

20 Documents

Publication numbers	Title	Current assignees
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CN105034856 A	Intelligent electric phase splitting device for alternating-current electrified railway	BEIJING JIAOTONG UNIVERSITY, ...
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CN1537770 A	Vehicle carried testing method for rail circuit ballast leak resistance and its testing equipment	SINUO SCIENCE & TECHNOLOGY
JP11278269 A	Track circuit monitoring device	MITSUBISHI ELECTRIC, ...
CN103175849 A	Optical fiber on-line vehicle bearing fault detection device	HEILONGJIANG UNIVERSITY
CN102769344 A		

Publication numbers	Title	Current assignees
	Direct drive type motor or generator capable of steplessly converting torque and regulating speed	LIN GUISHENG
US20160265763 A1	Power tool with lightweight actuator housing	ROBERT BOSCH, ...

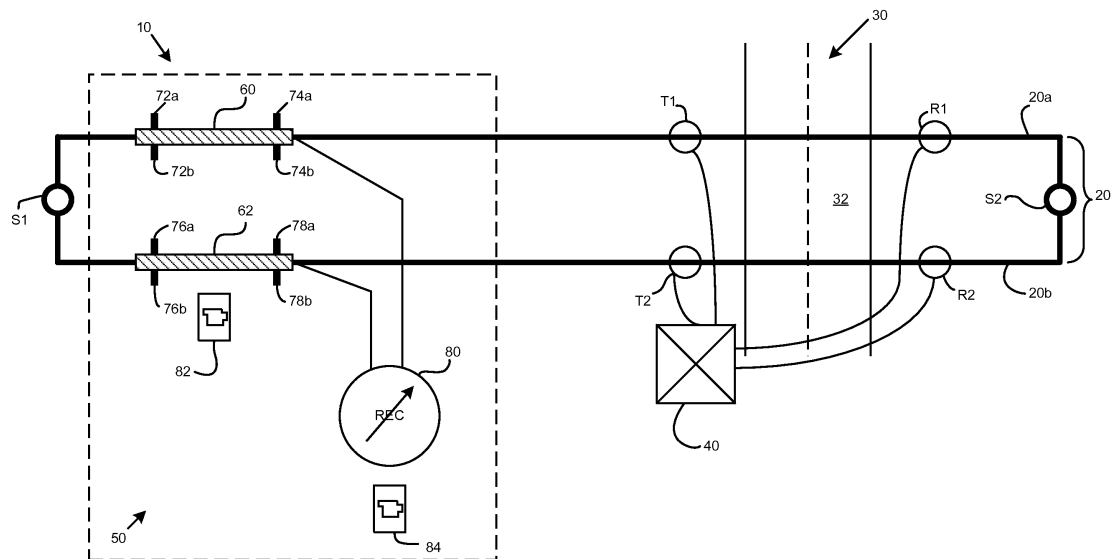
Family 1/20 - FAMPAT - ©Questel

Title

(WO2016140796)

Detection of dynamic train-to-rail shunting performance

Images



Publication data including kind & date

US2016257320	A1	2016-09-08	US20160257320
CA2978465	A1	2016-09-09	CA2978465
WO2016140796	A1	2016-09-09	WO2016140796
BR112017018298	A1	2017-09-05	BR112017018298
AU2016226567	A1	2017-09-07	AU2016226567
GB201713425	D0	2017-10-04	GB201713425
GB2550095	A	2017-11-08	GB2550095
CL2017002222	A1	2018-01-12	CL2222201700
BR112017018298	A2	2018-04-17	BR112017018298
US9956972	B2	2018-05-01	US9956972



Abstract

(WO2016140796)

Systems and methods for detecting the dynamic **train-to-rail** shunting performance of a **train** as it is moving along the rails of a railroad track. The systems and methods use portable equipment temporarily installed at a site where it is desired to test the shunting of one or more trains or the electrical equipment installed at the track. The systems and method use **sensor** plates and a high **speed** recording system to simultaneously capture measured **train-to-rail** shunting characteristics and the positioning of a train's axles and any **rail** conditions impacting the measurements. The captured information can be used to fine tune the **train**, the electrical equipment installed at the track and/or to design new devices.

Inventors

HARP BRIAN

Latest standardized assignees - inventors removed

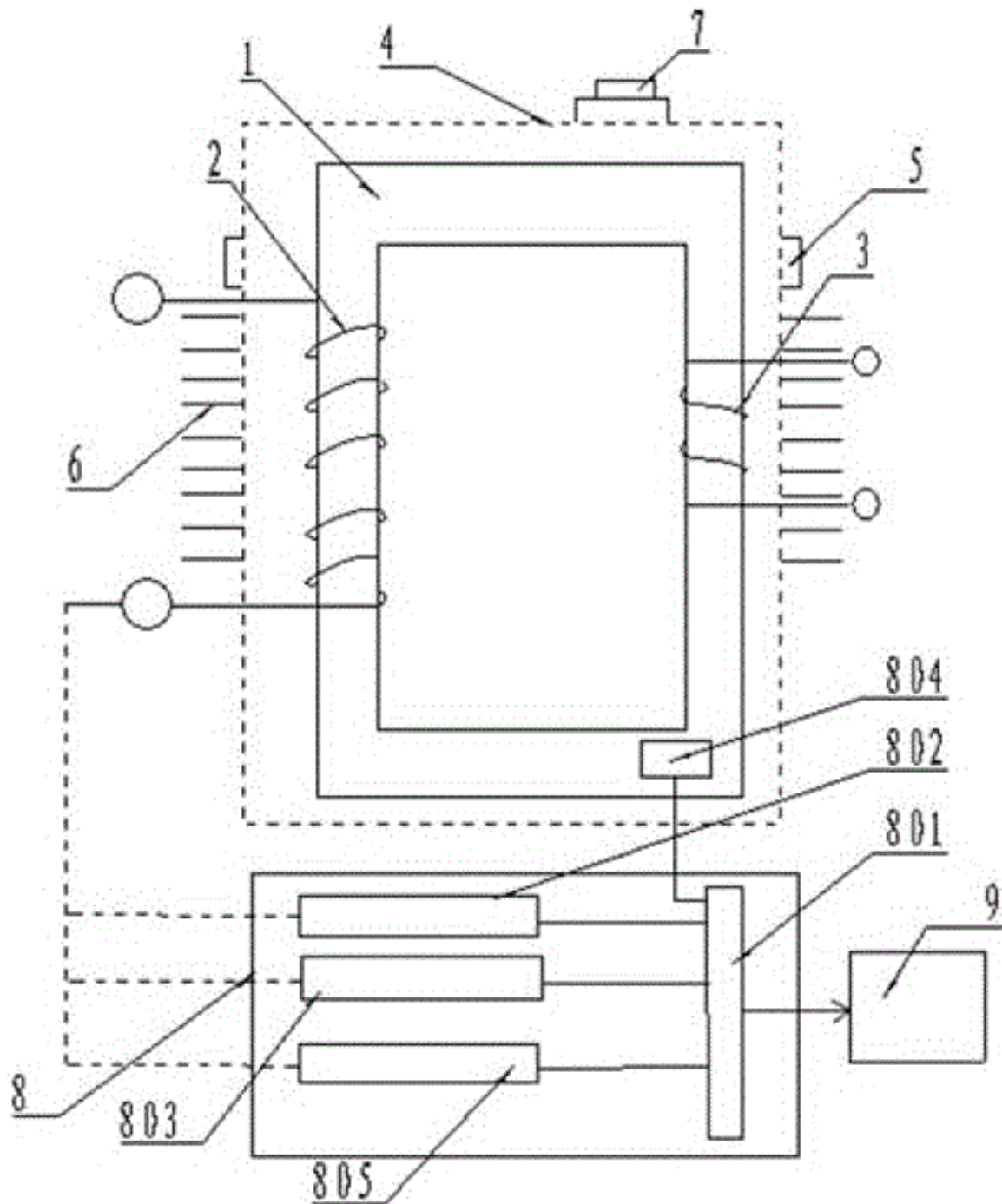
SIEMENS INDUSTRY

Family 2/20 - FAMPAT - ©Questel

Title

(CN106098305)

Transformer used for high-speed rail train and having intelligent protection function

Images**Publication data including kind & date**

CN106098305

A 2016-11-09 CN106098305

**Abstract**

(CN106098305)

The invention discloses a transformer used for a high-speed rail train and having an intelligent protection function. The transformer comprises a transformer box, wherein a support structure is arranged in the transformer box, an iron core structure is arranged in the support structure and wound with a wire inlet coil and a load coil, and voltage change is realized according to the number of coils. In driving of the train, cooling fins are arranged on the transformer box to avoid large load and temperature increase of the transformer, a charging port is further formed in the transformer box, and gas charged from the charging port is helium. The transformer used for the high-speed rail train and having the intelligent protection function occupies small space, is convenient to mount, good in cooling effect and long in service life, has the intelligent protection function and a fault message conveying function and is particularly suitable for an isolation transformer for the

high-speed rail train.

Inventors

SHAN XIAOYAN

Latest standardized assignees - inventors removed

TAICANG HONGGUANG CONTROL ELECTRICAL EQUIPMENT

Family 3/20 - FAMPAT - ©Questel

Title

(EP3321125)

Intelligent electric phase splitting device for alternating-current electrified railway

Images

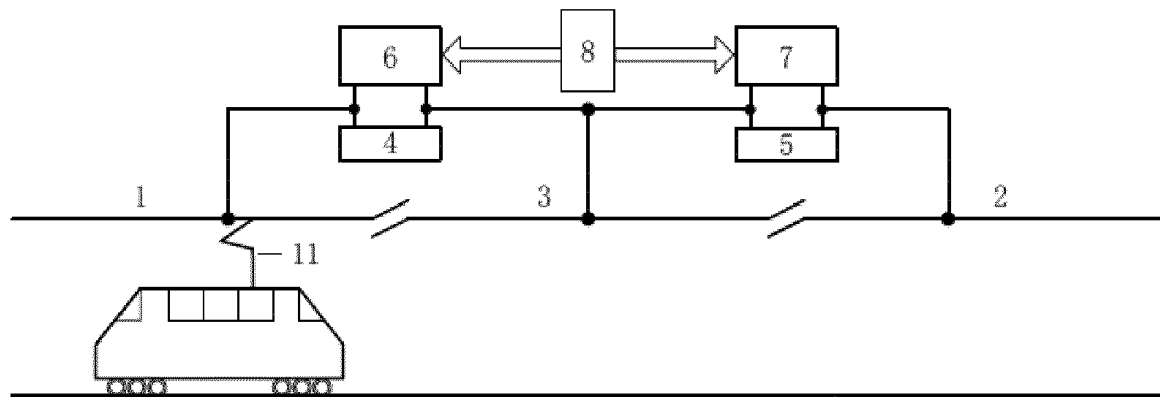


Fig.1

Publication data including kind & date

CN105034856	A	2015-11-11	CN105034856
WO2017005017	A1	2017-01-12	WO201705017
CN105034856	B	2017-11-07	CN105034856B
EP3321125	A1	2018-05-16	EP3321125



Abstract

(EP3321125)

The invention discloses a kind of AC electrified railway intelligent neutral section device. It consists of a first switch which connects the first power supply arm to the neutral section and its parallel impedance, a second switch which connects the second power supply arm to the neutral section and its parallel impedance, current and voltage sensors detecting the first switch and current and voltage sensors detecting the second switch etc. The device can automatically identify the train's pantograph position through the voltage information at both ends of the first switch and the second switch and current information flowing from the first switch and the second switch, and automatically close or open the first switch and the close or open the second switch to make the neutral section obtain or cut off the electric energy of power supply arm according to the identified location of the pantograph. The circuit structure of the switch and its parallel impedance can be replaced by the circuit structure of connecting two ends of a step-down transformer and its low-voltage winding to a switch. There is no need to install the train position detection device, with advantages of a simple structure and convenience of use and maintenance.

Inventors

ZHENG QIONGLIN

DU YULIANG

YANG XIAOFENG

YANG JINGXI

YOU XIAOJIE

WU MINGLI

Latest standardized assignees - inventors removed

BEIJING JIAOTONG UNIVERSITY
BEIJING EFFICIENGINE TECHNOLOGY

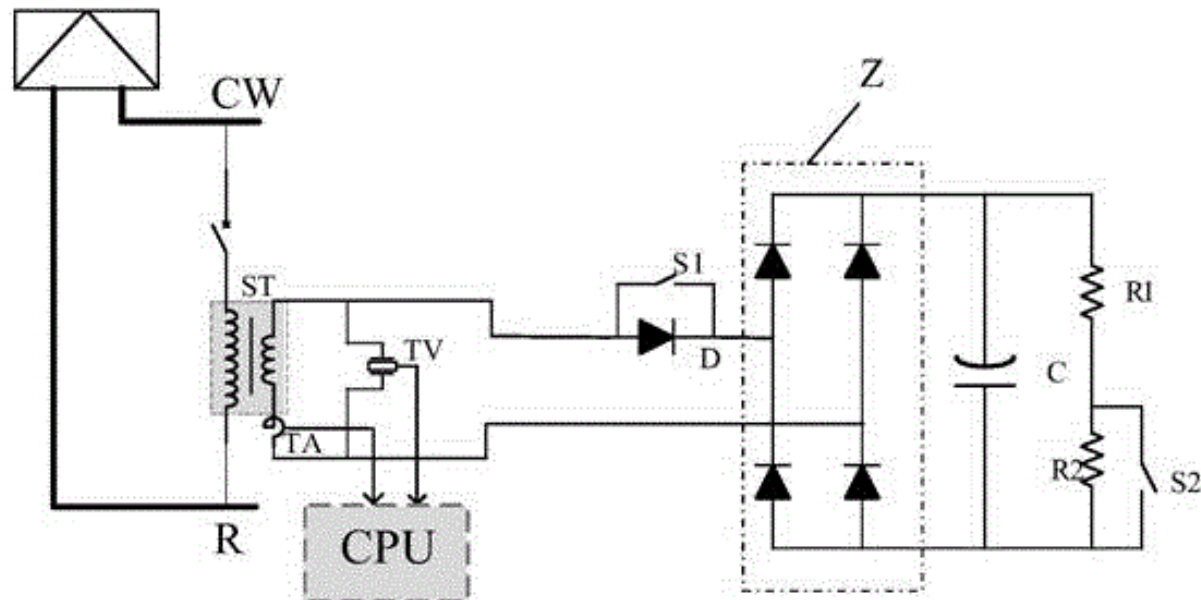
Family 4/20 - FAMPAT - ©Questel

Title

(CN105738705)

Harmonic wave **impedance** measuring device and measuring method for traction power supply system

Images



Publication data including kind & date

[CN105738705](#)

A 2016-07-06 CN105738705



Abstract

(CN105738705)

The invention provides a harmonic wave **impedance** measuring device and measuring method for a traction power supply system. In the measuring device, a primary coil of a step-down transformer is connected to a power supply section overhead line and a steel **rail**, and a secondary coil is connected to a current **sensor** and a voltage **sensor**. The secondary coil is also connected to a harmonic wave current source injection device. The harmonic wave current source injection device has the following structures that an alternating end of a bridge rectifier circuit is directly used as an output end of the harmonic wave current source injection device, the other alternating end of the bridge rectifier circuit is connected to a cathode of a diode, and an anode of the diode is used as the other output end of the harmonic wave injection device; a switch is connected between the cathode and the anode of the diode; and two direct current ends of the bridge rectifier circuit are connected to a capacitor in parallel, after a resistor 1 is connected to a resistor 2 in series, the resistor 1 and the resistor 2 are connected to two direct current ends of the bridge rectifier in parallel, and the resistor 2 is connected to a switch 2 in parallel. The device can measure a resonant frequency of a power supply section on the site and the **impedance** frequency characteristics during electric locomotive or motor **train** unit operation, and provides more accurate and reliable actual measurement parameters for the design, operation and maintenance of the traction power supply system.

Inventors

HU HAITAO

ZHANG QUAN

HE ZHENGYOU

MA XIAOLAN

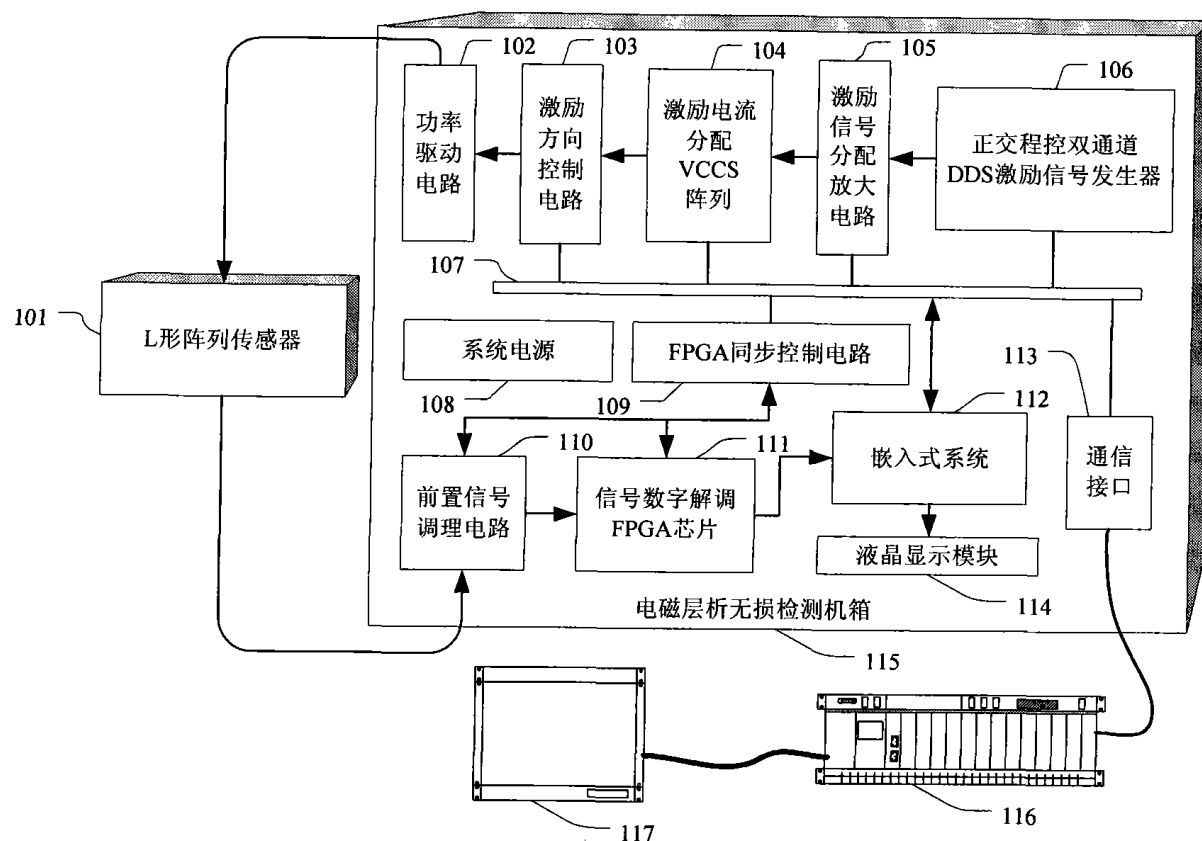
Latest standardized assignees - inventors removed

SOUTHWEST JIAOTONG UNIVERSITY

Family 5/20 - FAMPAT - ©Questel

Title

(CN101696954B)

Electromagnetic tomography nondestructive inspection device for severe fault of **rail** and method thereof**Images****Publication data including kind & date**

CN101696954	A	2010-04-21	CN101696954
CN101696954	B	2011-05-04	CN101696954B

**Abstract**

(CN101696954B)

The invention provides an electromagnetic tomography nondestructive inspection device for severe fault of a **rail** and a method thereof. The inspection device comprises an L-shaped array **sensor**, an electromagnetic tomography nondestructive inspection case, a fault detection monitoring and recording computer and a fault detection monitoring liquid crystal panel, wherein the electromagnetic tomography nondestructive inspection case comprises a power driving circuit, an excitation direction control circuit, an excitation current distribution VCCS array, an excitation signal distribution amplification circuit, an orthogonal program control two-channel DDS excitation signal generator, a bus, a system power supply, an FPGA synchronous control circuit, a preposed signal conditioning circuit, a signal digital demodulation FPGA chip, an embedded system, a communication interface and a liquid crystal display module. The device and the method can ensure on-line inspection of **rail** fault inspection along with **train** operation, and is convenient for discovering the condition of serious fault of the **rail** with severe potential danger to **rail** transportation in time.

Inventors

ZE LIU
XIAOFEI ZHANG
ZHONGHUI WEI

Latest standardized assignees - inventors removed

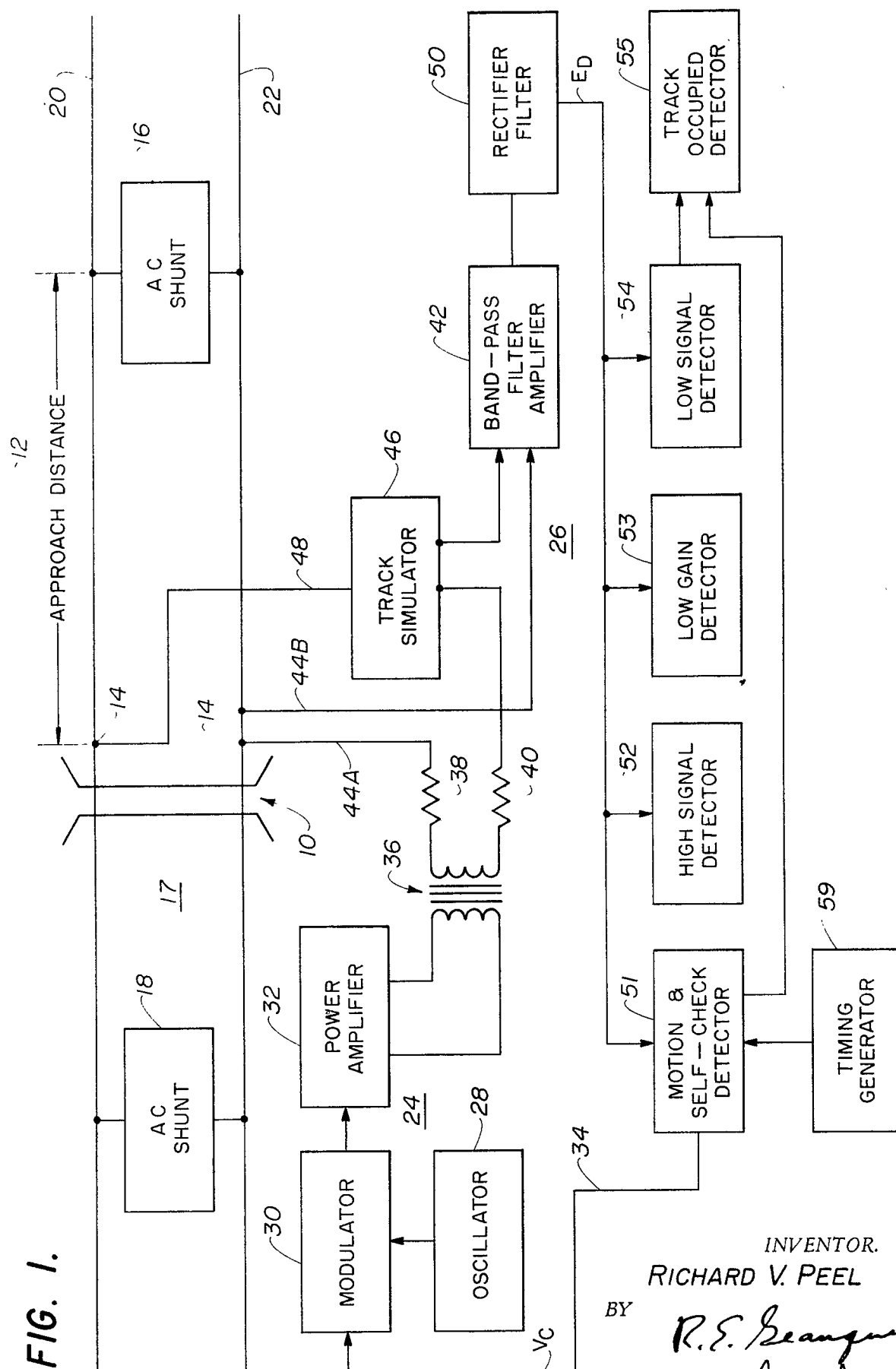
BEIJING JIAOTONG UNIVERSITY

Family 6/20 - FAMPAT - ©Questel

Title

(US3777139)

SHEET 1 OF 5



US3777139

A 1973-12-04 US3777139

Abstract

(US3777139)

A system for providing grade crossing protection by sensing the presence of trains exceeding a preselected velocity in an approach track section defined by shunts across the rails. Detector circuits provide fail-safe protection from defects in the associated track section such as a broken rail or low ballast impedance between rails. A time-sharing self-test subsystem simulates an approaching high speed train by applying a fraction of a second test signal to the system every few seconds to monitor the operation of the overall system; and a low gain detector checks the gain of the system to assure that the train's speed is accurately measured.

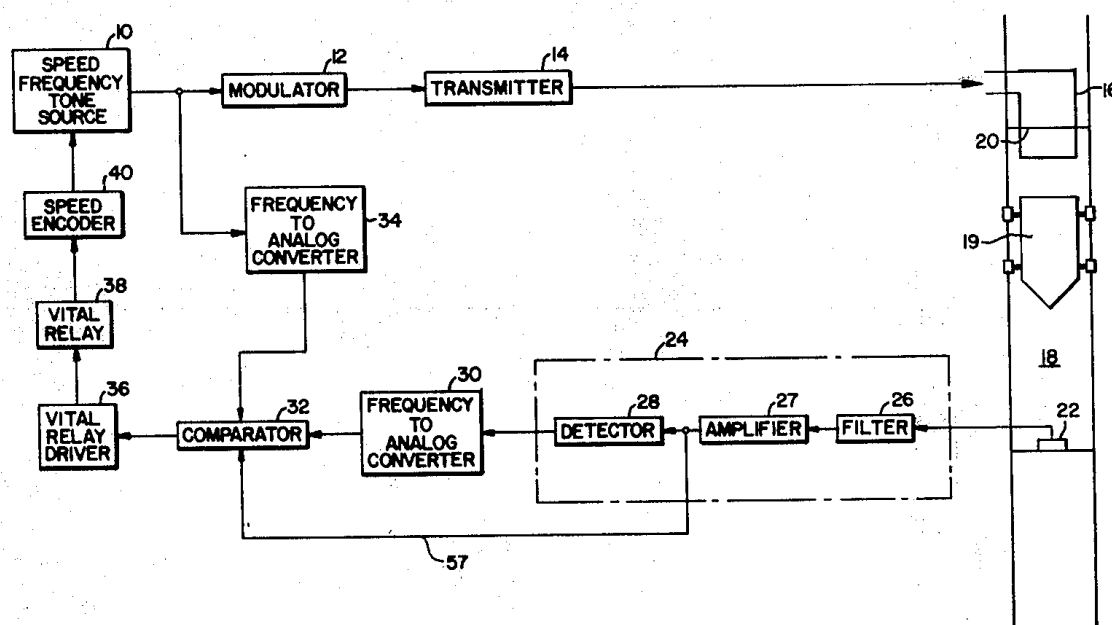
Inventors

PEEL R

Family 7/20 - FAMPAT - ©Questel

Title

(US3958781)

Train vehicle protection apparatus including signal block occupancy de termination**Images****Publication data including kind & date**

US3958781	A	1976-05-25	US3958781
DE2602460	A1	1976-08-05	DE2602460
JPS5198808	A	1976-08-31	JP51098808
BR7600331	A	1976-08-31	BR7600331
ES444764	A1	1977-08-16	ES-444764
CA1038072	A	1978-09-05	CA1038072
GB1538235	A	1979-01-17	GB1538235
IT1056688	B	1982-02-20	IT1056688

**Abstract**

(US3958781)

There is disclosed a train vehicle protection apparatus including the determination of train vehicle occupancy of a track circuit signal block, wherein a frequency tone speed code signal is provided to the signal block for controlling the train vehicle speed and a vital and fail-safe determination of train vehicle occupancy of the signal block is provided.

Inventors

WOODS DAVID H

ANDERSON LAWRENCE W

Latest standardized assignees - inventors removed

ELECTROLUX

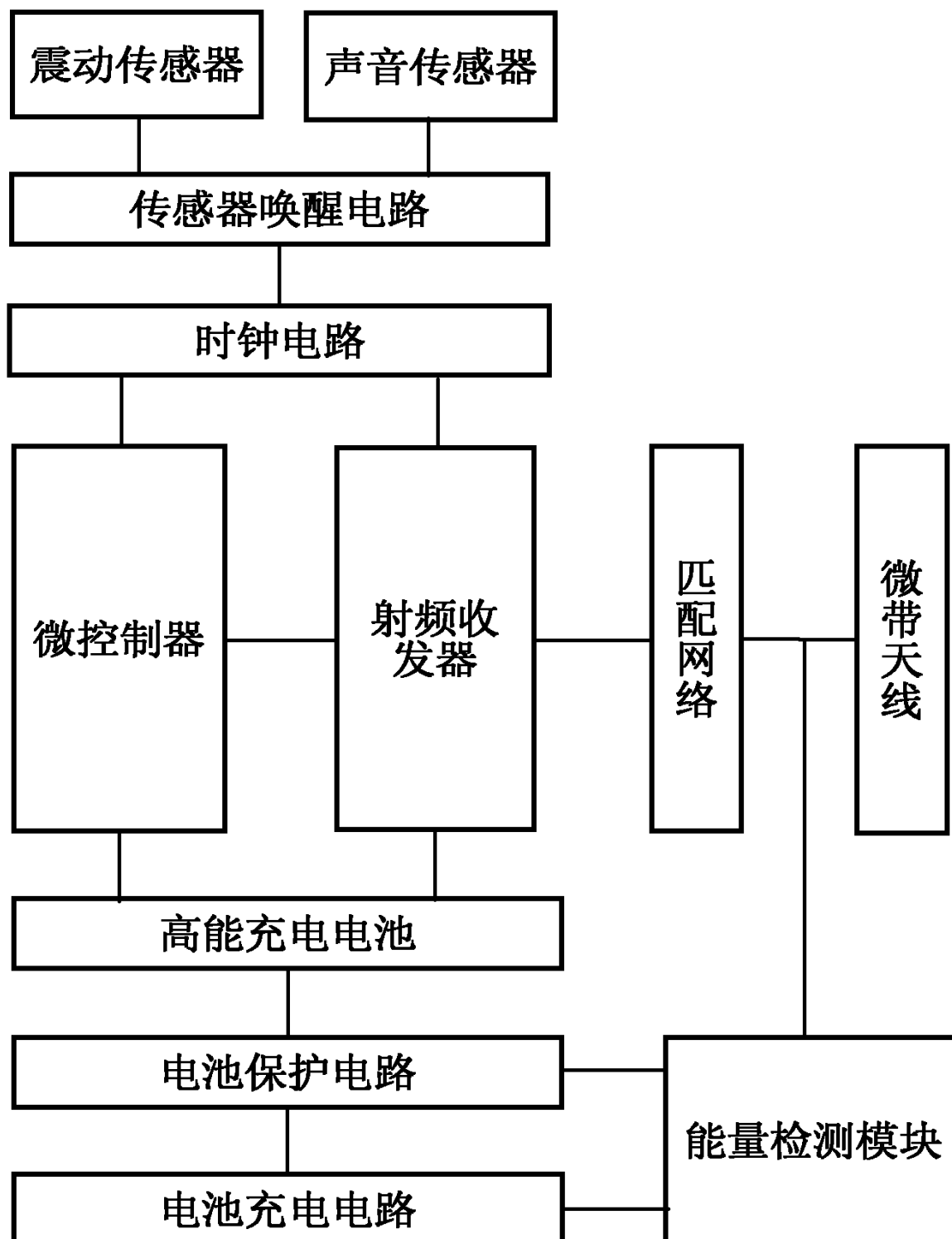
Family 8/20 - FAMPAT - ©Questel

Title

(CN102034128B)

Active temporary speed-limit tag and signal processing method thereof

Images



CN102034128

B 2012-08-08 CN102034128B

Abstract

(CN102034128B)

The invention discloses an active temporary **speed**-limit tag and a signal processing method thereof, which is used for solving the technical problem of the traveling safety of a **train** and the low energy consumption of the active temporary **speed**-limit tag. The active temporary **speed**-limit tag comprises a microprogrammed control unit (MCU), a radio frequency transceiver, a clock circuit, a matching network, a microstrip antenna, a **sensor** awakening circuit, a sound **sensor**, a vibration **sensor**, an energy detection module, a high-energy charging battery, a battery charging circuit and a battery protective circuit. The signal processing method comprises the following five state circulating processing courses: a deactivating state, a sleeping state, a data reading state, a data transmitting state and a receiving waiting state. Moreover, the invention also provides a sleeping activating algorithm (WS) for the active temporary **speed** limit and a scheme for installing the active temporary **speed**-limit tag on a railway. Compared with the existing temporary **speed** limit technique of the **train**, the invention has the advantage that the potential safety hazards of the **train** such as reading mistake or reading leakage and the like caused by anthropogenic factors are solved by utilizing an automatic identification technique.

Inventors

SHENGLI XIE

ZHENYU LIU

QI FU

Latest standardized assignees - inventors removed

SOUTH CHINA UNIVERSITY OF TECHNOLOGY

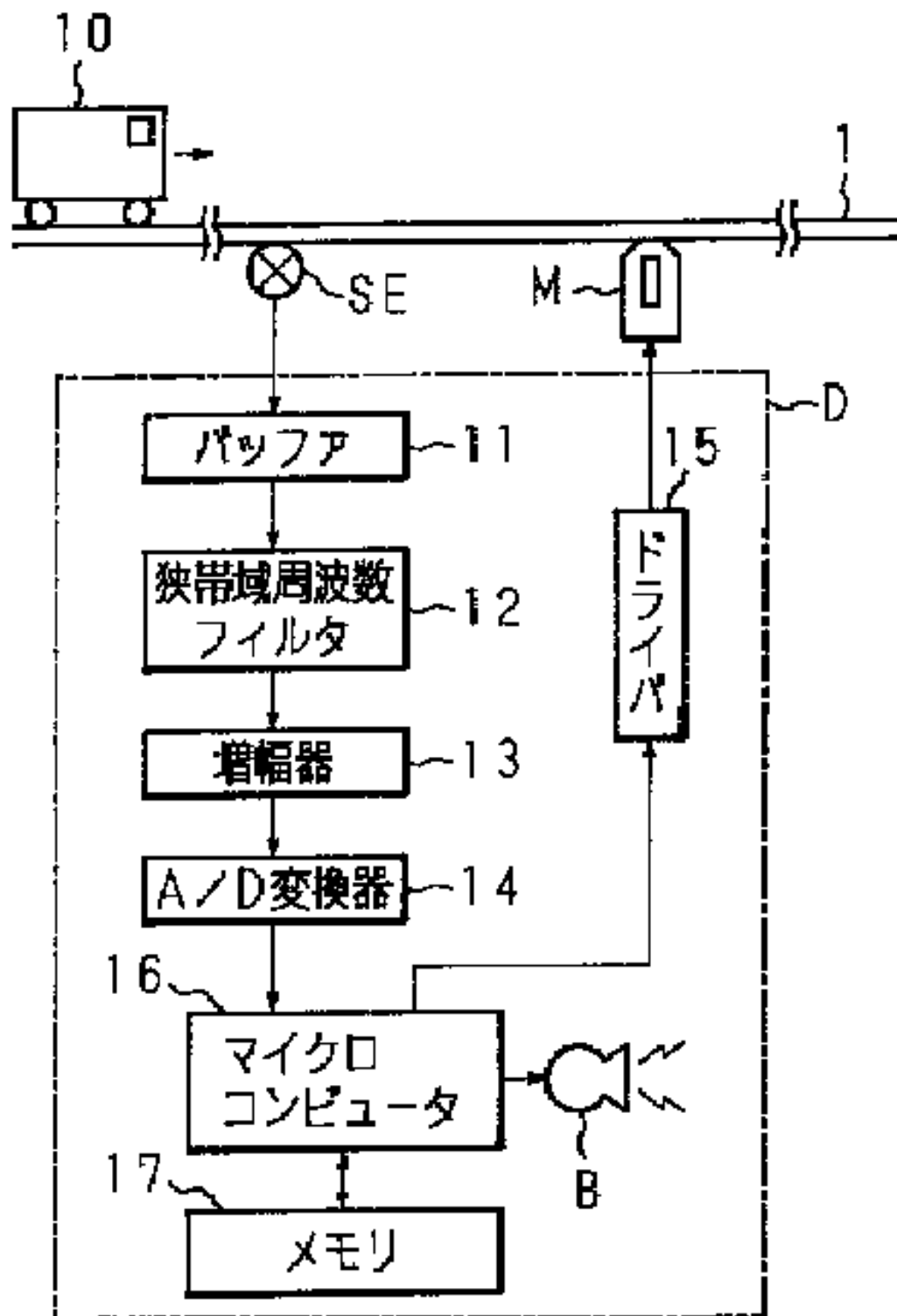
Family 9/20 - FAMPAT - ©Questel

Title

(JP10002951)

Method and device for monitoring substance by using sound wave

Images



Publication data including kind & date

JPH102951

A 1998-01-06 JP10002951



Abstract

(JP10002951)

PROBLEM TO BE SOLVED: To secure safety for a worker by attracting the attention for him to take refuse by accurately actuating warning when a **train** moving on rails approaches a maintenance work spot or the like. **SOLUTION:** When repairing work is performed for rails 1 in the interval of the passings of trains 10, a magnetostriction oscillator M and a vibration **sensor** SE are arranged for the rails 1. At this time, the sound wave is propagated from the magnetostriction oscillator M to the rails 1 through a driver 15. The reflected sound wave from the existing position of the **train** 10 is captured by the vibration **sensor** SE. The noises are removed through a narrow-band frequency filter 12. The distance from the

working spot to the **train** 10 is computed based on the propagating time of the sound wave and the propagating **speed** of the sound wave by a microcomputer 16. When the distance becomes shorter than the specified time, a buzzer B is sounded.

Inventors

EGAMI NORITAKA

Latest standardized assignees - inventors removed

MITSUBISHI ELECTRIC

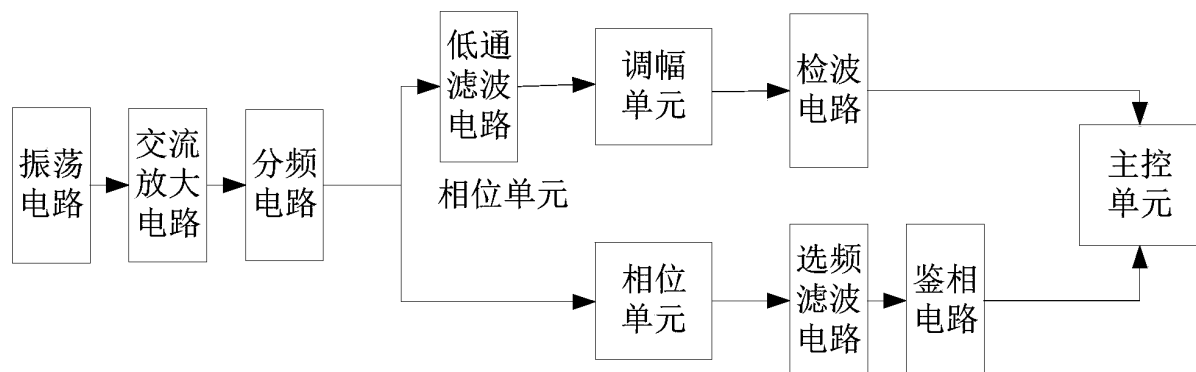
Family 10/20 - FAMPAT - ©Questel

Title

(CN103552581)

Wheel **sensor**

Images



Publication data including kind & date

CN103552581	A	2014-02-05	CN103552581
CN103552581	B	2016-01-13	CN103552581B



Abstract

(CN103552581B)

The invention provides a wheel **sensor**. A corresponding amplitude modulation unit comprises a bridge circuit and two coils with the same parameters, wherein the bridge circuit and the two coils are arranged at the same side of a **rail**; a phase unit comprises a transmitting coil and a receiving coil which are respectively located at the two sides of the **rail**; the transmitting coil is used for producing alternating flux and sensing same-frequency alternating-current signals through coupling with the receiving coil; a signal processing unit is used for producing and providing square wave with preset frequency for the transmitting coil, producing and providing sine wave with preset frequency for the bridge circuit and obtaining the axle counters state of a vehicle in a region according to the output signal of the bridge circuit and the received alternating flux signals output by the coils. By using the wheel **sensor**, the wheel arriving and departing states can be detected, the physical center of a wheel can be accurately captured, the working state cannot be influenced by ballast bed, **rail** and circuit conditions, external white noise can be eliminated, and the influence on the coils, caused by high-voltage electric field, electromagnetic wave and the like nearby electrified railways can be removed.

Inventors

LU DI

LIN XUE

ZHOU SANQIANG

Latest standardized assignees - inventors removed

HARBIN UNIVERSITY OF SCIENCE & TECHNOLOGY

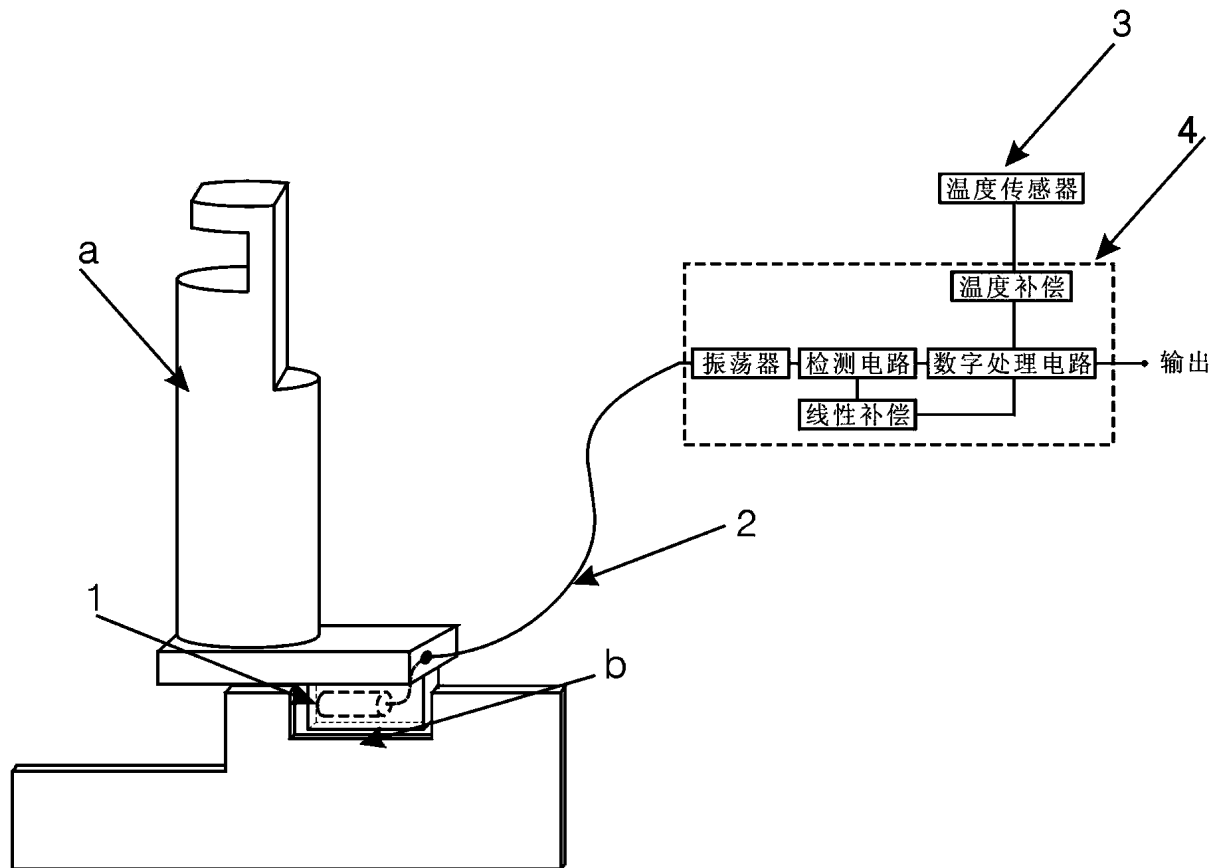
Family 11/20 - FAMPAT - ©Questel

Title

(CN102431577B)

Monitoring technology of eddy current **sensor** for gap of turnout gap detection column and detection block

Images



Publication data including kind & date

CN102431577	A	2012-05-02	CN102431577
CN102431577	B	2014-08-06	CN102431577B



Abstract

(CN102431577B)

The invention relates to the field of ensuring travelling safety after great acceleration of the railway, in particular to a gap eddy current sensing and monitoring system of a turnout gap and the gap between a detection column and a detection block, which consists of a detection column, a gap of a detection block, a probe of an eddy current **sensor**, an extension cable, a temperature **sensor** and a comprehensive processing circuit. By adopting the above technical scheme, the invention solves the disadvantages of the turnout gap by means of mechanical contact or photoelectric detection and the blankness of monitoring by using the eddy current principle. Compared with the prior art, the invention has the advantages that the mechanical structure of the current point switch is unnecessarily changed, the non-contact measurement is adopted, the influences of dust, oil, oil stain and installation position can be avoided, the vibration misinformation caused by passing of the **train** can be avoided, and the digital output is realized. In addition, the invention also has high precision, high stability and low cost and is simple to install, etc.

Inventors

ZHAO JIANMING

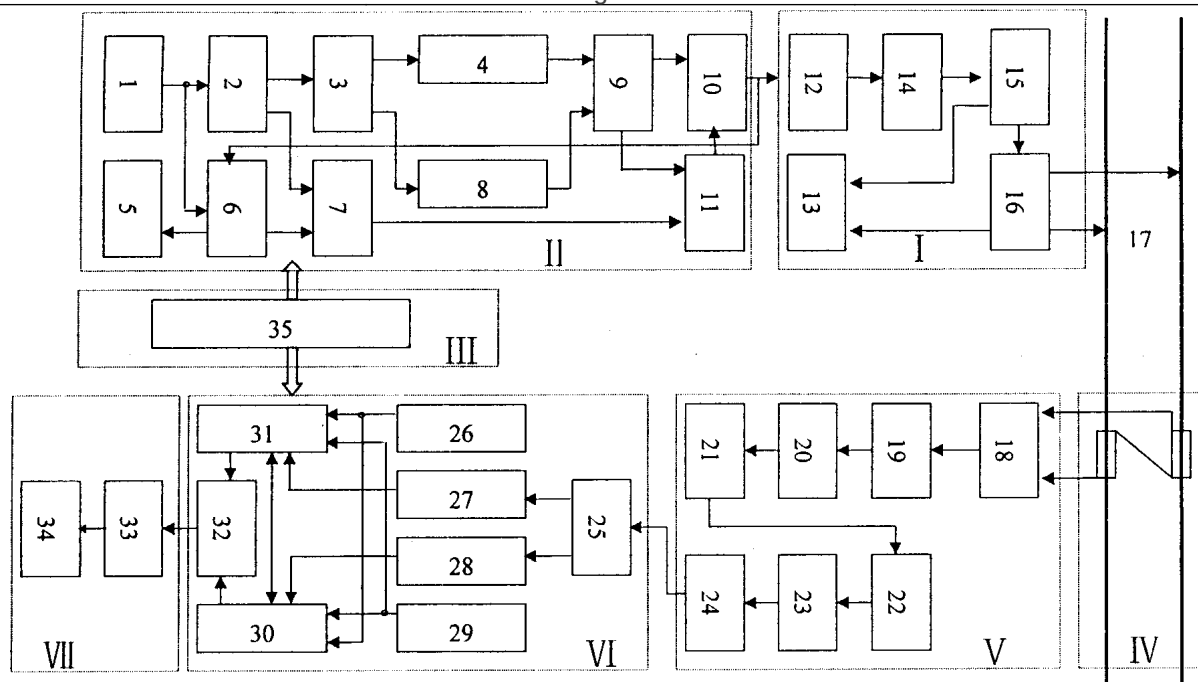
Family 12/20 - FAMPAT - ©Questel

Title

(CN2426830U)

18 information noninsulate frequency shift automatic blocking equipment

Images

**Publication data including kind & date**

CN2426830

Y

2001-04-18

CN2426830U

**Abstract**

(CN2426830U)

The utility model relates to 18 information non-insulation frequency shift automatic blocking equipment. The utility model is formed by the electrical connection of a transmission channel circuit I, a transmission control circuit II, a power circuit III, a receiving induction circuit IV, a receiving channel circuit V, a receiving control circuit VI, and an executive circuit VII. The utility model has the characteristics that the information amount is large, the stability is high, the utility model can meet the requirements of ground signal three displays or four displays and **train** overspeed protection, the utility model is adapted to the requirements of high **speed**, heavy load, and large density of a railway, the demarcation point of the utility model is clear, the utility model has no dead section, the transmission distance is long, the interference resistant performance particularly the neighboring circuit interference resistant performance is strong, the climatic change has little influence on the transmission performance of the utility model, etc. The demarcation point of the approach of a **train** is clear, and thus, the utility model is better for the accurate arrangement of a ground signal machine. The utility model has the advantages of high reliability, good stability and high safety degree.

Inventors

DENG YINGHONG

XIAO CAIXIA

ZHONG HONG

Latest standardized assignees - inventors removed

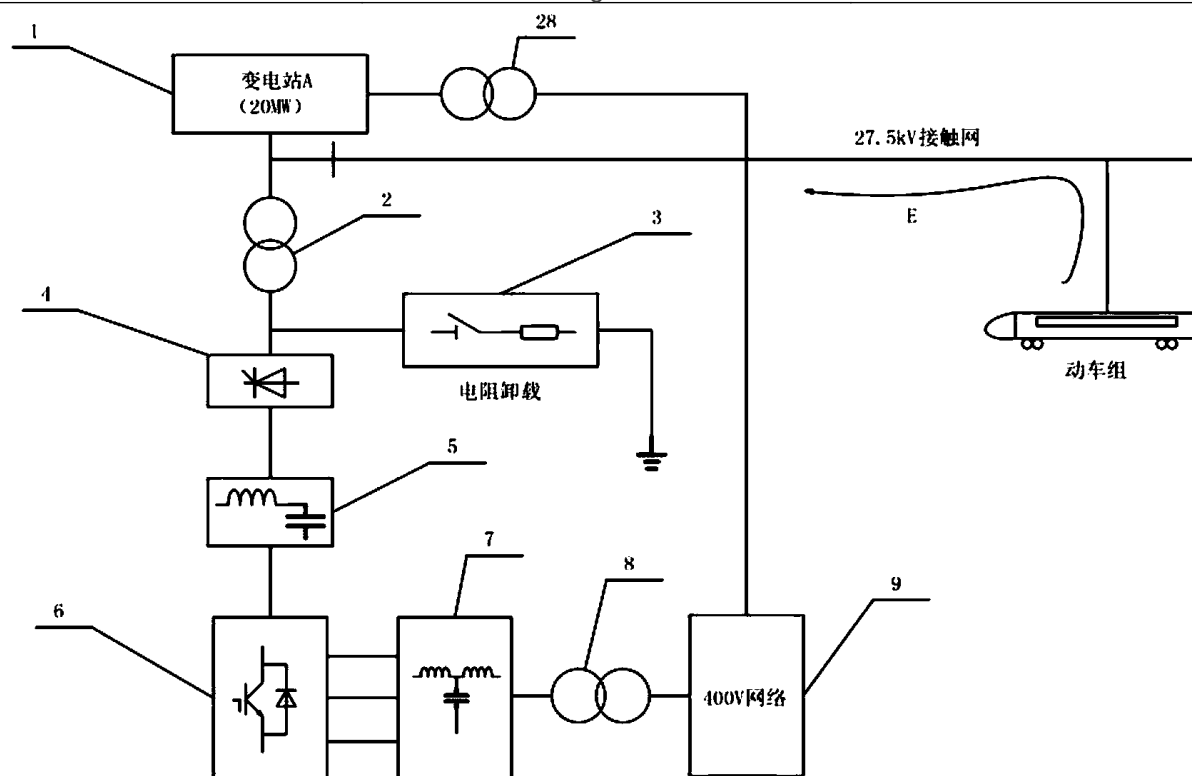
RUIXING AUTOMATION EQUIPMENT C

Family 13/20 - FAMPAT - ©Questel

Title

(CN103915857)

Regenerative braking energy feedback absorption utilization device of high voltage alternating current motor **train** unit**Images**



Publication data including kind & date

CN103915857	A	2014-07-09	CN103915857
CN103915857	B	2016-04-13	CN103915857B



Abstract

(CN103915857B)

The invention belongs to the technical field of high voltage electric railway energy-saving equipment, and relates to a regenerative braking energy feedback absorption utilization device of a high voltage alternating current motor **train** unit. A transformer substation is respectively connected with an input end of a first step-down transformer and an input end of a second step-down transformer electrically, and the motor **train** unit is respectively connected with an output end of the transformer substation and the input end of the first step-down transformer electrically; an output end of the first step-down transformer is respectively connected with a resistor unloading unit and a controlled rectifying unit; the controlled rectifying unit is electrically connected with a filtering unit; one end of an inverting unit is electrically connected with the filtering unit, and the other end of the inverting unit is electrically connected with an inverting output filtering unit; the two ends of an isolation transformer are electrically connected with the inverting output filtering unit and a 400 V low voltage network respectively. The regenerative braking energy feedback absorption utilization device of the high voltage alternating current motor **train** unit is simple in overall structural design, reliable in principle, good in control capacity, high in energy absorption efficiency and conversion efficiency, simple in electrical principle, low in manufacturing cost, small in energy consumption and environmentally friendly.

Inventors

WU HUAJUN
LAN XINZHANG
AN GANGHU

Latest standardized assignees - inventors removed

QINGDAO HAINENG ALPINE **RAIL** POWER EQUIPMENT ENGINEERING TECHNOLOGY

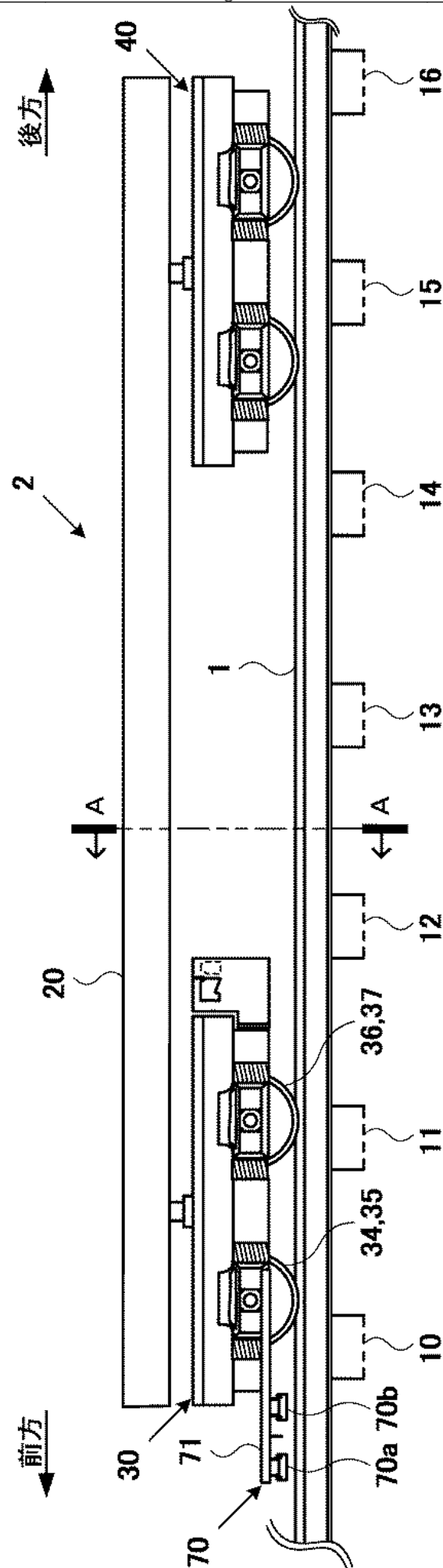
Family 14/20 - FAMPAT - ©Questel

Title

(JP2013238516)

Eddy current type detection method and apparatus for **rail** left/right displacement

Images



JP2013238516

A 2013-11-28 JP2013238516

JP6059885

B2 2017-01-11 JP6059885

**Abstract**

(JP6059885)

PROBLEM TO BE SOLVED: To highly accurately detect displacement by enlarging a gap with a rail, permitting a vertical displacement to some extent, and simultaneously thereto, improving temperature characteristics. **SOLUTION:** A pair of detection coils 70a and 70b are mounted to the left/right of a vehicle at a fixed distance spaced from a longitudinal central line of a rail and a fixed interval retained from a top surface of the rail. A high-frequency resonance current is applied to the detection sensors to generate a magnetic field with respect to the rail. Impedances of the detection coils are changed according to an eddy current generated on the rail surface and a DC voltage corresponding thereto is acquired as a voltage value of a digital signal. The left/right transverse-directional displacement from the longitudinal central line of the rail is thus detected by reading a corresponding displacement value from a table that converts a voltage value previously created based on the acquired voltage value into the displacement.

Inventors

MATSUDA HIROYUKI

TAKIGAWA MITSUNOBU

YAZAWA EIJI

TSUBOKAWA HIROTOMO

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MIYAJIMA TAKANORI

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Latest standardized assignees - inventors removed

EAST JAPAN RAILWAY

RAILWAY TECHNICAL RESEARCH INSTITUTE

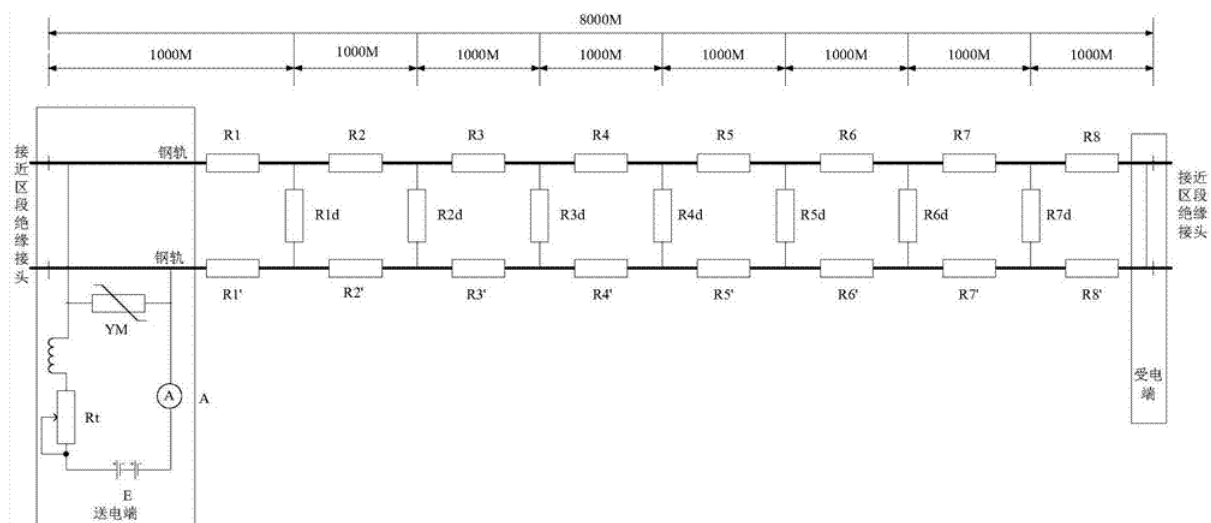
HITACHI HIGH TECHNOLOGIES

Family 15/20 - FAMPAT - ©Questel

Title

(CN107600112)

Semi-automatic block railway steel rail breaking monitoring system and method

Images**Publication data including kind & date**

CN107600112

A 2018-01-19 CN107600112

**Abstract**

(CN107600112)

The invention discloses a semi-automatic block railway steel rail breaking monitoring system and method. The monitoring

system is provided with at least one monitoring section, and each monitoring section is provided with monitoring equipment. Each piece of monitoring equipment comprises a direct current power source, a monitoring host, an information acquisition module and a data transmission module, wherein the monitoring host is connected with the direct current power source, the information acquisition module and the data transmission module; and the information acquisition module comprises a plurality of steel rail direct current resistors, a plurality of steel rail short-circuit wires, a circuit protection voltage dependent resistor, a low-frequency choking coil and an adjusting current limit resistor. Each monitoring section is divided into a plurality of segments, and two steel rails comprise the first steel rail and the second steel rail. The segments of the first steel rail and the second steel rail are each provided with the corresponding steel rail direct current resistor, and each segment of the first steel rail is connected with the corresponding segment of the second steel rail through a short-circuit resistor. The semi-automatic block railway steel rail breaking monitoring system and method provided by the invention can be used for monitoring steel rail breaking and ensuring the safety of railway traffic.

Inventors

XU HONGYANG

WAN BAOHUA

ZHAO LINJIE

QIN MINXIA

ZHANG CHANGSHENG

ZHANG JIANFENG

FAN JINGXIANG

LIU MINGJIAN

TANG HONGLIANG

SONG PEICHENG

Latest standardized assignees - inventors removed

CHINA RAILWAY SIGNAL & COMMUNICATION SHANGHAI ENGINEERING BUREAU

SHANGHAI XINHAI XINTONG INFORMATION TECHNOLOGY

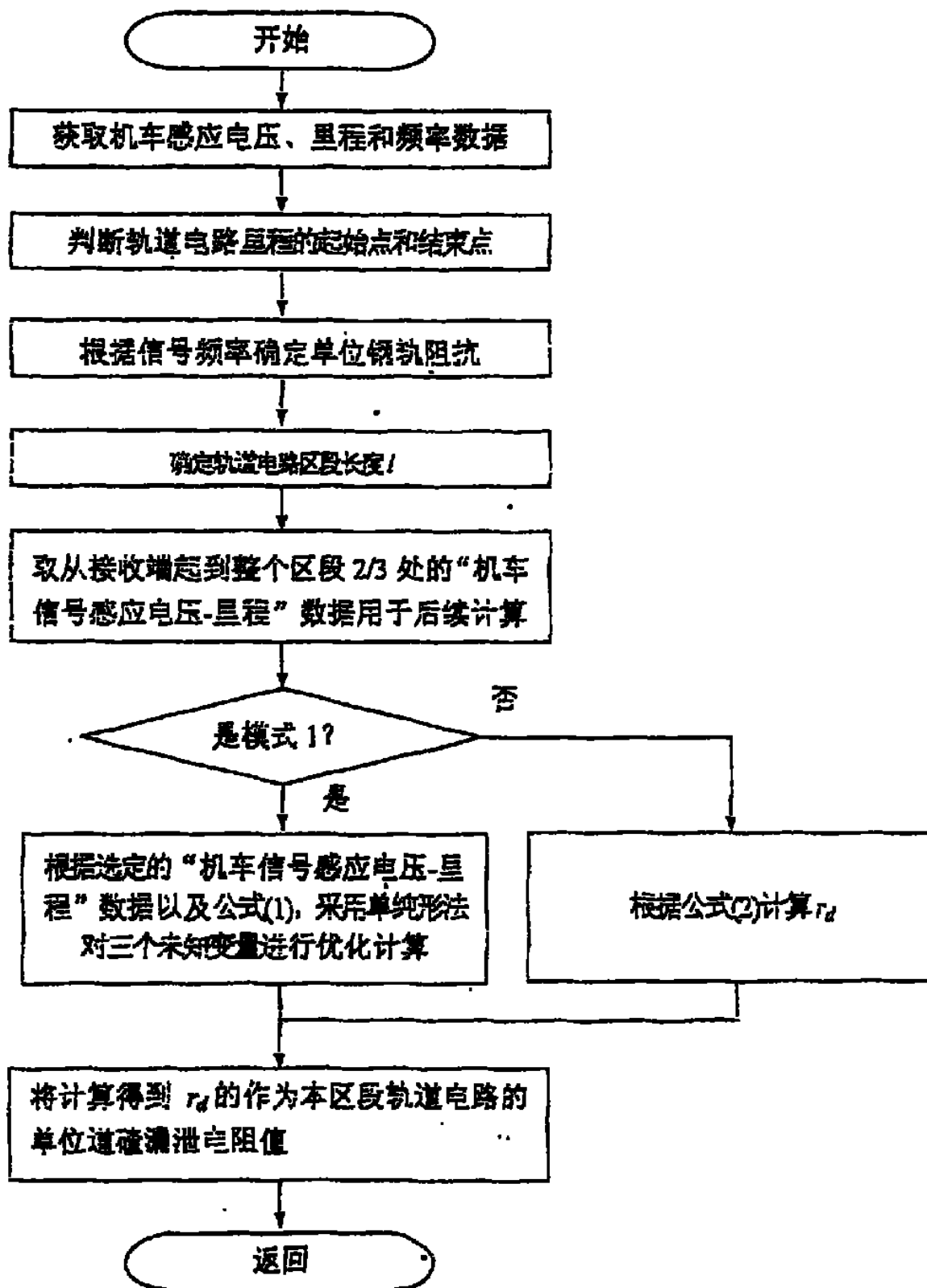
Family 16/20 - FAMPAT - ©Questel

Title

(CN1258457C)

Vehicle carried testing method for rail circuit ballast leak resistance and its testing equipment

Images



Publication data including kind & date

CN1537770

A 2004-10-20 CN1537770

CN1258457

C 2006-06-07 CN1258457C



Abstract

(CN1258457C)

A method for measuring the leakage resistance of ballast to the railway circuit includes such steps as measuring the 'locomotive induction voltage-distance' curve and performing the optimized calculation by multi-point fitting to the data of said curve to obtain said leakage resistance. Its tester carried by locomotive is composed of power supply, microprocessor, serial port, analog input channel, switch value input channel, speed pulse input channel, storage, real-time timing circuit,

and man-machine interface. Its advantages are high **speed** and precision, and high resistance to noise.

Inventors

ZHAO HUIBIN ZHAO

Latest standardized assignees - inventors removed

SINUO SCIENCE & TECHNOLOGY

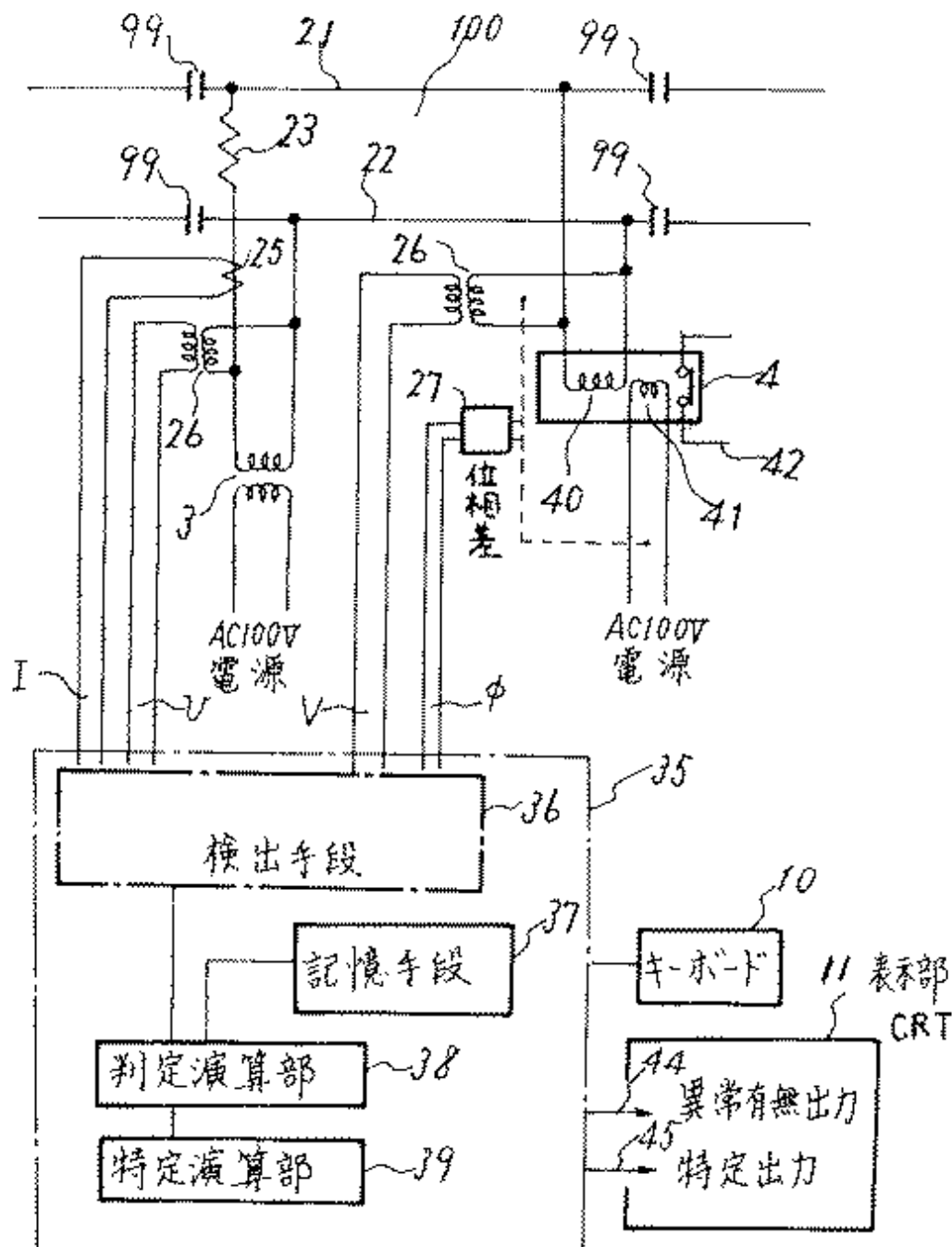
Family 17/20 - FAMPAT - ©Questel

Title

(JP11278269)

Track circuit monitoring device

Images



3:電源装置 4:軌道リレ 21,22:レール
 23:インピーダンス素子 25:CT 26:PT
 35:演算装置 99:絶縁 100:軌道区間

Publication data including kind & date

JPH11278269 A 1999-10-12 JP11278269
 JP3643234 B2 2005-04-27 JP3643234



Abstract

(JP3643234)

PROBLEM TO BE SOLVED: To detect all abnormality on a track circuit on the basis of a little data in a case where a judging and computing unit judges generation of abnormality in a track circuit by specifying a cause of the abnormality among an alternating current power source device, an **impedance** element, a track zone and a track relay, and outputting a result of specification.
SOLUTION: A current detector 25 is inserted into a cable connected to an output terminal of a power

source device 3. A voltage detector 26 is connected to the output terminal of the power source device 3 or a terminal of a track 100, and a phase difference between two voltages applied to a main coil 40 and a local coil 41 of a track relay is detected by a phase difference detector 27. A computing device 35, in which the transmitting current signal I , the transmitting voltage signal v , the receiving voltage signal V and a phase difference signal are input, outputs the existence output 44 of abnormality of the track circuit and the specifying output 45 of a part, in which abnormality is generated, in the case where abnormality is generated. With this structure, though the detected data does not correspond to all the circuit element, a cause of abnormality can be specified.

Inventors

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Latest standardized assignees - inventors removed

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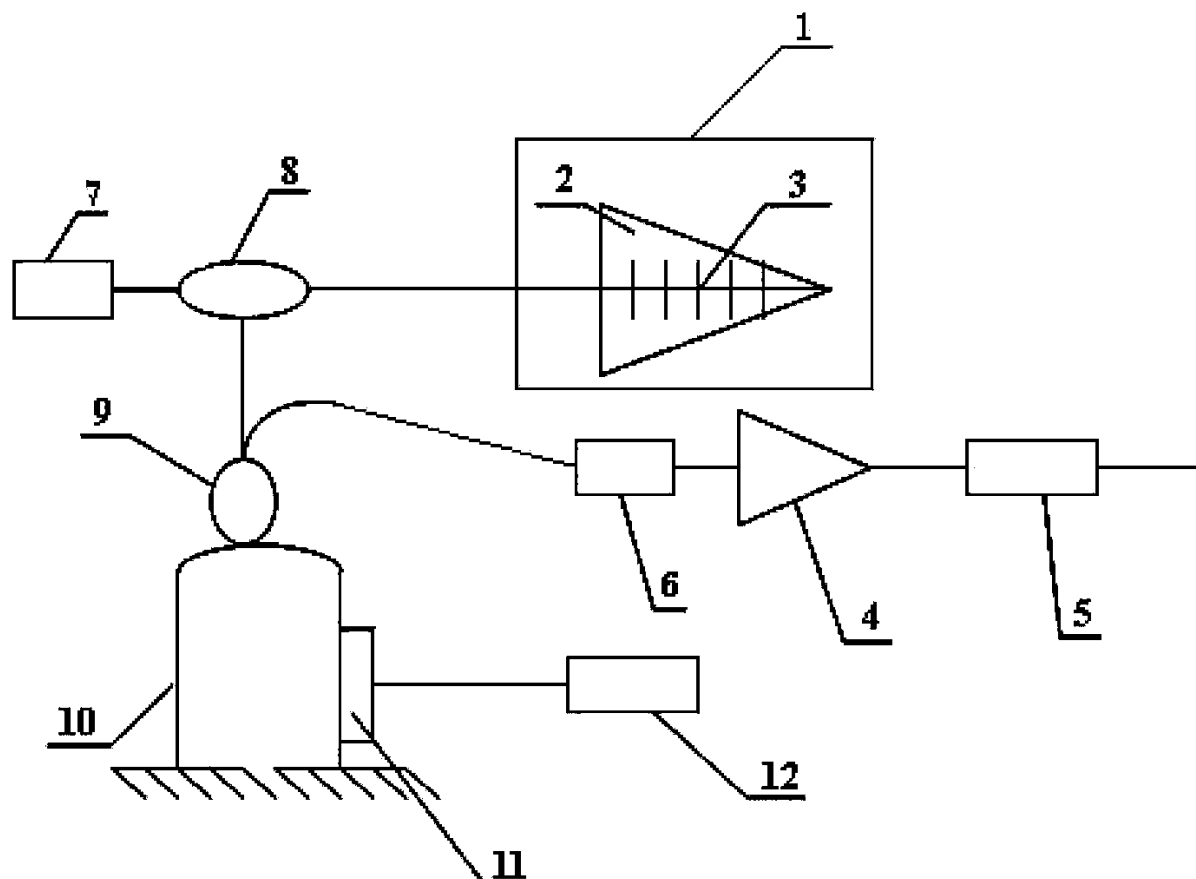
Family 18/20 - FAMPAT - ©Questel

Title

(CN103175849B)

Optical fiber on-line vehicle bearing fault detection device

Images



Publication data including kind & date

CN103175849	A	2013-06-26	CN103175849
CN103175849	B	2015-04-15	CN103175849B



Abstract

(CN103175849B)

The invention relates to an on-line vehicle bearing fault detection device, and in particular relates to an optical fiber on-line

vehicle bearing fault detection device, aiming at solving the problems that an existing vehicle bearing fault detection device is easily interfered by vehicle equipment such as a motor as well as communication signals of a power grid, and real-time health monitoring accuracy of a heavy rail is low. The optical fiber on-line vehicle bearing fault detection device comprises a sensor, an analog to digital (A/ D) converter, a signal processing system, a photoelectric detector, a broadband light source, a wavelength division multiplexer, a coupling, a scanning interferometer and a signal generator, wherein the output end of the sensor is communicated with the input end of the wavelength division multiplexer; the broadband light source is communicated with the input end of the wavelength division multiplexer; the wavelength division multiplexer is communicated with one signal end of the coupling; the coupling is communicated with the scanning interferometer; the signal generator is communicated with the scanning interferometer; the signal output end of the coupling is communicated with the photoelectric detector; the photoelectric detector is communicated with the A/ D converter; and the output end of the A/ D converter is communicated with the signal processing system. The device is used for detecting the fault of an on-line vehicle bearing.

Inventors

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Latest standardized assignees - inventors removed

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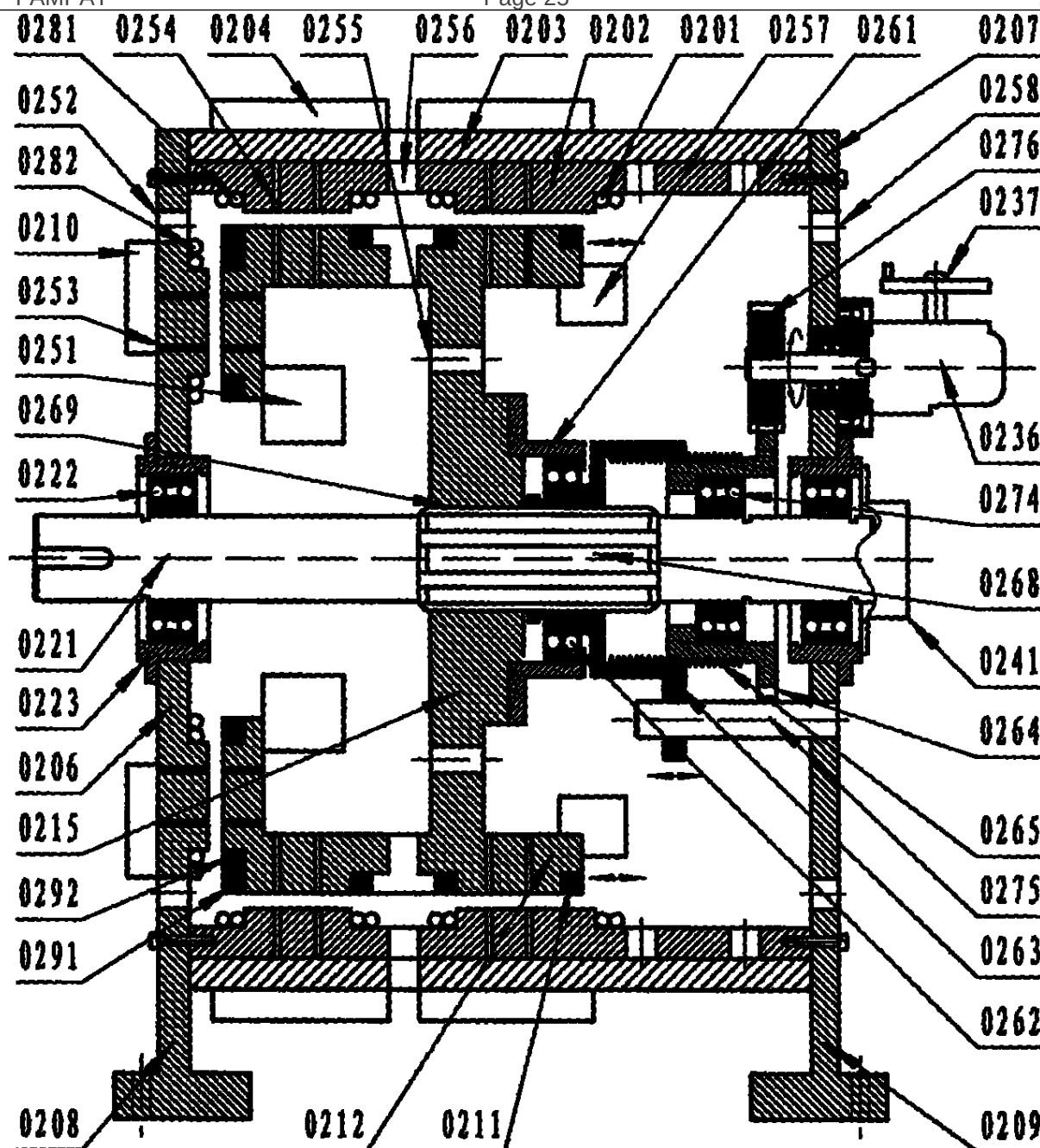
Family 19/20 - FAMPAT - ©Questel

Title

(CN102769344B)

Direct drive type motor or generator capable of steplessly converting torque and regulating speed

Images



Publication data including kind & date

CN102769344	A	2012-11-07	CN102769344
CN102769344	B	2014-09-03	CN102769344B



Abstract

(CN102769344B)

The invention discloses a direct drive type motor or generator capable of steplessly converting torque and regulating **speed**. The direct drive type motor or generator is of a cylindrical/cage shape, a disc shape or a cylindrical disc composite single-stator single-rotor structure, a flap-like single-stator single-rotor structure, a single-stator double-rotor structure or a flap-like single-stator double-rotor structure, wherein at least one group of stators and rotors are respectively arranged on adjacent corresponding circumferential surfaces, conical surfaces or/and end faces of the stator and rotor or/and double rotors; at least one pair of induction air-gap field coupling components or/and permanent magnet air-gap field coupling components are arranged in each group; at least one pair of axial displacement adjusting mechanisms or radial/axial displacement adjusting mechanisms for adjusting the air-gap field coupling area and/or the coupling distance is arranged and matched with a stator component, a flap-like stator component, a rotor component or a flap-like rotor component; and the technical scheme that air-cooling, refrigerant cooling and lubricating systems are arranged in the system is given. The direct drive type motor or generator has the characteristics of simple structure, high reliability, high cost performance and long service life and can be widely applied to the fields of electrical equipment, energy conservation and emission

reduction, electric/hybrid electrical vehicles or wind power generation and the like.

Inventors

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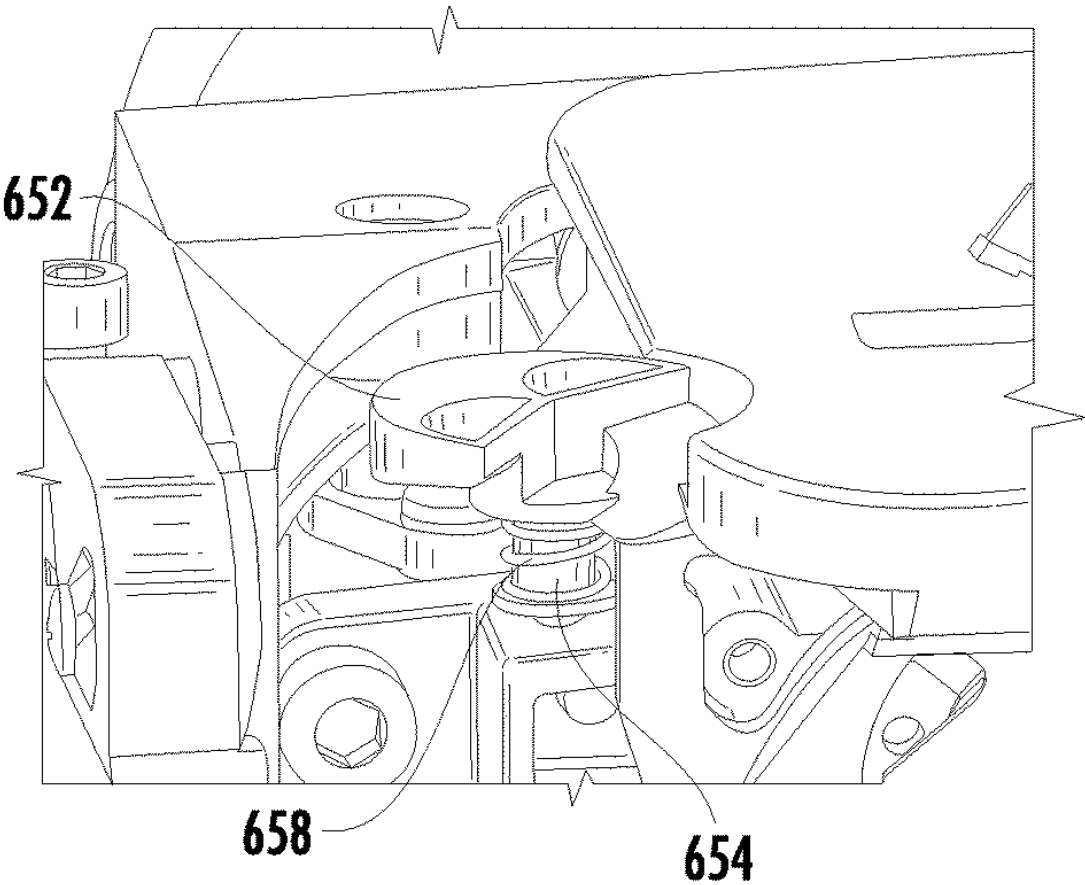
Family 20/20 - FAMPAT - ©Questel

Title

(EP3280574)

Power tool with lightweight actuator housing

Images



Publication data including kind & date

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US2016263768	A1	2016-09-15	US20160263768				
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US9914239	B2	2018-03-13	US9914239				
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Abstract

(EP3280574)

A power tool assembly includes a drop arm assembly movable along a drop path between a first drop arm assembly position whereat a portion of a shaping device supported by the drop arm assembly extends above a workpiece support surface and a second drop arm assembly position whereat the portion of the shaping device does not extend above the workpiece support surface, an actuator housing configured to house a first actuating device at an active location at which a force from the first actuating device is transferred to the drop arm assembly, the actuator housing including a slit configured to position a second actuating device at an inactive location, and a control system configured such that when the first actuating device is housed, the control system controls the first actuating device to transfer the force to the drop arm assembly when an unsafe condition is sensed.

Inventors

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Latest standardized assignees - inventors removed

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