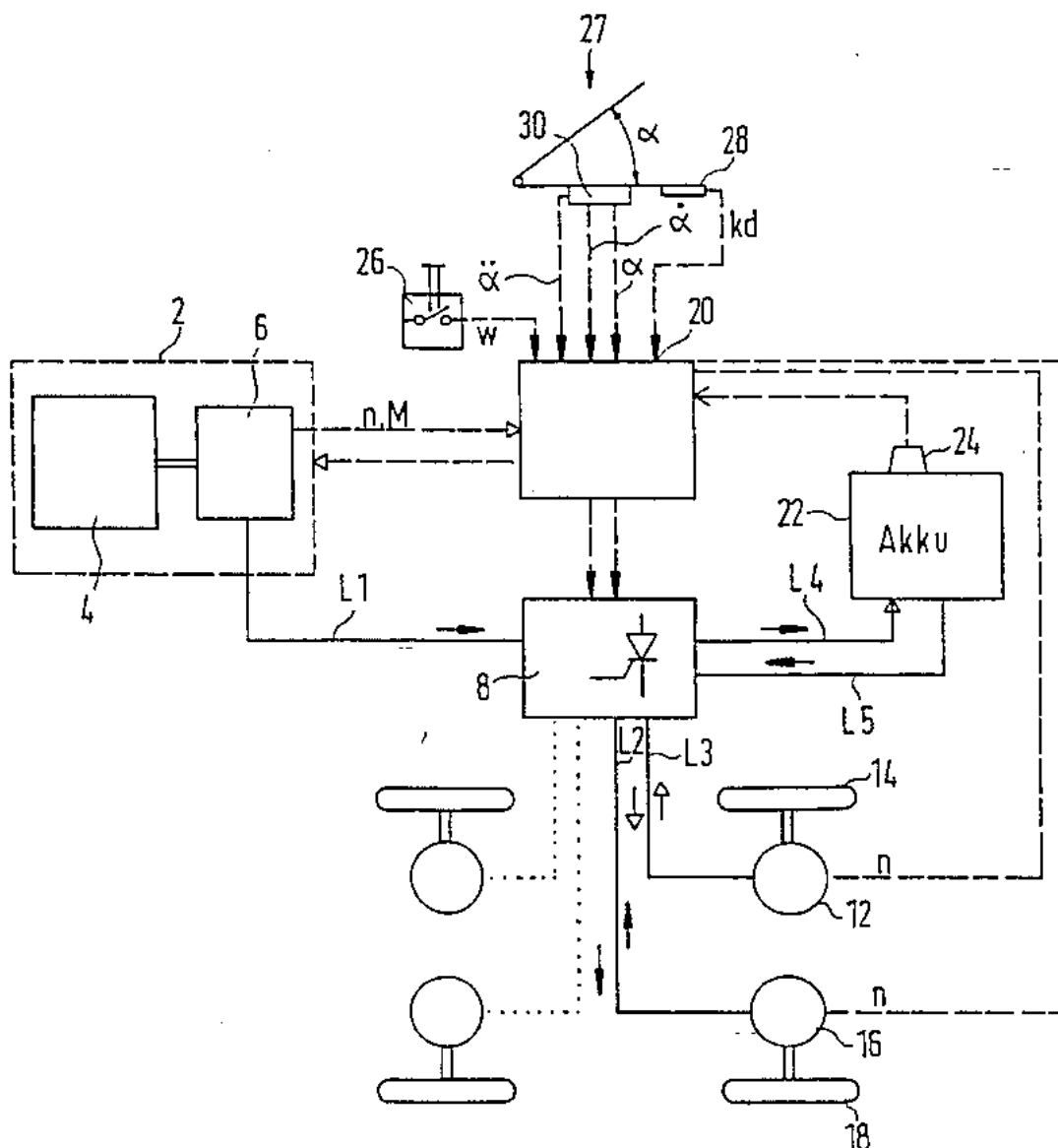
Family 11/25 - FAMPAT - ©Questel

Title

(EP-606339)

Non-trackbound vehicle with an electrodynamic converter and a hand throttle.

Images



Publication data including kind & date

DE4133014	A1	1993-04-08	DE4133014
WO9307020	A1	1993-04-15	WO9307020
MX9205693	A	1993-07-01	MX9205693
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EP0606339	A1	1994-07-20	EP-606339
JPH06511135	A	1994-12-08	JP06511135



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BR9206574	A	1995-11-21	BR9206574				
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ES2079891	T3	1996-01-16	ES2079891				
US5533583	A	1996-07-09	US5533583				
RU94021360	A	1997-03-20	RU94021360				
RU94021360	A1	1997-03-20	RU94021360				
JP3164821	B2	2001-05-14	JP3164821				

Abstract

(EP-606339)

A private **car** or commercial vehicle contains a unit consisting of an internal combustion engine (4) and a generator (6) which powers electric motors (12, 16) coupled to the driving wheels (14, 18) via a power-distribution power electronics system (8). As additional source of energy, an accumulator (22) is provided that can also be coupled by the power distribution system (8) to the electric motors (12, 16). An electronic control unit (20) receives running signals from a driving pedal (27), in particular a position signal and a speed signal (alpha, alphaalpha). The position signal (alphaalphaalpha) of the hand throttle (27) is interpreted as a request for a determined permanent power to be supplied by the internal combustion motor (4). When a higher power is required, for example, the internal combustion motor is speeded up to a new, optimum (i.e. with low fuel consumption) working level, whereas the generator (6) is decoupled totally or partially from the load. In the meantime, the accumulator (22) provides the power required to accelerate the vehicle. The speed signal (alphaalphaalphaalpha) determines the amount of acceleration. By means of a selector switch, an operation solely powered by the accumulator may be switched on, at the same time as the internal combustion engine is switched off, if no special sensors are provided for that purpose.

Inventors

ADLER UWE

DREXL HANS-JUERGEN

LUTZ DIETER

NAGLER FRANZ

OCHS MARTIN

SCHIEBOLD STEFAN

SCHMIDT-BRUECKEN HANS-JOACHIM

THIELER WOLFGANG

WAGNER MICHAEL

WESTENDORF HOLGER

WYCHNANEK RAINER

Latest standardized assignees - inventors removed

MANNESMANN

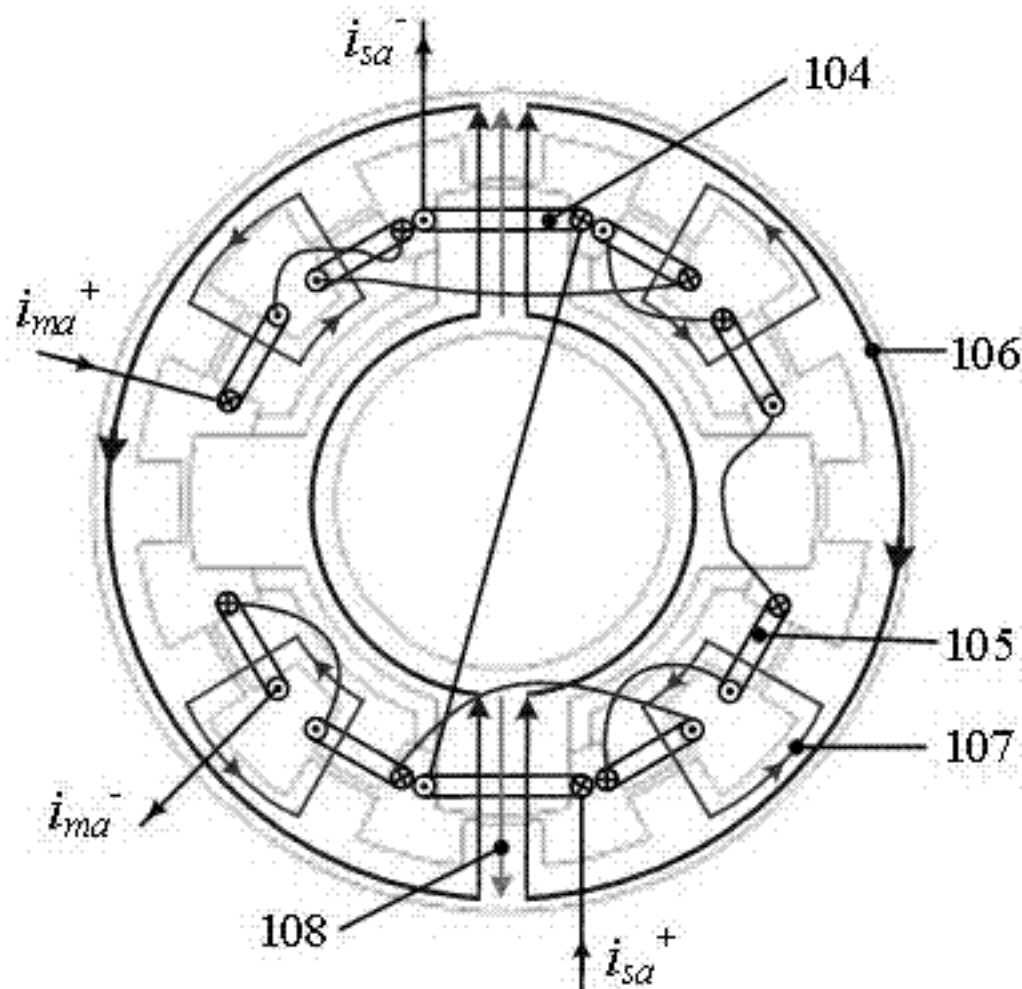
Family 12/25 - FAMPAT - ©Questel

Title

(CN106385203)

Axial split-phase internal stator permanent magnet biased magnetic suspension switched reluctance flywheel motor

Images



Publication data including kind & date

CN106385203	A	2017-02-08	CN106385203
CN106385203	B	2018-03-13	CN106385203B



Abstract

(CN106385203B)

The invention provides an axial split-phase internal stator permanent magnet biased magnetic suspension switched reluctance flywheel motor comprising an external rotor, a flywheel and an internal stator. The external rotor is packaged at the internal side of the flywheel in a laminating way. An internal stator iron core and an external rotor iron core are divided into m segments along the axis according to the phase number. The internal side of each segment of external rotor is equidistantly provided with 12 rotor poles along the circumference. The internal stator iron core is provided with 8 narrow tooth main magnetic poles and 4 wide tooth suspension poles. Main pole control coils and suspension control coils are respectively wound on the narrow tooth main magnetic poles and the wide tooth suspension poles. The coils on each narrow tooth main magnetic pole are interconnected in series to form a main pole winding. Every two of the control coils on each segment of wide tooth suspension pole are connected in series so as to form two sets of suspension windings in an orthogonal direction. The size of the system can be reduced and the critical speed of rotation can be enhanced; the suspension supporting loss can be reduced and the operation efficiency can be enhanced; and the stator poles are separately provided with the suspension poles, the main magnetic poles and magnetic isolating rings so that the control algorithm can be simplified and the suspension **performance** and the decoupling effect can be enhanced.

Inventors

ZHU ZHIYING

SUN YUKUN

Latest standardized assignees - inventors removed

NANJING INSTITUTE OF TECHNOLOGY

driven gear which is meshed with the flywheel accelerating driving gear, at least one flywheel, at least one flywheel shaft and at least one flywheel brake; the power output device comprises a decelerating driving gear, a decelerating driven gear, a decelerating driven gear shaft, a gear change mechanism and a power output shaft. By adopting the energy-storage and driving device, the problems of low recovery efficiency of brake energy and poor accelerating **performance** are solved, and high recovery efficiency of brake energy, high accelerating **performance**, low cost of the entire vehicle and a remarkable energy-saving effect are achieved.

Inventors

WANG XUNDING

SHUI YOUMIN

YANG MIN

FAN SHAOJUN

Latest standardized assignees - inventors removed

CHANGZHOU HAIKE NEW ENERGY TECHNOLOGY

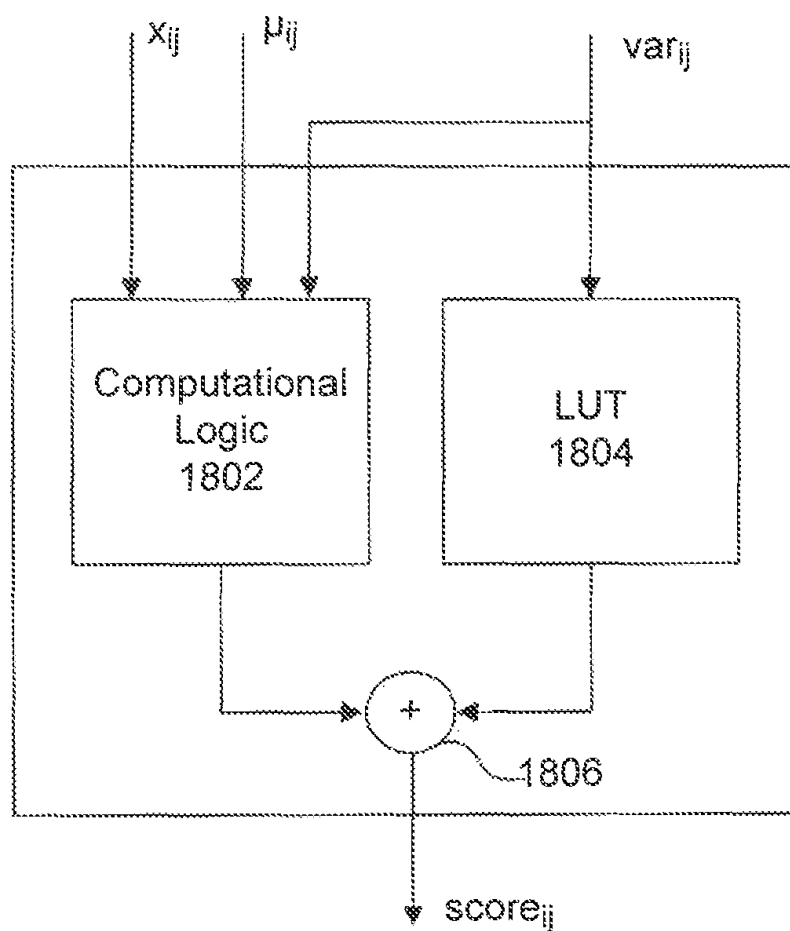
Family 14/25 - FAMPAT - ©Questel

Title

(EP2795615)

Acoustic processing unit interface

Images

1800**Publication data including kind & date**

US2013159371	A1	2013-06-20	US20130159371
US2013158996	A1	2013-06-20	US20130158996
US2013158997	A1	2013-06-20	US20130158997
WO2013096303	A1	2013-06-27	WO201396303
WO2013096301	A1	2013-06-27	WO201396301
WO2013096124	A1	2013-06-27	WO201396124
US2014129218	A1	2014-05-08	US20140129218
US2014129217	A1	2014-05-08	US20140129217
US2014180690	A1	2014-06-26	US20140180690
US2014180693	A1	2014-06-26	US20140180693
US2014180694	A1	2014-06-26	US20140180694
KR20140106724	A	2014-09-03	KR20140106724
KR20140106723	A	2014-09-03	KR20140106723



KR20140107537	A	2014-09-04	KR20140107537				
CN104126200	A	2014-10-29	CN104126200				
CN104126165	A	2014-10-29	CN104126165				
EP2795615	A1	2014-10-29	EP2795615				
EP2795461	A1	2014-10-29	EP2795461				
EP2795614	A1	2014-10-29	EP2795614				
CN104137178	A	2014-11-05	CN104137178				
US8924453	B2	2014-12-30	US8924453				
JP2015501012	A	2015-01-08	JP2015501012				
JP2015501011	A	2015-01-08	JP2015501011				
JP2015505993	A	2015-02-26	JP2015505993				
US8996374	B2	2015-03-31	US8996374				
US9009049	B2	2015-04-14	US9009049				
EP2795614	A4	2015-07-22	EP2795614				
EP2795461	A4	2015-08-12	EP2795461				
US9224384	B2	2015-12-29	US9224384				
US9230548	B2	2016-01-05	US9230548				
EP2795615	A4	2016-01-13	EP2795615				
US9514739	B2	2016-12-06	US9514739				
JP6138148	B2	2017-05-31	JP6138148				
US9753890	B2	2017-09-05	US9753890				
US9785613	B2	2017-10-10	US9785613				
CN104137178	B	2018-01-19	CN104137178B				

Abstract

(EP2795615)

Embodiments of the present invention include an apparatus, method, and system for acoustic modeling. In an embodiment, a speech recognition system is provided. The system includes a processing unit configured to divide a received audio signal into consecutive frames having respective frame vectors, an acoustic processing unit (APU), a data bus that couples the processing unit and the APU. The APU includes a local, non-volatile memory that stores a plurality of senones, a memory buffer coupled to the memory, the acoustic processing unit being configured to load at least one Gaussian probability distribution vector stored in the memory into the memory buffer, and a scoring unit configured to simultaneously compare a plurality of dimensions of a Gaussian probability distribution vector loaded into the memory buffer with respective dimensions of a frame vector received from the processing unit and to output a corresponding score to the processing unit. The APU is configured to perform a comparison using a first frame while the processing unit performs a search operation using a score corresponding to a second frame, the second frame immediately preceding the first frame.

Inventors

NATARAJAN VENKATARAMAN

ROSNER STEPHAN

Latest standardized assignees - inventors removed

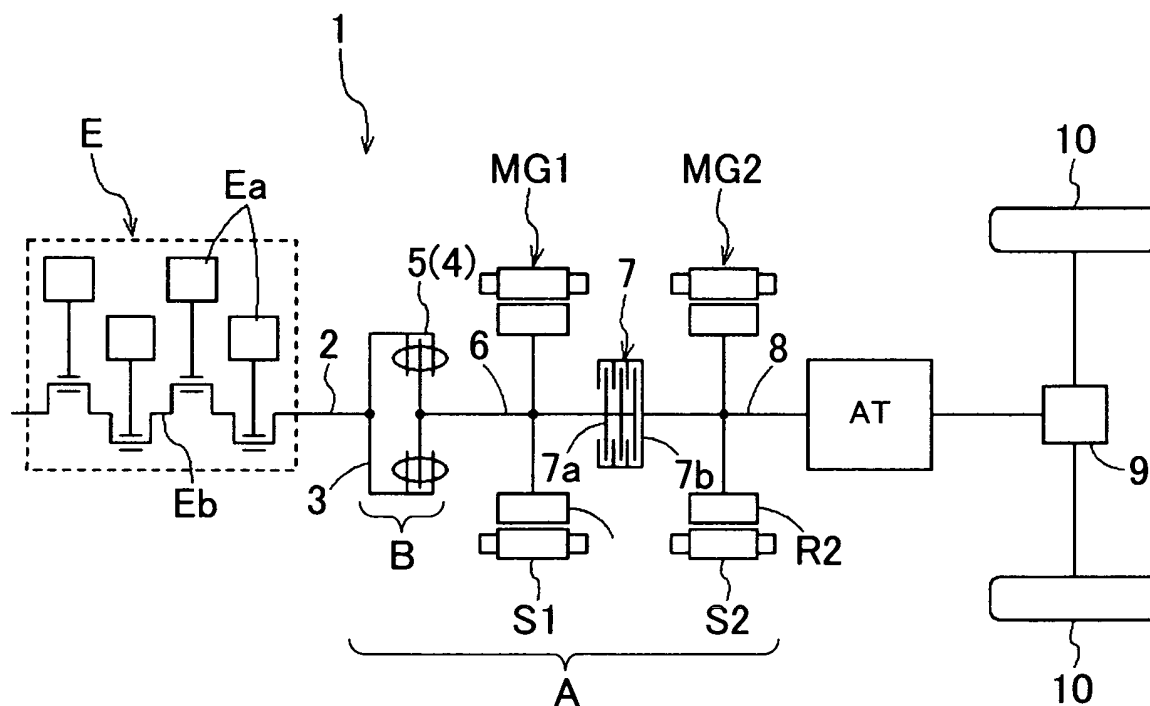
CYPRESS SEMICONDUCTOR

Family 15/25 - FAMPAT - ©Questel

Title

(WO200704356)

Drive device for **hybrid** vehicle**Images**



Publication data including kind & date

US2007007059	A1	2007-01-11	US20070007059
WO2007004356	A1	2007-01-11	WO200704356
JP2007015441	A	2007-01-25	JP2007015441
CN101184645	A	2008-05-21	CN101184645
DE112006001432	T5	2008-06-12	DE112006001432
JP4239102	B2	2009-03-18	JP4239102
CN101184645	B	2010-07-21	CN101184645B
US7992661	B2	2011-08-09	US7992661
DE112006001432	B4	2013-05-29	DE112006001432



Abstract

(WO200704356)

A drive device for a **hybrid** vehicle, having two electric motors. In the drive device, an air gap between a rotor and a stator of an engine side electric motor can be reduced, and **performance** enhancement and reduction in size of the electric motors can be achieved. The drive device has a clutch (7) for connecting an engine output shaft (2) and a transmission input shaft (8) when the clutch (7) is engaged, a first electric motor (MG1) capable of transmitting drive force to the transmission input shaft (8) when the clutch is disengaged, and a second electric motor (MG2) capable of transmitting the drive force to the transmission input shaft (8) when the clutch (7) is disengaged. The first electric motor (MG1) is connected to the engine output shaft (2) via a radial vibration suppressing means (3) for suppressing vibration in the radial direction of the engine output shaft (2).

Inventors

NOMURA SHINICHI
YAMAGUCHI YASUO
YAMASHITA MITSUGI
INUZUKA TAKESHI

Latest standardized assignees - inventors removed

AISIN AW

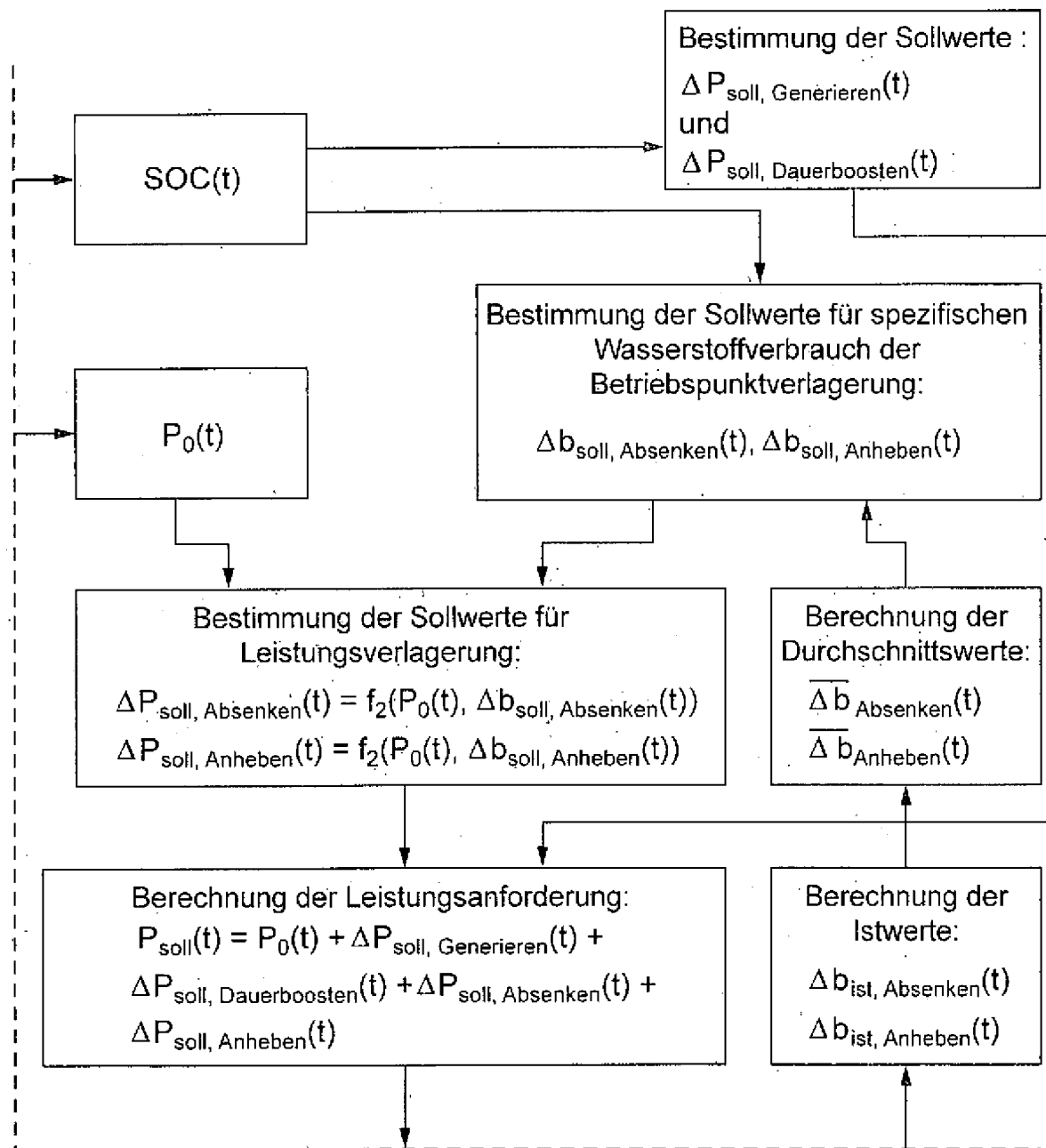
Family 16/25 - FAMPAT - ©Questel

Title

(DE102011116127)

Fuel cell device operating method for fuel cell **hybrid car**, involves compensating difference between momentary **performance** requirement of load and reference value of **performance** requirement by charging or discharging energy storage unit

Images



Publication data including kind & date

DE102011116127

A1 2013-04-18

DE102011116127



Abstract

(DE102011116127)

The method involves determining a target value of specific hydrogen consumption for raising and lowering of an operating point of a fuel cell device. The operating point is raised and lowered, if the target value is greater and less than zero. Reference value of a **performance** requirement of the device is computed. Difference between a momentary **performance** requirement of an electrical load i.e. electrical driving apparatus, and the reference value is compensated by charging or discharging an electrical energy storage unit e.g. chargeable battery cell.

Inventors

SARIOGLU ISMAIL LEVENT

SCHROEDER HENDRIK

KLEIN OLAF

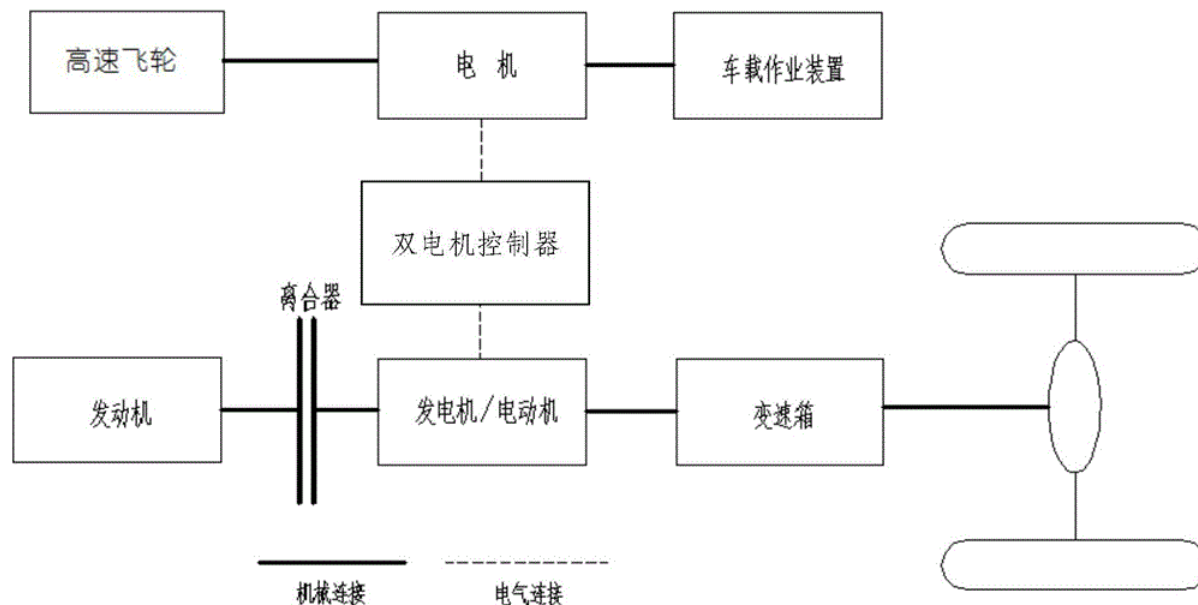
Latest standardized assignees - inventors removed

VOLKSWAGEN

Family 17/25 - FAMPAT - ©Questel

Title

(CN205736908U)

Novel sanitation **car** driving system and novel sanitation **car****Images****Publication data including kind & date**

CN205736908

U

2016-11-30

CN205736908U

**Abstract**

(CN205736908U)

The utility model relates to a novel sanitation **car** driving system and novel sanitation **car**, this sanitation **car** include sanitation **car** driving system, and sanitation **car** driving system includes engine and first motor including driving driving system and second motor, driving driving system, and first motor is connected with second motor electricity, and the one end of second motor is used for being connected with on -vehicle operation device mechanical transmission, and the other end and the flywheel energy storage system mechanical transmission of second motor are connected. This system utilizes flywheel energy storage system's metric density high, and energy conversion efficiency is high, the long -life, fill the infinite advantage of discharge number, and can guarantee can not lead to the fact the reduction of flywheel **performance** and capacity after long -time the use. And according to what of round energy storage system energy, control sanitation **car** driving system's relevant energy output satisfies the power demand of sanitation **car** during operation.

Inventors

WANG YINSHU

ZHANG SHUAI

WANG FUSHENG

WANG XING

ZHAO LIWEN

ZHAO YUDONG

YUE SHUBIAO

BAI XUESEN

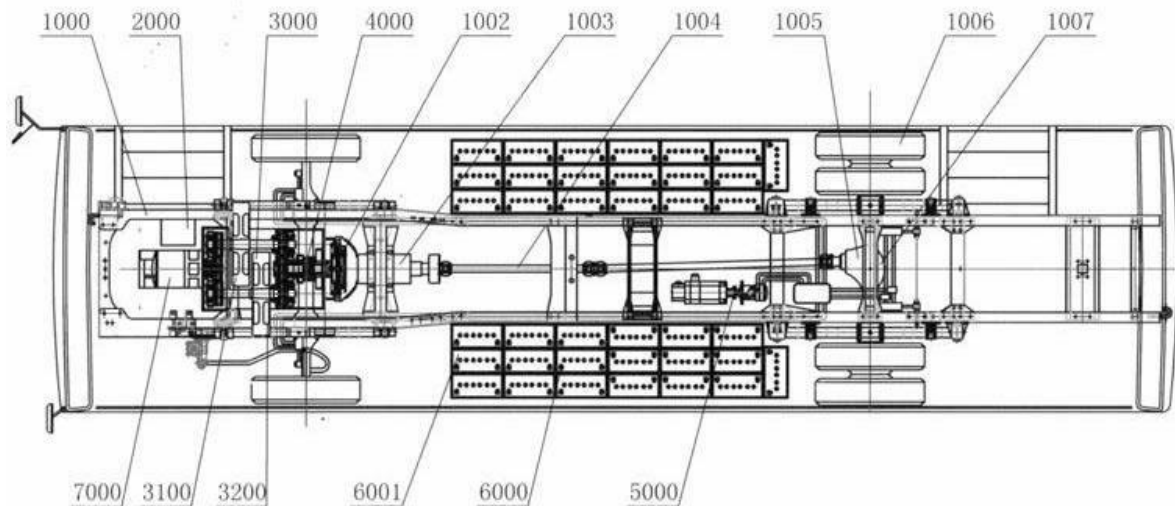
Latest standardized assignees - inventors removed

ZHENGZHOU YUTONG BUS

Family 18/25 - FAMPAT - ©Questel

Title

(CN201881879U)

Multi-power-source **hybrid** automobile**Images****Publication data including kind & date**[CN201881879](#)

U 2011-06-29 CN201881879U

**Abstract**

(CN201881879U)

The utility model designs a multi-power-source **hybrid** automobile combining the existing mature and recognized storage battery electric energy and substance energy, which can implement the interval serial use through the path arrangement configuration, the substance energy activation can be met, the activated substance energy can be converted into a power motive power source of a novel energy source of reproducible physical energy, the novel energy source motive power source of the reproducible physical energy can also be used for meeting the application power motive power source conditions for driving the automobile to continuously run, in addition, the **performance** of a storage battery is not damaged in the work process of the multi-power-source **hybrid** automobile, the driving range capability of electric energy stored in the configured storage battery is greater than the capability of an oil-fueled automobile, and the multi-power-source **hybrid** automobile can also be flexibly used like the oil-fueled automobile, so the multi-power-source **hybrid** automobile belongs to the multi-power-source **hybrid** automobile, which has the advantages of simple structure, low manufacture price, safety, reliability, durability and good starting acceleration **performance** and is also easy to implement.

Inventors

YONGMING YANG

Latest standardized assignees - inventors removed

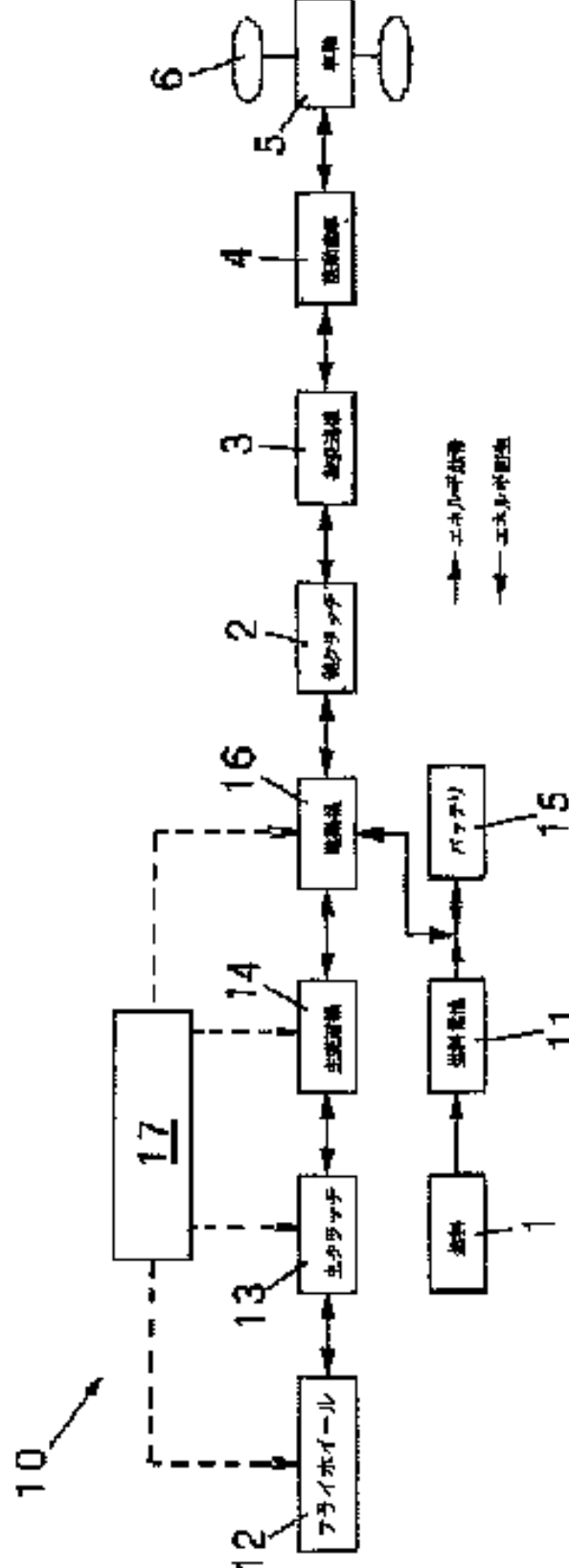
YANCHENG HENENG MACHINERY & ELECTRONICS TECHNOLOGY DEVELOPMENT

Family 19/25 - FAMPAT - ©Questel

Title

(JP10075504)

Hybrid fuel-cell **car****Images**



Publication data including kind & date

JPH1075504

A

1998-03-17

JP10075504



Abstract

(JP10075504)

PROBLEM TO BE SOLVED: To provide a fuel-cell car in which an excessive power is stored in a flywheel, and which runs at a maximum speed by discharging the power stored in the flywheel to reduce the load power of a fuel cell and hence makes possible the compact design and the operation of the fuel-cell at the maximum efficiency. **SOLUTION:** A hybrid fuel-cell car 10 has a fuel-cell 11 and a flywheel 12. In order to store the braking energy of the car 10, a main speed changer 14 and a main clutch 13 which are provided between a motor 16 and the flywheel 12, a battery 15 which stores an electric energy for the start of the car 10 and a flywheel controller 17 which controls them are provided. The controller 17 converts

the electric energy from the fuel cell 11 and the battery 15 into a mechanical energy through the motor 16, transmits the mechanical energy to a wheel shaft and, further, controls the flywheel 12, the main speed changer 14 and the main clutch 13 so as to store the excessive mechanical energy.

Inventors

KOGA MINORU

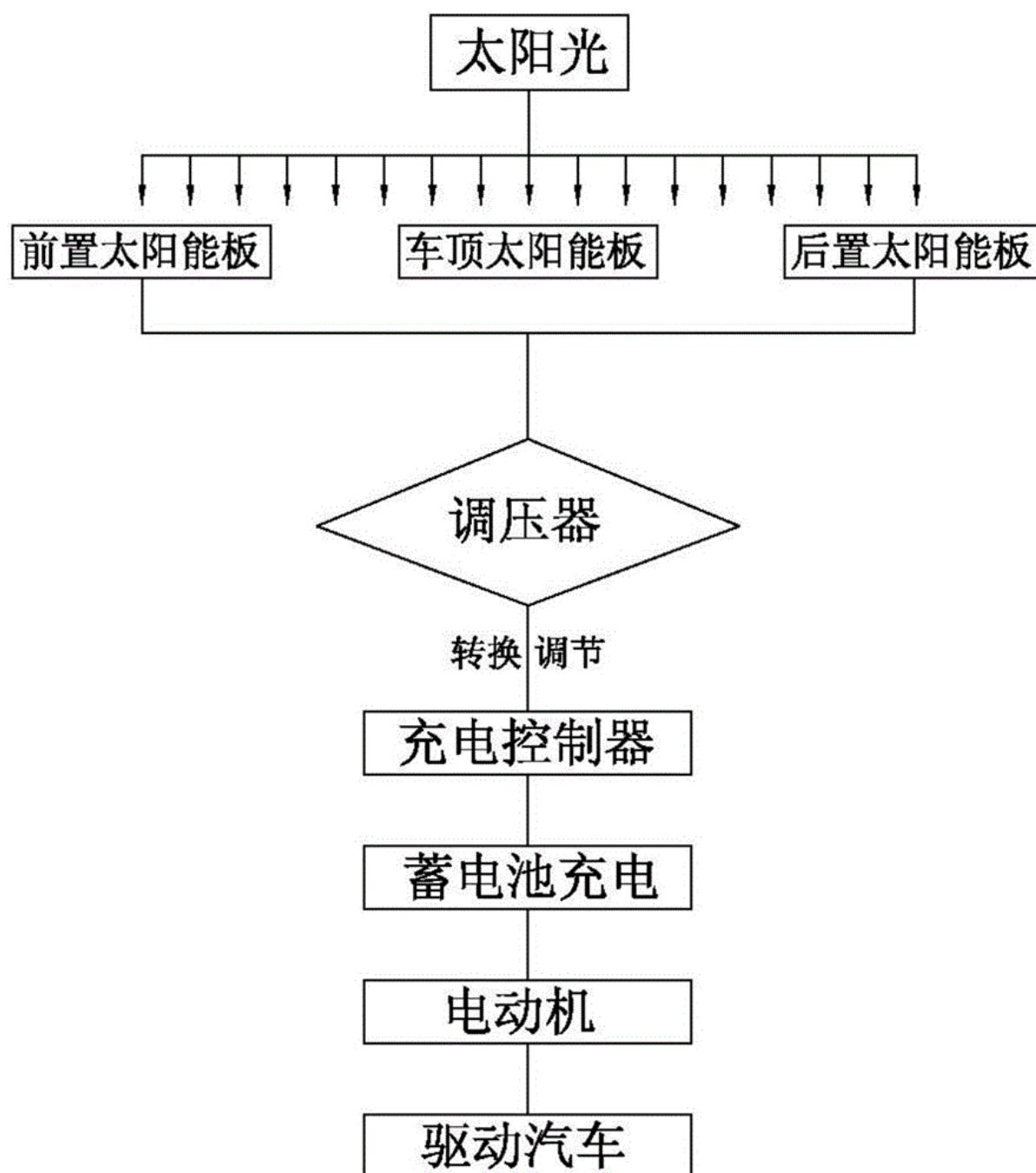
Latest standardized assignees - inventors removed

ISHIKAWAJIMA HARIMA HEAVY INDUSTRIES IHI

Family 20/25 - FAMPAT - ©Questel

Title

(CN205706194U)

Solar panel mixing enhancement power **car** duration system**Images****Publication data including kind & date**

CN205706194

U

2016-11-23

CN205706194U

**Abstract**

(CN205706194U)

The utility model discloses a solar panel mixing enhancement power **car** duration system, it includes leading solar panel, roof solar panel, rearmounted solar panel, voltage regulator and charge controller, and the one end of voltage regulator is connected with charge controller, and the other end is connected with leading solar panel, roof solar panel and rearmounted solar panel respectively, and leading, roof, rearmounted solar panel set gradually on **hybrid** vehicle, the utility model relates to an it is ingenious, reasonable, can utilize solar energy continuous ground to provide the electric energy for **hybrid** vehicle, sailing the in -process if be expert at or all constantly charging to the battery when stopping, realize that the electric energy replenishes, driving distance that can effectual extension **hybrid** vehicle enlarges home range, and it is thermal -insulated effectual, and then reduce in -**car** temperature, reduce the air conditioner power consumption, in energy -concerning and environment -protective, avoid in the **car** electrical apparatus or electronic product yin gaowen and influence its **performance** and life, do benefit to extensive popularization and application.

Inventors

GAO HONGJIANG

WANG YONGLI

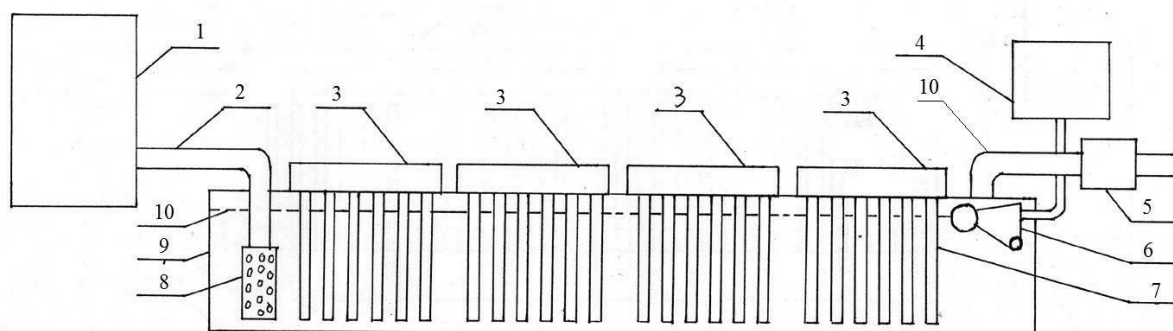
Latest standardized assignees - inventors removed

WANG YONGLI

Family 21/25 - FAMPAT - ©Questel

Title

(CN102545717)

Heat energy generator of **hybrid** power automobile**Images****Publication data including kind & date**

CN102545717

A 2012-07-04 CN102545717

**Abstract**

(CN102545717)

The invention discloses a heat energy generator of a **hybrid** power automobile. The heat energy generator comprises an engine (1), a power generation water tank (9), heat conducting pipes or heat conducting strips (7) and heat energy battery packs (3), wherein a plurality of groups of heat conducting pipes or heat conducting strips (7) are arranged in the power generation water tank (9); a top cover of the power generation water tank (9) is provided with a plurality of groups of heat energy battery packs (3); the heat conducting pipes or heat conducting strips (7) are correspondingly connected with the heat energy battery packs (3); a waste gas pipe (2) of the engine (1) is inserted into the power generation water tank (9); the top cover of the power generation water tank (9) is connected with an exhaust pipe (10); and the heat energy generator is constituted integrally. According to the invention, high-temperature air flow discharged outwards by the engine during running is recovered to generate power, and the current is input into a storage battery to replenish the current of the storage battery consumed by a motor, and the problem of charging of the storage battery of the **hybrid** power automobile is solved; and thus, long-distance running is realized, and the advantages of energy conservation and emission reduction of the **hybrid** power automobile are fully utilized.

Inventors

XU XING

LI KE

Latest standardized assignees - inventors removed

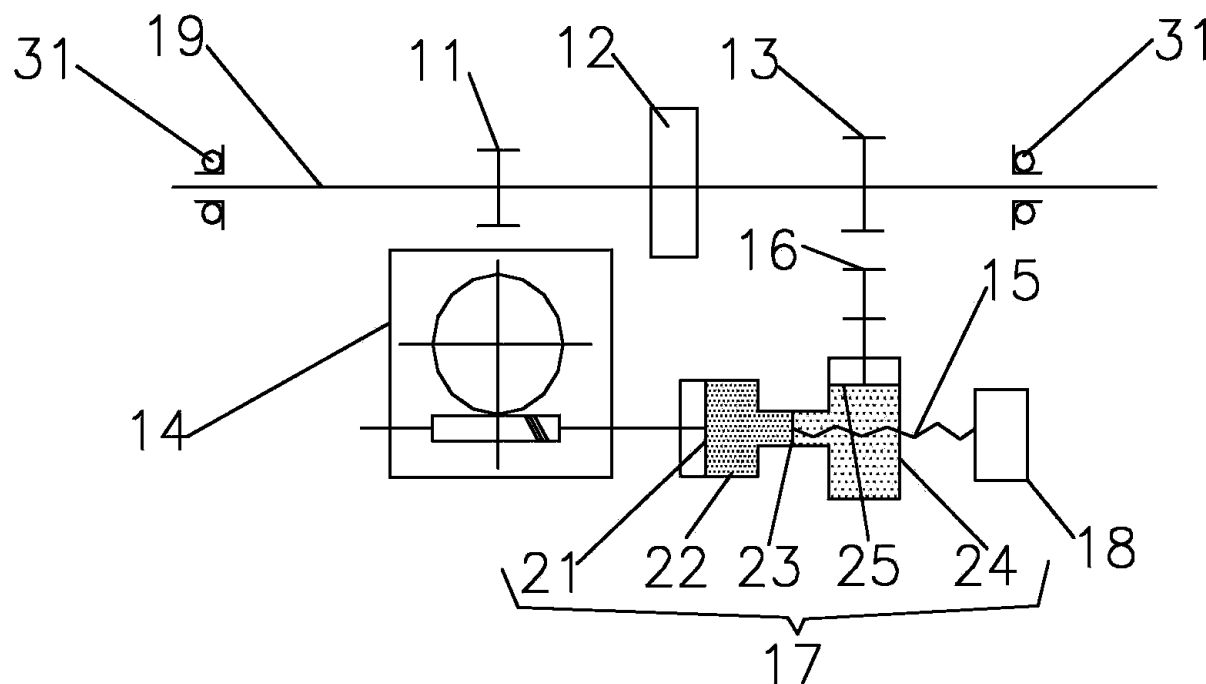
JIANGSU UNIVERSITY

Family 23/25 - FAMPAT - ©Questel

Title

(CN103192817)

Braking energy recycling device and automobile applying same

Images**Publication data including kind & date**

CN103192817	A	2013-07-10	CN103192817
CN103192817	B	2015-11-11	CN103192817B

**Abstract**

(CN103192817B)

The invention relates to the technical field of **hybrid** electric vehicles and discloses a braking energy recycling device and an automobile applying the same. By the aid of the braking energy recycling device and the automobile applying the same, braking energy of the automobile is fully recycled, and the power **performance** and the economy of the automobile are improved. The device comprises a transmission gear, a synchronous ring, a drive gear, a transmission unit, a connection unit, an output gear, an energy storage unit and an electric control unit. The energy storage unit can perform mutual conversion on mechanical energy and hydraulic energy, and the electric control unit is used for determining whether the hydraulic energy in the energy storage unit is saturated and can drive the connection unit to move. The transmission gear and the drive gear are arranged on an automobile semi-axle, and the synchronous ring is arranged between the transmission gear and the drive gear; the transmission unit is connected with one end of the connection unit through the energy storage unit, and the other end of the connection unit is connected with the electric control unit; and the output gear is connected with the energy storage unit.

Inventors

HUANG YONG

LI QINGFENG

LI YINGTAO

REN XIANGFEI

WANG SHENGTAO

NIU HAICHAO

WANG LIANG

MENG FANWEI

MA YAN

WANG SHENGHONG

MA SHOUYING

Latest standardized assignees - inventors removed

GREAT WALL MOTOR

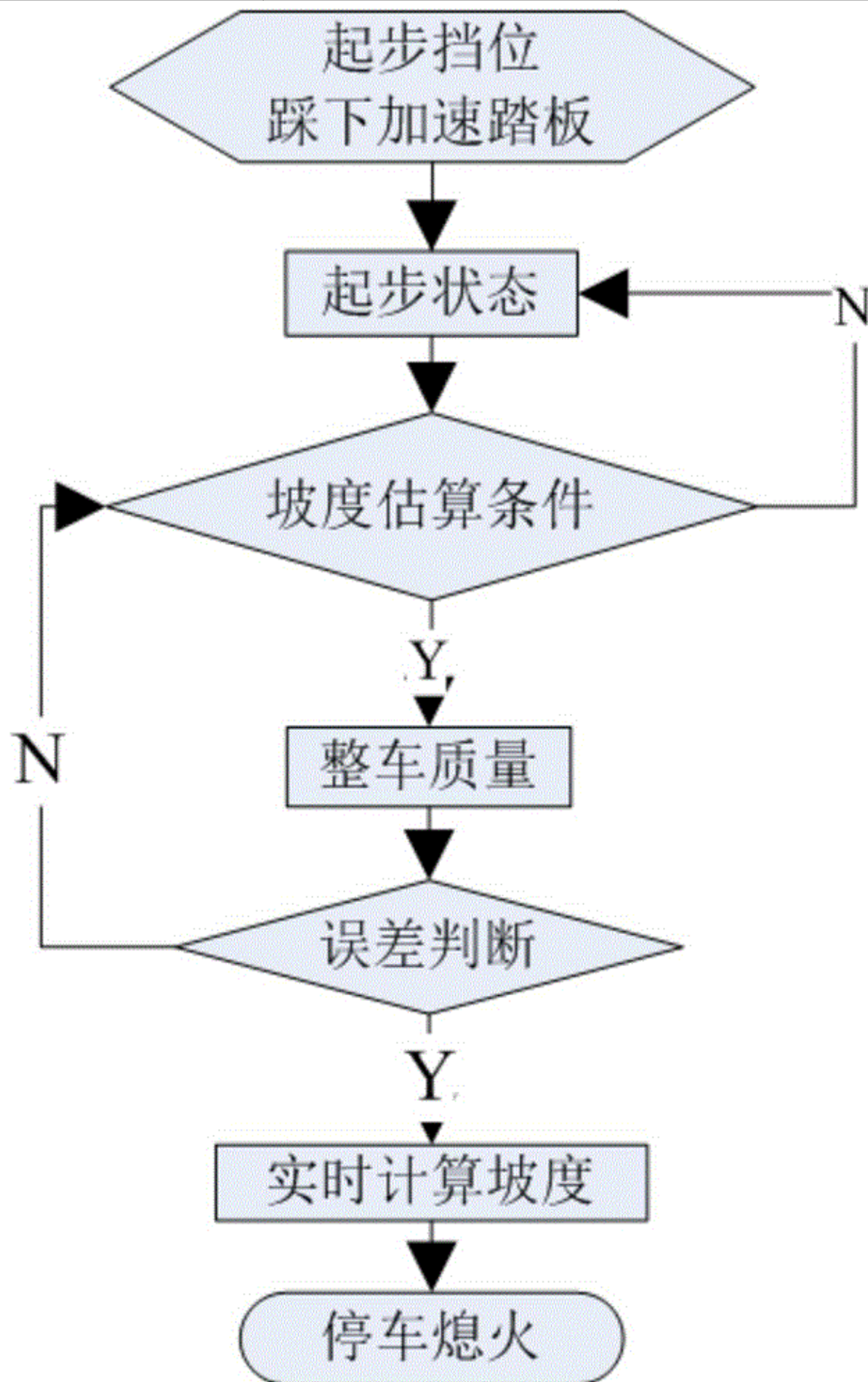
Family 24/25 - FAMPAT - ©Questel

Title

(CN105644565)

Measuring method for load of **hybrid** electric vehicle

Images



(CN105644565)

The invention relates to the technical field of vehicles and provides a measuring method for the load of a **hybrid** electric vehicle. The measuring method comprises the steps that S1, the vehicle total mass m and the vehicle rotational inertia coefficient σ are measured; 2, the rolling resistance F_f , the air resistance F_w and the acceleration resistance F_j are calculated according to the vehicle total mass m and the vehicle rotational inertia coefficient σ ; S3, the motor output driving force F_{tn} in the vehicle running process is measured; and S4, the rolling resistance F_f , the air resistance F_w , the acceleration resistance F_j and the motor output driving force F_{tn} are substituted into a kinetic equation $F_t = F_f + F_w + F_i + F_j$, and the gradient is calculated according to the acquired gradient resistance F_i . According to the measuring method for the load of the **hybrid** electric vehicle, the gradient of the vehicle in the running process is calculated by adopting the formula of the Newton second law, and a gradient sensor does not need to be installed on the vehicle; accordingly, not only is the cost reduced, but also the power **performance** and the economic **performance** of the whole vehicle can be optimized.

Inventors

DUAN JUNFENG

WU XUEQIANG

WANG YANBO

DONG YINGRONG

Latest standardized assignees - inventors removed

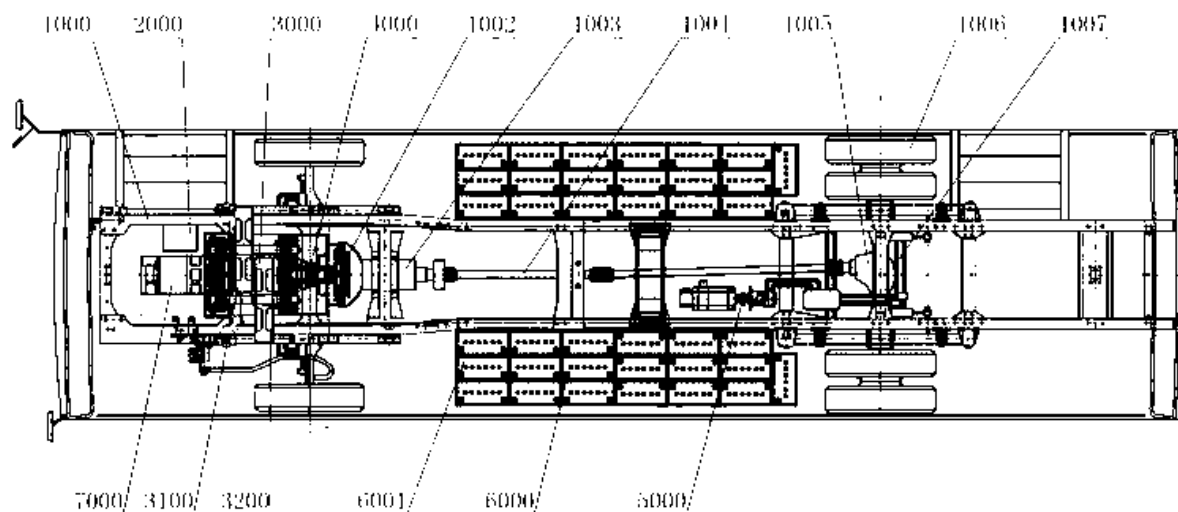
WEICHAI POWER

Family 25/25 - FAMPAT - ©Questel

Title

(CN102050000B)

Composite energy power automobile with multiple power sources

Images**Publication data including kind & date**

CN102050000	A	2011-05-11	CN102050000
CN102050000	B	2013-01-30	CN102050000B

**Abstract**

(CN102050000B)

The invention relates to a composite energy power automobile with multiple power sources, which combines the existing mature and acknowledged electric energy of an accumulator and material energy. Thus, the composite energy power automobile provided by the invention can be continuously used in a range through route arrangement configuration, thereby achieving the purposes of activating the material energy and converting the material energy activated by the composite energy power automobile into a power source of new regenerated physical energy sources; the power source of the new regenerated physical energy sources can also be applied to meet the condition of applying the power source for

driving the automobile to continuously run; the composite energy power automobile can not damage the properties of the accumulator in the operation; the total continuous running mileage capability of the reserved electric energy of the configured accumulator is stronger than the capability of a fuel automobile; and the composite energy power automobile can be flexibly used like the fuel automobile. Thus, the composite energy power automobile with multiple power sources has the advantages of simple structure, low manufacturing cost and good starting and accelerating properties, is easy to implement, and is safe, reliable and durable.

Inventors

YANG YONGMING

Latest standardized assignees - inventors removed

YANCHENG HENENG ELECTROMECHANICAL TECHNOLOGY DEVELOPMENT