

Search query (2): [SP]: assembly consisting of an electric vehicle and a system for stationary charging by conduction associated system, facility, vehicle and method an assembly made up of a recharging system including a power supply contact on the ground, and a switching device, to bring the power supply contact to a supply voltage delivered by a source to which the recharging system is connected, and a vehicle including a contact shoe electrically connected to onboard energy storage means, the contact shoe being placed below the vehicle and movable between a high position and a low position, the vehicle including a control device able to command the movement of the contact shoe from the high position to the low position so that it is placed in contact with the power supply contact, only when the vehicle is stopped in said predetermined position allowing the capture of energy from the recharging system, in which the footprint of the vehicle covers the power supply contact.

Results: 46

Search history

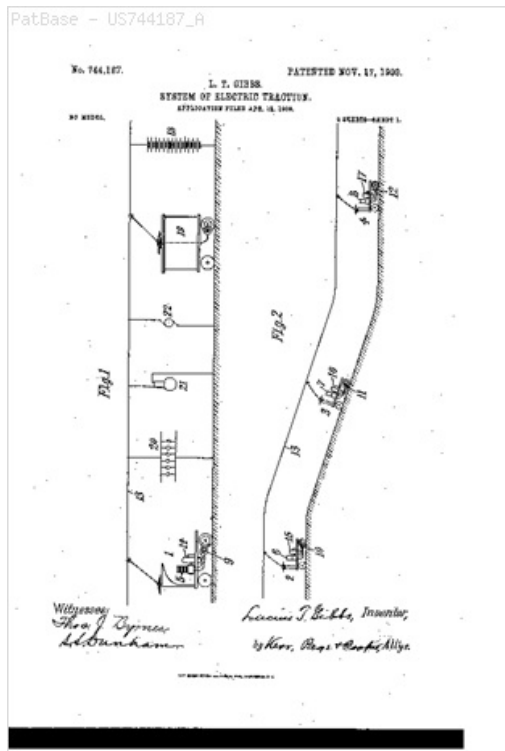
Search PN=(WO2016198465) (Results 1)

1:

Search [SP]: assembly consisting of an electric vehicle and a system for stationary charging by conduction associated system, facility, vehicle and method an assembly made up of a recharging system including a power supply contact on the ground, and a switching device, to bring the power supply contact to a supply voltage delivered by a source to which the recharging system is connected, and a vehicle including a contact shoe electrically connected to onboard energy storage means, the contact shoe being placed below the vehicle and movable between a high position and a low position, the vehicle including a control device able to command the movement of the contact shoe from the high position to the low position so that it is placed in contact with the power supply contact, only when the vehicle is stopped in said predetermined position allowing the capture of energy from the recharging system, in which the footprint of the vehicle covers the power supply contact. (Results 46)

Title: SYSTEM OF ELECTRIC TRACTION.

Classifications:
CPC: B60L2200/26
US: 105/35 191/2



Family:

Publication number	Publication date	Application number	Application date
US744187 A	19031117	US19030152309	19030413

Priority:

US19030152309 19030413

Probable Assignee: GIBBS ENGINEERING AND MFG CO

Assignee(s): (std): GIBBS ENGINEERING AND MFG CO ; GIBBS ENGINEERING AND MFG COMPANY

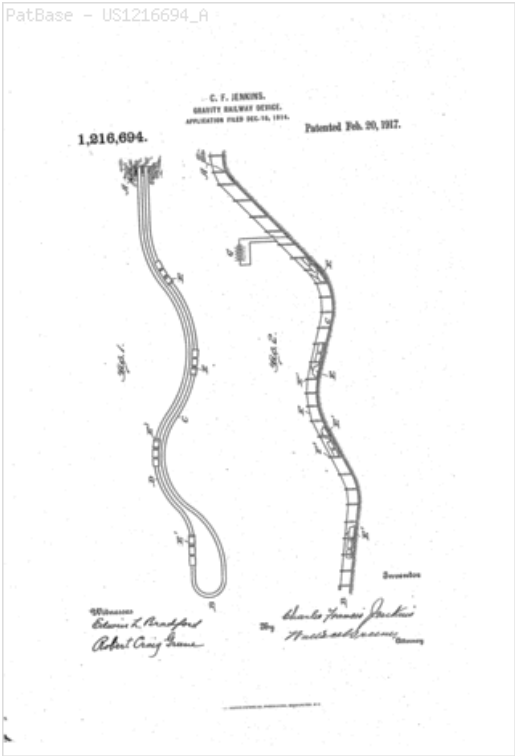
Assignee(s): GIBBS ENGINEERING AND MANUFACTURING COMPANY

Inventor(s): (std): GIBBS LUCIUS T

Inventor(s): LUCIUS T GIBBS

Title: GRAVITY-RAILWAY DEVICE.

Classifications:
International (IPC 1-7): B60L7/10
CPC: B60L2200/26
US: 104/287 104/289



Family:

Publication number	Publication date	Application number	Application date
US1216694 A	19170220	US19140877591	19141216

Priority:
US19140877591 19141216

Probable Assignee:	JENKINS CHARLES FRANCIS
Assignee(s): (std):	JENKINS CHARLES FRANCIS
Assignee(s):	CHARLES FRANCIS JENKINS
Inventor(s): (std):	JENKINS CHARLES FRANCIS
Inventor(s):	CHARLES FRANCIS JENKINS

Title: ELECTRIC TRACTION SYSTEM

Abstract: 1. A system of traction upon roads by the use of a self-propelled vehicle provided with steering gear and with wheels aving elastic tires, and driven by an electric motor supplied at will by an outside line or by a selfcontained source of power, comprising, in combination: a single-pole overhead trolley line having a plurality of spaced wires; conTo ducting means provided on the ground of the road on a repion wider than the wheel gauge of the vehic e; and Na, vehicle provided with a, sliding trolley and with means for the return of the current to the road through the elastic tires of the wheels.

Classifications:

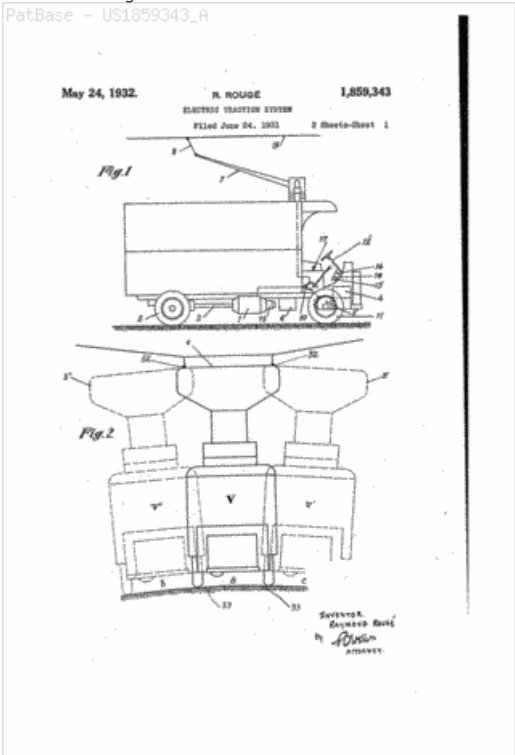
International (IPC 8-9): B60L11/12 (Advanced/Invention); B60L11/02 (Core/Invention)

International (IPC 1-7): B60L5/18

CPC: B60L11/12 Y02T10/7077 Y10T152/10

European: B60L11/12 Y02T10/70 Y02T10/70J2

US: 152/151 191/1.00R 191/1R 191/4 191/49 191/63



Family:

Publication number	Publication date	Application number	Application date
US1859343 A	19320524	US19310546534	19310624

Priority:

19300625 US19310546534 19310624

Probable Assignee:

RAYMOND ROUGE

Assignee(s): (std):

RAYMOND ROUGE

Inventor(s): (std):

RAYMOND ROUGE

Inventor(s):

ROUGE RAYMOND

Title: ELECTRIC VEHICLE

Abstract: 1. In an electric vehicle, the combination with a truck having a leading and a trailing Wheeled axle, of a motor for driving each axle, said motors having similar speed and torque characteristics, means for applying the same voltage to each motor, and means for causing the motor on the leading axle to revolve at a higher speed than the motor on the trailing axle, thereby tending to prevent wheel slippage.

Classifications:

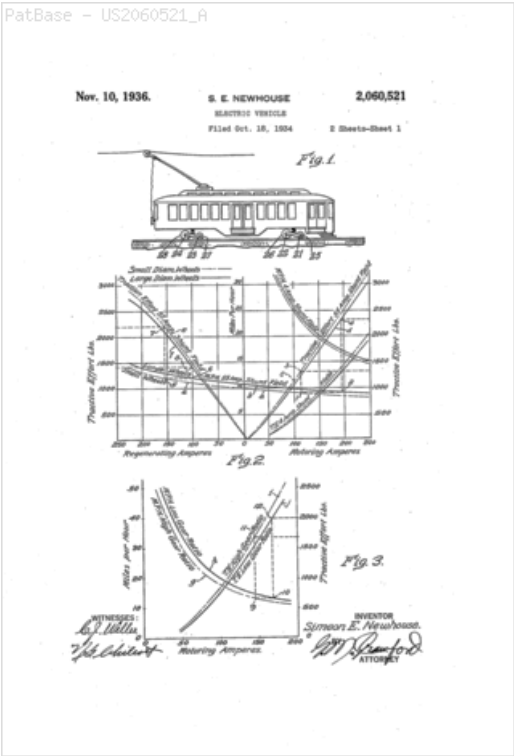
International (IPC 8-9): B60L3/10 (Advanced/Invention);
B60L3/10 (Core/Invention)

International (IPC 1-7): B60L15/00

CPC: B60L3/10 B60L2200/26

European: B60L3/10 L60L200/26

US: 105/49 105/61 105/73 105/76



Family:

Publication number	Publication date	Application number	Application date
US2060521 A	19361110	US19340748881	19341018

Priority:

US19340748881 19341018

Probable Assignee: WESTINGHOUSE ELECTRIC AND MFG CO

Assignee(s): (std): WESTINGHOUSE ELECTRIC AND MFG CO

Assignee(s): WESTINGHOUSE ELECTRIC AND MANUFACTURING COMPANY

Inventor(s): (std): NEWHOUSE SIMEON E

Abstract: (Claim 1) and at the same time it also will work as a single phase, three phase converter, permitting the vehicle to run on a single phase contact line, feeding the traction motors with three phase current. If a maximum speed has to be attained, higher than the normal synchronous speed of a 2 poled motor at network frequency, a frequency changer set can be provided. If a twin A.

International (IPC 8-9): B60L11/16 B61C17/06

International (IPC 1-7): B60K9/04 B60L11/16

European: B60L11/00B2 B60L11/16 B60L11/18C B60L7/14

B60L9/28 B61C17/06 H02K17/00 L60L200/26 Y02T10/64B

Y02T10/70B Y02T10/70D Y02T10/70F Y02T30/18

US: 104/287 104/288 105/49 105/61 180/165 180/65.3 180/65.31
191/1.00R 191/1R 310/74 318/150



Publication number	Publication date	Application number	Application date
US2589453 A	19520318	US19450607529	19450728

US19450607529 19450728

Probable Assignee: OERLIKON MASCHF

Assignee(s): (std): OERLIKON MASCHF

Assignee(s): MASCHF OERLIKON ; MASCHINENFABRIK OERLIKON

Inventor(s): (std): BJARNE STORSAND

Inventor(s): STORSAND BJARNE

Title: BATTERY CHARGING SYSTEM FOR VEHICLES

Abstract: 955,151. Changing batteries at fixed stations. BARRETT ELECTRONICS CORPORATION. Oct. 3, 1960 [Oct. 1, 1959], No. 33796/60. Heading H2H. In a mechanical transport system, wherein a battery-powered vehicle 11 is guided optically, magnetically, or by other means, along a track 13 and is prevented from approaching too closely a preceding vehicle 11 by means of a signalling system, the battery is given a boosting charge each time it rests at a signal. At each signal 14 which may be of optical, magnetic, or other type, a sensing device 15 disconnects the battery from the driving motor when another vehicle 11 occupies the section ahead. As the vehicle 11 approaches a signal, a sensing means 18 detects a signal from a beacon 16 and operates a reversible motor advancing a set of contact carrying arms 24 which engage with conductor rails 26a-26d, rails 26a, 26b being energized from the battery to close a contactor connecting rails 26c, 26d to the charging supply. If the vehicle is stopped at a signal, a zero speed relay closes contacts completing the supply circuit to the battery. On cessation of the signal from 14, the driving motor is energized and contacts 25a-25d slide along rails 26a-26d and are retracted when the influence of the beacon 16 is lost.

Classifications:

International (IPC 8-9): B60K1/04 B60L11/18 G05D1/02 H02G5/04 H02J7/02 (Advanced/Invention);

B60K1/04 B60L11/18 G05D1/02 H02G5/00 H02J7/02 (Core/Invention)

International (IPC 1-7): B60L11/18 H01R41/00 H02J7/00

CPC: B60L2200/26 B60L11/1824 B60K1/04 B60L11/1801

B60L11/1837 G05D1/0261 G05D1/0289 G05D2201/0216 H02G5/04

H02J7/027 Y02T10/7005 Y02T90/128 Y02T90/14 Y02T90/121

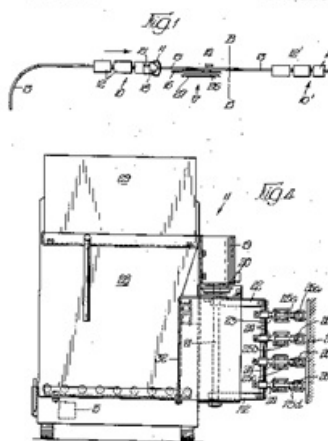
G05D1/0225 Y02T10/7072

European: B60K1/04 B60L11/18A B60L11/18L7 B60L11/18L7F G05D1/02E G05D1/02E12P G05D1/02E20B G05D1/02E3V H02G5/04 H02J7/02C L60L200/26 S05D201/0216 Y02T10/70 Y02T10/70B Y02T10/70J4 Y02T90/12L Y02T90/14

US: 104/288 105/50 191/29.00R 191/29R 191/66 191/85 246/184 246/30 320/111

PatBase - US3169733_A

Feb. 16, 1965 A. M. BARRETT, JR. 3,169,733
BATTERY CHARGING SYSTEM FOR VEHICLES
Filed Oct. 3, 1959 3 Sheets-Sheet 1



INVENTOR
Arthur M. Barrett, Jr.
By: [Signature] Attorney-in-Fact

Family:

Publication number	Publication date	Application number	Application date
CA677258 A	19631231		00000000
DE1240976 B	19670524	DE1960B059617	19601001
FR1270274 A	19610825	FR19600840885	19601011
GB955151 A	19640415	GB19600033796	19601003
JP38003515 B4	19630417	JP19600046010	19601124
JP43004683 B4	19680221	JP19630009687	19630125
US3169733 A	19650216	US19590843878	19591001

Priority:

US19590843878 19591001

Probable Assignee: BARRETT ELECTRONICS CORP

Assignee(s): (std): BARRETT ELECTRONICS CORP

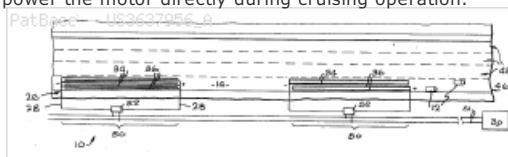
Assignee(s): ARTHUR M BARRETT JR

Inventor(s): (std): JUN ARTHUR M BARRETT ; BARRETT JR ARTHUR M ; BARRETT ARTHUR M JR

Inventor(s): ARTHUR M BARRETT JR ; JR ARTHUR M BARRETT

Abstract: An electrically powered automotive transit system including an automotive vehicle having electrical propulsion means and an electrical power system for supplying electrical energy to the vehicle while on the road. The power system embodies exposed electrified conductors on the road and electrical current collectors on the vehicle for contacting the road conductors to effect transmission of electrical energy from the conductors to the vehicle propulsions means. The electrical energy thus supplied to the vehicle may be utilized periodically to charge a battery in the vehicle which powers the vehicle propulsion motor during normal cruising operation continuously or to power the motor directly during cruising operation.

US: 174/117.6 174/117A 180/2 180/2.1 191/4



Publication number	Publication date	Application number	Application date
US3637956 A	19720125	US19700006259	19700127

US19700006259 19700127

ROBERT D BLACKMAN

ROBERT D BLACKMAN

BLACKMAN ROBERT D

ROBERT D BLACKMAN

Title: BATTERY ELECTRIC ROAD VEHICLE SYSTEM - USES AUTOMATIC CONTACTS ABOVE, BELOW OR LEVEL WITH VEHICLE AND SPACED INTERMITTENTLY

Abstract: At the base-depot and terminus of each journey, and intermittently if the length of the run should require it, simple automatic connection with replenishing current supply are arranged. Supplies could be drawn from alternating and rotatory current or direct current grids. The number of vehicles and charge-rate determine the supply required at any point. Connection to vehicles could be by pantograph, end plug coupling or under-floor contact with control by the driver and activated in co-ordination with the hand brake application.

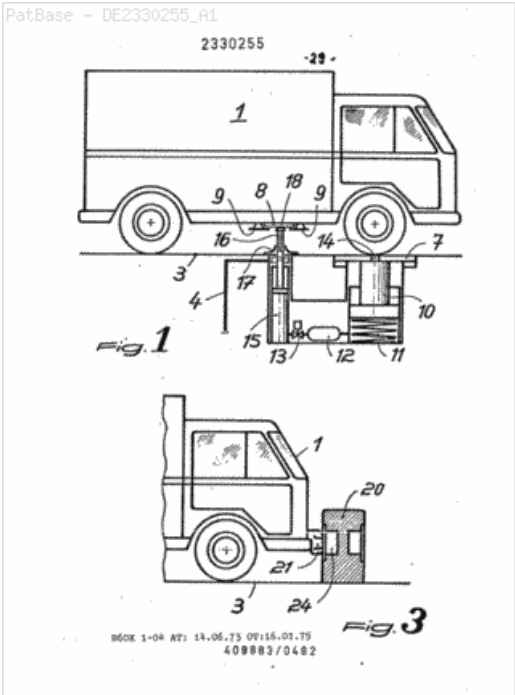
Classifications:

International (ipc 8-9): B60K1/04 B60L11/18 (Advanced/Invention); B60K1/04 B60L11/18 (Core/Invention)

International (ipc 1-7): B60K1/04 B60L11/18

CPC: B60L11/1829 Y02T10/7241 Y02T90/121 Y02T90/122 Y02T90/125 Y02T90/127 Y02T90/128 Y02T90/14 B60L11/1801 B60K1/04 B60L1/06 B60L5/42 B60L9/00 B60L11/1816 B60L11/182 B60L11/1831 B60L11/1833 B60L11/1837 B60L2210/30 B60M7/003 Y02T10/7005 Y02T10/7072

European: B60K1/04 B60L1/06 B60L11/18A B60L11/18L4 B60L11/18L5 B60L11/18L7C2B B60L11/18L7C4 B60L11/18L7F B60L5/42 B60L9/00 B60M7/00B L60L210/30 Y02T10/70B



Family:

Publication number	Publication date	Application number	Application date
DE2330255 A1	19750116	DE19732330255	19730614

Priority:

DE19732330255 19730614

Probable Assignee: RHEIN WESTFAEL ELECT WERK AG

Assignee(s): (std): ELEKTR STRASSENVERKEHR GES ; RHEIN WESTFAEL ELECT WERK AG

Assignee(s): RHEINISCH WESTFAELISCHES ELEKTRIZITAETSWERK AG 4300 ESSEN ; RHEINISCH WESTFAELISCHES ELEKTRIZITAETSWERK 4300 ESSEN AG ; GES GES F ELEKTRISCHEN STRASSENVERKEHR MBH 4000 DUESSELDORF ; GES GESELLSCHAFT FUER ELEKTRISCHEN STRASSENVERKEHR MBH 4000 DUESSELDORF

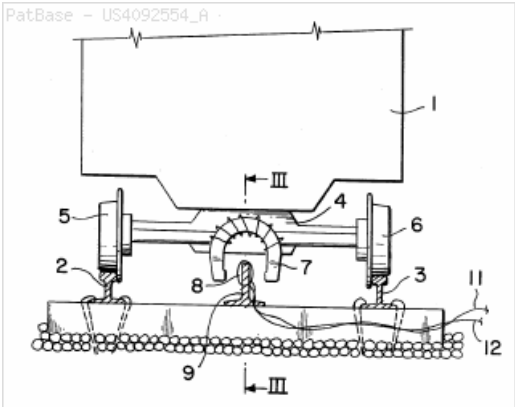
Inventor(s): (std): ZANDER EBERHARD ; MUELLER HAN GEORG ; KLEIN FRANK ; KLATT BERND ; BUSCH HEINRICH

Inventor(s): ZANDER EBERHARD 4272 KIRCHHELLEN ; MUELLER HAN GEORG 4300 ESSEN WERDEN ; KLEIN FRANK 4041 BUETTGEN ; KLATT BERND 4000 DUESSELDORF ; BUSCH HEINRICH 4230 WESEL

Title: LINEAR ELECTRIC GENERATING SYSTEM

Abstract: Magnets are mounted on the undercarriage of a railroad vehicle and produce a magnetic field. Coils are mounted between the rails of a railroad track and extend in the same direction as the rails. The coils are positioned in the magnetic field generated by the magnets, so that as the magnetic field moves along the coils, it produces electrical energy in said coils. An electrically conductive output is electrically connected to the coils for deriving the electrical energy produced in the coils.

Classifications:
International (IPC 8-9): B60L7/10 H02K35/02 (Advanced/Invention); B60L7/00 H02K35/00 (Core/Invention)
International (IPC 1-7): H02K35/00
CPC: B60L7/10 B60L2200/26 H02K35/02 Y02T10/641
European: B60L7/10 H02K35/02 L60L200/26 Y02T10/64B
US: 104/292 105/35 191/10 310/13



Family:

Publication number	Publication date	Application number	Application date
US4092554 A	19780530	US19770798401	19770519

Priority:
US19770798401 19770519

Probable Assignee: RAYMOND LEE ORGANIZATION INC
Assignee(s): (std): RAYMOND LEE ORGANIZATION INC
Assignee(s): THE RAYMOND LEE ORGANIZATION INC
Inventor(s): (std): QUINN JAMES M

Title: INTEGRATED ENERGY SYSTEM

Abstract: This invention is a multiple diverse energy source driven energy integration and multiple use-point system: which includes system air pressure compensated variable pressure and volume delivery of compressed air from multiple air compression stations which discharge and store compressed air into an included interconnecting collection storage and distribution conduit multiple module grid system; of largest needed and commercially available size pipe to keep the pressure drop to a minimum, and from which the compressed air is withdrawn at multiple points of need; when and as needed, through synchronized dual-precision-controls to turn, at optimum RPM speed regardless of varying work loads, air motor drives for operation of conventional electrical generating equipment with varying customer-use-demand output work loads. The conduit-pipe systems are arranged in interconnecting, but isolable, multiple module grids ranging in size from those needed, for example, for a small town or a large individual user of electricity to large metropolitan areas and which may ultimately be interconnected into a large regional, national, or continental system. Natural energy sources including wind, tide, wave, thermal and solar power, as well as conventional fuels, may be utilized to provide the energy required to drive compressors to supply the air into the system. An improved wind turbine is included for the recovery and use of wind-power for compressing air on a vast scale in multiple installations.

Classifications:

International (ipc 8-9): B60K1/00 B60M7/00 F03D7/06 F03D9/00 F03D9/02 F17D1/04 (Advanced/Invention);

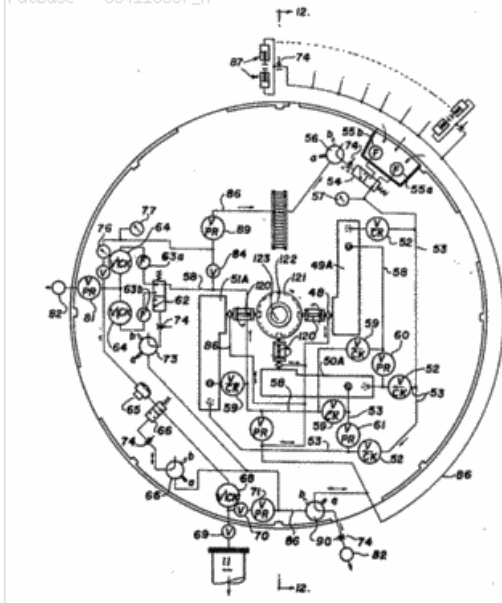
B60K1/00 B60M7/00 F03D7/00 F03D9/00 F17D1/00 (Core/Invention)
International (ipc 1-7): B60L5/00 B60L9/00 B60M7/00 F04B23/04 H02P9/04

CPC: Y10S416/04 Y02T10/7005 F17D1/04 F03D7/06 B60L9/00 B60K1/00 B60L11/1824 B60L11/1833 B60M7/006 Y02T10/646 Y02T90/12 Y02T90/125 Y02T90/14 Y02T90/121 F05B2210/16 Y02E10/72 Y02E60/15 Y02T10/7072 Y02E60/17 F03D9/255 F03D9/28 F03D13/22 F03D80/50 F03D80/70 F03D9/17 F03D9/007 F03D9/25

European: B60K1/00 B60L11/18L7 B60L11/18L7C4 B60L9/00 B60M7/00C F03D7/06 F03D9/00B F03D9/02D F17D1/04 R05B210/16 Y02E10/72 Y02E10/72F Y02E60/15 Y02E60/17 Y02T10/64D8 Y02T90/12 Y02T90/12H Y02T90/14

US: 180/165 180/2.1 180/2R 180/302 191/1.00R 191/1R 191/2 191/21 191/22.00C 191/22C 219/213 290/55 416/196A 416/197A 416/DIG.4 417/334 417/62 60/398

PatBase - US4118637_A

**Family:**

Publication number	Publication date	Application number	Application date
US4118637 A	19781003	US19760728064	19760930
US4139071 A	19790213	US19770773276	19770301
US4167372 A	19790911	US19780908998	19780524

Priority:

US19750579131 19750520 US19760662127 19760227 US19760728064 19760930
US19780908998 19780524

Probable Assignee: UNEP 3 ENERGY SYSTEMS INC

Assignee(s): (std): UNEP 3 ENERGY SYSTEMS INC ; UNEP3 ENERGY SYSTEMS INC

Inventor(s): (std): TACKETT LOUIS E ; TACKETT LOUIS EUGENE

Title: ELECTRIC CAR AND ROADWAY SYSTEM

Abstract: An electrically powered vehicle transportation system including improvements in an electrified roadway system and a vehicle for operation on the roadway. The roadway is energized in response to the presence of a vehicle having certain control systems and only when that vehicle satisfies certain predetermined conditions which provide safety features for foot traffic on the roadway system. The vehicle includes means for controlling energization of the roadway in response to actions and demands within the vehicle. Automatic control means are provided to maintain the vehicle in alignment with the roadway energization system.

Classifications:

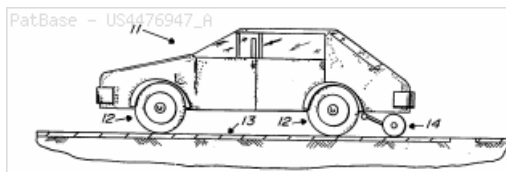
International (IPC 8-9): B60L11/18 B60L9/00 (Advanced/Invention);
B60L11/18 B60L9/00 (Core/Invention)

International (IPC 1-7): B60L9/02

CPC: B60L9/00 B60L11/1801 Y02T10/7005

European: B60L11/18A B60L9/00 L60L200/26 Y02T10/70
Y02T10/70B

US: 180/2.1 191/17



Family:

Publication number	Publication date	Application number	Application date
US4476947 A	19841016	US19810277521	19810626

Priority:

US19810277521 19810626

Probable Assignee: CHEVRON RES

Assignee(s): (std): CHEVRON RES

Assignee(s): CHEVRON RESEARCH CO ; CHEVRON RESEARCH COMPANY

Inventor(s): (std): RYNBRANDT JAY D

Title: Electrical energy generating system utilizing a moving vehicle

Abstract: An electrical energy generating system utilizing a moving vehicle is described. The system includes magnet means preferably affixed to a moving vehicle for producing a magnetic field. An induction coil means is positioned in the magnetic field and preferably extending in a parallel direction relative to the magnet means so that the magnetic field passing through the induction coil generates electrical energy which may be stored in a storage means.

Classifications:

International (IPC 8-9): H02K35/02 H02K7/18 (Advanced/Invention);

H02K35/00 H02K7/18 (Core/Invention)

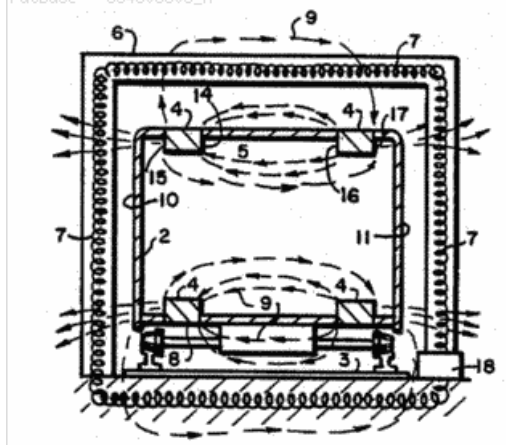
International (IPC 1-7): H02K41/00

CPC: H02K7/1869 H02K35/02

European: H02K35/02 H02K7/18B

US: 104/307 310/112

PatBase - US4806805_A



Family:

Publication number	Publication date	Application number	Application date
US4806805 A	19890221	US19870075769	19870720

Priority:

US19870075769 19870720

Probable Assignee:

PINCHEFSKY BARRY

Assignee(s): (std):

PINCHEFSKY BARRY

Inventor(s): (std):

PINCHEFSKY BARRY

Title: Electrical vehicle transportation system

Abstract: An electric vehicle transportation system. The system includes a roadway having a load bearing surface. The load bearing surface supports an electric power rail extending longitudinally on the roadway. The power rail is segmented and includes a plurality of longitudinally aligned, mutually electrically isolated portions. A power bus energizes selected portions of the rail. Energization is controlled by power switching controllers associated with each of the electrically isolated portions of the rail. Energization selection is effected in response to an actuation signal applied to a portion longitudinally displaced by a predetermined interval from the portion of the power rail associated with the controller which is connected to the controller by an actuation signal transmitting apparatus. Electric vehicles are adapted for operation on the roadway by being adapted to provide the actuation signal to a selected portion of the power rail and being further adapted to draw power from an energized portion of the power rail.

Classifications:

International (IPC 8-9): B60L1/00 B60L11/18 B60L13/00 B60L5/08 B60L5/38 B60L9/00 B60M1/04 B60M1/10 B60M1/30 B60M1/36 (Advanced/Invention);

B60L1/00 B60L5/00 B60M1/00 (Core/Invention)

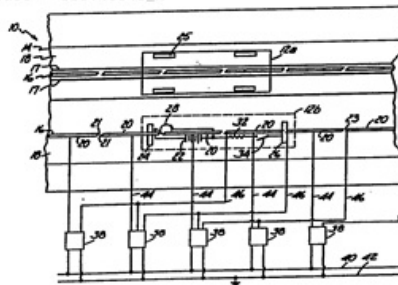
International (IPC 1-7): B60L1/00 B60L13/00 B60L5/08 B60L5/38 B60L5/42 B60L9/00 B60M1/04 B60M1/10

CPC: B60L2200/26 B60M1/30 B60L9/00 B60L11/1801 B60M1/10 B60M1/36 Y02T10/7005

European: B60L11/18A B60L9/00 B60M1/10 B60M1/30 B60M1/36 L60L200/26 Y02T10/70B

US: 180/2.1 191/15 191/18 191/6

PatBase - US5045646_A



Family:

Publication number	Publication date	Application number	Application date
EP0614425 A1	19940914	EP19930900543	19921117
EP0614425 A4	19950517	EP19930900543	19921117
JP4506947 T2	19921203	JP19900511070T	19900719
JP7501438 T2	19950209	JP19930510154T	19921117
US5045646 A	19910903	US19890383036	19890720
US5134254 A	19920728	US19910800448	19911126
US5148898 A	19920922	US19910714457	19910613
US5277285 A	19940111	US19920871891	19920421
WO9101232 A1	19910207	WO1990US04059	19900719
WO9310995 A1	19930610	WO1992US09958	19921117

Priority:

US19890383036 19890720 US19910714457 19910613 US19910800448 19911126
US19920871891 19920421 WO1992US09958 19921117

Probable Assignee: MUSACHIO NICHOLAS R

Assignee(s): (std): MUSACHIO NICHOLAS R

Inventor(s): (std): MUSACHIO NICHOLAS R

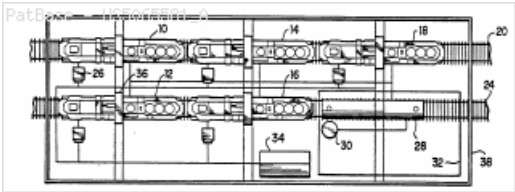
Designated states: AT BE CA CH DE DK ES FR GB GR IE IT JP LI LU MC NL SE US

Title: Power plant and method of production of synchronous commercial electric power using diesel electric locomotives

Abstract: A power plant and method of production of synchronous electric power utilizes diesel railroad locomotives which, when connected in parallel and when suitably governed and connected, can provide utility grade electrical power during periods of peak electrical demand while still supplementing the railroad fleet during the remainder of the year. The dual use of railroad locomotives provides substantial economic benefits to both rail carriers and electrical utilities with complimentary seasonal peaks.

Classifications:

International (IPC 8-9): H02P9/04 (Advanced/Invention);
F02B3/06 (Advanced/Non-invention);
H02P9/04 (Core/Invention);
F02B3/00 (Core/Non-invention)
International (IPC 1-7): H02P9/04
CPC: F02B3/06 H02P9/04
European: H02P9/04 R02B3/06
US: 290/1R 290/3 60/652 60/668 60/721



Family:

Publication number	Publication date	Application number	Application date
US5065581 A	19911119	US19900602570	19901024

Priority:

US19900602570 19901024

Probable Assignee: ENERGY RESOURCES AND LOGISTICS I
Assignee(s): (std): ENERGY RESOURCES AND LOGISTICS I
Assignee(s): ENERGY RESOURCES AND LOGISTICS INC
Inventor(s): (std): JENKINS CHRISTOPHER P

Title: POWER-CHARGING SYSTEM FOR TRANSPORTER CART

Abstract: A power-charging system for a transporter cart is disclosed. The system includes a power-supplying electrode disposed along and at a predetermined section of a travelling passage along which the transporter cart automatically runs by power from a battery mounted thereon and a power-receiving electrode attached to the transporter cart and a slide-contactable with the power-supplying electrode during the automatic run of the cart.

Classifications:

International (ipc 8-9): B60L11/18 B60L5/00 B60L5/39 G05D1/02 H01M10/00 H02J7/00 H02J7/02 (Advanced/Invention); B60L11/18 B60L5/00 G05D1/02 H02J7/00 (Core/Invention); H01M10/00 (Core/Non-invention)

International (ipc 1-7): B60L11/18 B60L5/00 B60L5/38 B60L5/39 B60L9/00 B61L3/00 H01M10/00 H01M10/46 H02J7/00 H02J7/02

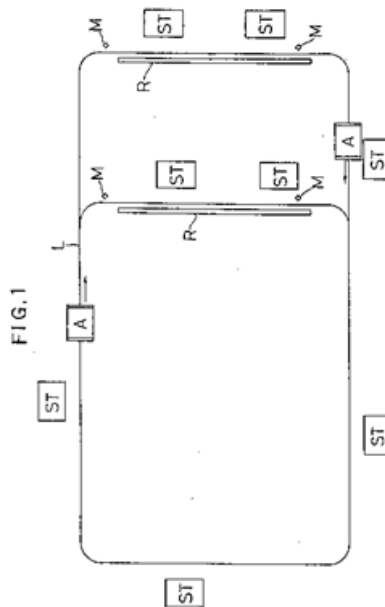
CPC: B60L2200/26 B60L11/1822 G05D1/0261 G05D1/0263 G05D1/0276 G05D2201/0216 H02J7/0045 Y02T10/7005 Y02T10/7072 Y02T90/124 Y02T90/14

European: B60L11/18L6 G05D1/02E12P G05D1/02E12S G05D1/02E16 H02J7/00E2 L60L200/26 S05D201/0216 Y02T10/70B Y02T10/70J Y02T90/12F Y02T90/14

US: 191/4 246/187.00R 246/187R 320/109 320/2

PatBase - US5323098_R

U.S. Patent Jan 21, 1994 Sheet 1 of 8 5,323,098



Family:

Publication number	Publication date	Application number	Application date
CA2049224 AA	19920314	CA19912049224	19910815
CA2049224 C	19980519	CA19912049224	19910815
DE69119168 D1	19960605	DE19916019168	19910816
DE69119168 T2	19960814	DE19916019168T	19910816
EP0475106 A1	19920318	EP19910113711	19910816
EP0475106 B1	19960501	EP19910113711	19910816
ES2086443 T3	19960701	ES19910113711T	19910816
JP2759378 B2	19980528	JP19900317150	19901120
JP4125004 A2	19920424	JP19900245162	19900913
JP4185234 A2	19920702	JP19900317150	19901120
KR960001953 B1	19960208	KR19910015918	19910912
TW200605 B	19930221	TW19910106429	19910814
US5323098 A	19940621	US19910745522	19910815

Priority:

JP19900245162 19900913 JP19900317150 19901120 CA19912049224 19910815

Probable Assignee: DAIFUKU CO LTD

Assignee(s): (std): DAIFUKU K K ; DAIFUKU KK ; DAIHUKU CO LTD

Assignee(s): DAIHUKU CO LTD JP ; TANIZAWA HIDEICHI ; HAMAGUCHI HIDEO ; NISHIHARA SHIGEYOSHI ; DAIFUKU CO ; DAIFUKU CO LTD ; DAIFUKU CO LTD A CORP OF JAPAN ; DAIFUKU CO LTD OSAKA JP

Inventor(s): (std): HAMAGUCHI HIDEO ; HAMAGUCHI HIDEO HAMAGUCHI HIDE ; NISHIHARA SHIGEYOSHI ; NISHIHARA SHIGEYOSHI NISHIHARA ; TANIZAWA HIDEICHI ; TANIZAWA HIDEICHI TANIZAWA HID ; TANIZAWA SHUICHI ; SHIGEYOSHI NISHIHARA ; HIDEO HAMAGUCHI ; HIDEICHI TANIZAWA ; HAMAGUCHI SHIGEO

Inventor(s): TANIZAWA HIDEICHI TANIZAWA HIDEICHI MORIGUCHI SHI ; TANIZAWA HIDEICHI TANIZAWA HIDEICHI MORIGUCHI SHI OSAKA JP ; TANIZAWA HIDEICHI TANIZAWA HIDEICHI MORIGUCHI... ; NISHIHARA SHIGEYOSHI NISHIHARA SHIGEYOSHI HYOGO KE ; NISHIHARA SHIGEYOSHI NISHIHARA SHIGEYOSHI HYOGO KEN JP ; NISHIHARA SHIGEYOSHI NISHIHARA SHIGEYOSHI... ; HAMAGUCHI HIDEO HAMAGUCHI HIDEO AICHIKEN JP

Agent(s): MARKS AND CLERK

Designated states: DE ES FR GB IT

Title: RAIL-BORNE MOTIVE POWER UNIT

Abstract: The invention relates to a rail-borne power unit for conveying passengers. The unit has at least one coach section formed by a coach body with at least one passenger compartment for passengers and with a driver's cab at one or both ends. The coach body is supported on running-gear assemblies formed by wheelsets and driven by at least one drive unit. The rail-borne power unit is a low-floor vehicle in which a central part of the coach body is lowered relative to its end parts. At least one end part of the rail-borne power unit is designed as a motor-coach head. The unit is selectively driven by at least one diesel-mechanical drive, or a diesel-electric drive, or a purely electric drive, or a multi-system drive formed by a combination of a diesel-electric drive with a purely electric drive, or a multi-system drive formed by a combination of two different electric drive variants, or a multi-system drive formed by a combination of a diesel-electric and two different electric drive variants. An electric drive motor drives at least one axle of one of the running-gear assemblies.

Classifications:

International (IPC 8-9): B61C5/00 B61C7/04 B61C9/08

B61D13/00 (Advanced/Invention);

B61D13/00 (Advanced/Non-invention);

B61C5/00 B61C7/00 B61C9/00 B61D13/00 (Core/Invention)

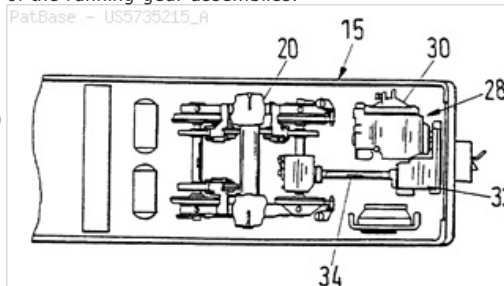
International (IPC 1-7): B61C B61C B61C17/04 B61C3/00 B61C5/00

B61C7/00 B61C7/04 B61C9/08 B61D13/00 B61D17/04

CPC: B60L1/00 B61C9/08 B61C5/00 B60L2200/26 Y02T30/10

European: B61C5/00 B61C9/08 Y02T30/10

US: 105/34.1 105/34.2 105/35 105/49 105/62.2



Family:

Publication number	Publication date	Application number	Application date
AT217269 E	20020515	AT19950934109T	19950923
AU199536527 A1	19960426	AU19950036527	19950923
AU695254 B2	19980813	AU19950036527	19950923
BRPI9506392 A	19970916	BR1995PI06392	19950923
CA2177628 AA	19960411	CA19952177628	19950923
CA2177628 C	19991207	CA19952177628	19950923
CN1094850 C	20021127	CN19951090967	19950923
CN1136296 A	19961120	CN19951090967	19950923
CZ294326 B6	20041110	CZ19960001556	19950923
CZ9601556 A3	19961211	CZ19960001556	19950923
DE59510201 D1	20020613	DE19955010201	19950923
DE9415770 U1	19941215	DE19940015770U	19940930
DK0730539 T3	20020902	DK19950934109T	19950923
EP0730539 A1	19960911	EP19950934109	19950923
EP0730539 B1	20020508	EP19950934109	19950923
ES2177661 T3	20021216	ES19950934109T	19950923
FI112633 B	20031231	FI19960003878	19960927
FI963878 A	19960927	FI19960003878	19960927
FI963878 A0	19960927	FI19960003878	19960927
HU220730 B1	20020528	HU19960001446	19950923
HU76206 A2	19970728	HU19960001446	19950923
HU9601446 A0	19960729	HU19960001446	19950923
JP09505786 T2	19970610	JP19960511362T	19950923
JP9505786 T2	19970610	JP19960511362T	19950923
KR100189678 B1	19990601	KR19960702699	19950923
KR100189678 B1	19990601	KR19960072699	19960522
KR19967005707 A	19961108	KR19960702699	19950923
NO320244 B1	20051114	NO19960002160	19960528
NO962160 A	19960528	NO19960002160	19960528
NO962160 A0	19960528	NO19960002160	19960528
PL314690 A1	19960916	PL19950314690	19950923
PT730539 T	20021129	PT19950934109T	19950923
RU2165862 C2	20010427	RU19960114945	19950923
US5735215 A	19980407	US19960654533	19960529
WO9610508 A1	19960411	WO1995EP03778	19950923

Priority:

DE19940015770U 19940930 DE19940015770U 19940930 DE19949415770U 19940930
 DE19949415770 19940930 DE19955010201 19950923 WO1995EP03778 19950923

Probable Assignee: ABB DAIMLER BENZ TRANSPORTATION TECHNOLOGY GMBH

Assignee(s): (std): ABB DAIMLER BENZ TRANSP ; ABB DAIMLER BENZ TRANSP TECH ; ABB DAIMLER BENZ TRANSP TECHNO ; BOMBARDIER TRANSP GMBH ; DAIMLER CHRYSLER AG ; ABB HENSCHHEL AG ; ABB HENSCHHEL AG ; DAIMLER GRESLLER AG ; DAJMLERKRAJSLER AG ; TEGELER FERDINAND

Assignee(s): DAIMLERCHRYSLER AG ; ABB DAIMLER BENZ TRANSPORTATION TECHNOLOGY GMBH ; ABB HENSCHHEL AKTIENGESSELLSCHAFT ; ABB DAIMLER BENZ TRANSPORTATION ; ABB HENSCHHEL AKTIENGESSELLSCHAFT ; ABB HENSCHHEL 13509 BERLIN DE AG ; BOMBARDIER TRANSPORTATION GMBH ; ABB HENSCHHEL AG 13509 BERLIN DE ; ABB DAIMLER BENZ TRANSPORTATION (TECHNOLOGY) GMBH ; ABB DAIMLER BENZ TRANSPORTATION GMBH ; ABB DAIMLER BENZ TRANSPORTATION TECHNOLOGY GMBH

Inventor(s): (std): TEGELER FERDINAND ; TEGELER ; TEGELER F ; FERDINAND TEGELER ; F TEGELER

Agent(s): FB RICE; FB RICE PTY LTD

Designated states: AM AT AU BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CZ DE DK EE ES FI FR GA GB GE GN GR HU IE IS IT JP KE KG KP KR KZ LI LR LR LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SN SZ TD TG TJ TM TT UA UG US UZ VN

Title: Cable drawn vehicle having an on-board motor

Abstract: A passenger transport installation making use of a continuously moving high speed traction cable for hauling vehicles, equipped with a detachable grip, along a high speed track zone. Each vehicle comprises an on-board electric motor for driving the vehicle, uncoupled from the traction cable, along the acceleration zone and the deceleration zone and an on-board rechargeable electric battery for supplying the electric power to the motor. The capacity of the battery corresponds to the power needed for the acceleration of the vehicle and during the stopping of the vehicle in the station, the battery is connected to an electric power source for recharging the battery.

Classifications:

International (IPC 8-9): B61B13/12 B61B9/00

B61C17/06 (Advanced/Invention);

B61B13/12 B61B9/00 B61C17/00 (Core/Invention)

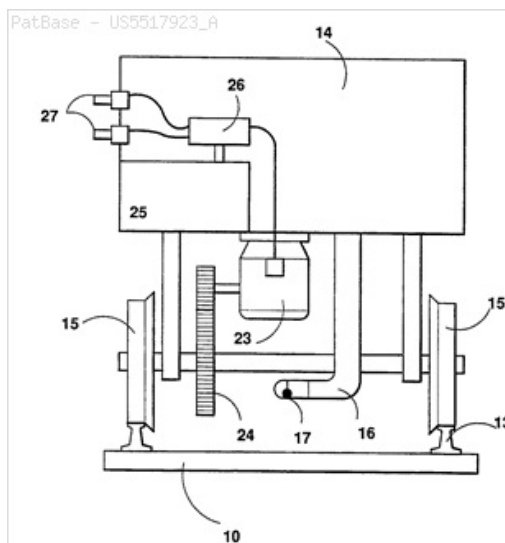
International (IPC 1-7): B61B11/00 B61B12/00 B61B13/12

B61B9/00 B61C17/06

CPC: B61B9/00 B61B13/12 B61C17/06 Y02T30/18

European: B61B13/12 B61B9/00 B61C17/06 Y02T30/18

US: 104/173.1 104/289



Family:

Publication number	Publication date	Application number	Application date
CA2145966 AA	19951023	CA19952145966	19950330
EP0678433 A1	19951025	EP19950410033	19950413
FR2719011 A1	19951027	FR19940005121	19940422
FR2719011 B1	19960712	FR19940005121	19940422
JP8002406 A2	19960109	JP19950096558	19950421
US5517923 A	19960521	US19950412691	19950329

Priority:

FR19940005121 19940422 CA19952145966 19950330

Probable Assignee: POMAGALSKI SA

Assignee(s): (std): POMAGALSKI SA

Assignee(s): POMAGALSKI SOCIETE ANONYME ; CATHIARD JEAN PIERRE ; POMAGALSKI ; POMAGALSKI S A

Inventor(s): (std): CATHIARD JEAN PIERRE ; JEAN PIERRE CATHIARD ; JIYANNPIERU KACHIAARU

Agent(s): ROBIC

Designated states: AT CH ES IT LI

Title: Machine for transport of passengers and cargo

Abstract: An electrically powered vehicle transportation system utilizes a guideway with parallel enclosed rails. Each enclosed rail has an electrical bus bar for supplying power to vehicles on the guideway. The guideway will accommodate dual-mode vehicles that are capable of usage on conventional streets as well as on the guideway. The guideway also accommodates conventional vehicles and ferries that operate only on the guideway. The dual-mode vehicle has a body with axles that are extendible. The axles move from a retracted position, with the wheels recessed within the wheel wells, to an extended position. In the extended position, the wheels locate within the enclosed rails. Conventional vehicles and freight are carried on ferries that move along the guideways.

Classifications:

International (IPC 8-9): B60F1/00 B60P1/43 B60P3/077 B61B13/00 B61B13/06 B61B15/00 B61B5/02 B61D15/00 B61D47/00 B61F13/00 B61F7/00 (Advanced/Invention); B61F13/00 (Advanced/Non-invention); B60P1/00 B60P3/06 B61B15/00 B61B5/00 B61D15/00 B61D47/00 B61F13/00 B61F7/00 (Core/Invention)

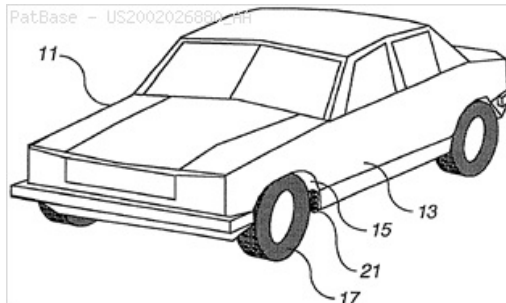
International (IPC 1-7): B60K1/00 B61B12/00 B61B5/00 B61D15/00 B61D3/00 B61F13/00 B61F7/00 B61F9/00 B61K5/00

CPC: B60P1/43 B60P3/077 B61B5/02 B61B15/00 B61D47/005 B61B13/00 B60L11/18 B60L2200/24 B60L2200/26 B61C3/00 B61C13/00 B61D3/18 B61D15/00 B61D47/00

European: B60P1/43 B60P3/077 B61B15/00 B61B5/02 B61D47/00B

US: 104/124 104/134 104/139 104/140 104/242 104/243 104/88.03 104/88.04 105/1.1 105/11 105/159 105/211 105/355 105/363

105/377.1 105/72.2 105/722 180/65.22 180/65.265 180/65.3 180/653 191/10 191/23R



Family:

Publication number	Publication date	Application number	Application date
AT228450 E	20021215	AT19970939789T	19970904
AU199741802 A1	19980326	AU19970041802	19970904
AU199882734 A1	19990125	AU19980082734	19980630
AU200125822 A1	20010716	AU20010025822	20001218
AU200125822 A5	20010716	AU20010025822D	20001218
AU729471 B2	20010201	AU19970041802	19970904
CA2264793 AA	19990302	CA19972264793	19970904
CA2264793 C	20051227	CA19972264793	19970904
DE69717466 D1	20030109	DE19976017466	19970904
DE69717466 T2	20030925	DE19976017466T	19970904
EP0923480 A1	19990623	EP19970939789	19970904
EP0923480 A4	20000628	EP19970939789	19970904
EP0923480 B1	20021127	EP19970939789	19970904
EP1242274 A1	20020925	EP20000989298	20001218
JP2002514146 T2	20020514	JP19980512876T	19970904
JP4070151 B2	20080402	JP19980512876	19970904
KR100462445 B1	20041217	KR19997001816	19990304
KR20010029468 A	20010406	KR19997001816	19970904
US2002026880 AA	20020307	US20010927519	20010810
US2002148380 AA	20021017	US20020166557	20020610
US2002189489 AA	20021219	US20020212907	20020806
US6039135 A	20000321	US19970921180	19970829
US6401625 BA	20020611	US19990475867	19991230
US6435100 BA	20020820	US20010927519	20010810
US6615740 BB	20030909	US20020212907	20020806
US6742458 BB	20040601	US20020166557	20020610
WO0149544 A1	20010712	WO2000US34358	20001218
WO9809861 A1	19980312	WO1997US15543	19970904
WO9901326 A1	19990114	WO1998US13520	19980630

Priority:

US19960025451P 19960905	US19970051625P 19970703	US19970921180 19970829
WO1997US15543 19970904	WO1998US13520 19980630	US19990475867 19991230
WO2000US34358 20001218	US20010927519 20010810	US20020166557 20020610
US20020212907 20020806		

Probable Assignee: KIRSTON HENDERSON J

Assignee(s): (std): HENDERSON J KIRSTON ; KIRSTON HENDERSON J

Assignee(s): HENDERSON J ; J KIRSTON HENDERSON

Inventor(s): (std): HENDERSON J KIRSTON ; J KIRSTON HENDERSON

Inventor(s): HENDERSON J

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; MACRAE AND CO

Designated states: AT AU BE CA CH CY DE DK ES FI FR GB GR IE IT JP KR LI LU MC NL PT SE TR US

Title: GROUND POWER SUPPLY FOR ELECTRIC VEHICLE WITH EARTH CONNECTION

Abstract: The invention relates to a ground power supply device for electric vehicles (5), the device including power supply segments (52) insulated from each other and each having a length less than half the length of the footprint of the vehicle (5), and being adapted to apply a supply voltage to a segment (52) only when said segment (52) is within the footprint of the vehicle (5), the vehicle (5) having a power supply rubbing member (80), and the device being adapted to apply the supply voltage to two adjacent segments (52) when the rubbing member (80) is in simultaneous contact with the two segments (52) and to earth one of the two segments (52) a short time after said rubbing member (80) has left that segment (52).

Classifications:

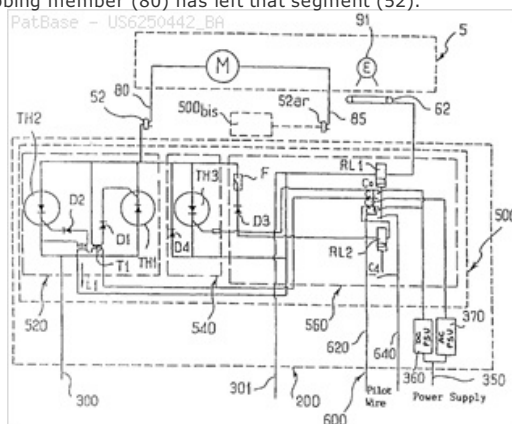
International (IPC 8-9): B60M1/08 B60M1/34 (Advanced/Invention); B60M1/00 (Core/Invention)

International (IPC 1-7): B60L9/00 B60M1/08 B60M1/34 B60M3/04

CPC: B60L2200/26 B60M1/08 B60M1/34

European: B60M1/08 B60M1/34

US: 191/14 191/1R 191/22R 191/23R 191/25 191/48 191/6

**Family:**

Publication number	Publication date	Application number	Application date
AT246103 E	20030815	AT19980914926T	19980316
AU199869237 A1	19981124	AU19980069237	19980316
BRPI9809016 A	20000801	BR1998PI09016	19980316
BRPI9809016 B1	20101116	BR1998PI09016	19980316
CA2287988 AA	19981105	CA19982287988	19980316
CA2287988 C	20080812	CA19982287988	19980316
DE69816801 D1	20030904	DE19986016801	19980316
DE69816801 T2	20040415	DE19986016801T	19980316
DK0979176 T3	20031124	DK19980914926T	19980316
EP0979176 A1	20000216	EP19980914926	19980316
EP0979176 B1	20030730	EP19980914926	19980316
ES2205473 T3	20040501	ES19980914926T	19980316
FR2762810 A1	19981106	FR19970005370	19970430
FR2762810 B1	19990730	FR19970005370	19970430
PT979176 T	20031231	PT19980914926T	19980316
US6250442 BA	20010626	US19990214184	19990816
WO9849025 A1	19981105	WO1998FR00526	19980316

Priority:

FR19970005370 19970430 WO1998FR00526 19980316

Probable Assignee: ALSTOM SA

Assignee(s): (std): GLE TECHNIQUES ETUDES SOC ; PERRAUD OLIVIER ; MORIN BRUNO ; SOC GLE TECHNIQUES ETUDES ; INNORAIL ; SOCIETE GENERALE DE TECHNIQUES ET D ETUDES ; INNORAIL CERGY PONTOISE ; BRUNET STEPHANE

Assignee(s): GENERALE DE TECHNIQUES ET D ETUDES PARC INT ; GENERALE DE TECHNIQUES ET D ETUDES PARC SAINT CHRI ; GENERALE DE TECHNIQUES ET D ETUDES SOC ; ALSTOM SA ; ALSTOM TRANSPORT SA ; ALSTOM TRANSPORT TECHNOLOGIES ; GENERALE DE TECHNIQUES ET D"ETUDES SOC ; GENERALE DE TECHNIQUES ET D'ETUDES SOC

Inventor(s): (std): STEPHANE BRUNET ; OLIVIER PERRAUD ; BRUNO MORIN ; PERRAUD OLIVIER ; MORIN BRUNO ; BRUNET STEPHANE ; PERRAUD OLIVER

Inventor(s): OLIVER PERRAUD ; BRUNET ST AND EACUTE PHANE ; BRUNET STe PHANE

Agent(s): NORTON ROSE FULBRIGHT CANADA LLP SENCRL SRL; CABINET REGIMBEAU

Designated states: AL AM AT AU AZ BA BB BE BF BG BJ BR BY CA CF CG CH CI CM CN CU CZ DE DK EE ES FI FR GA GB GE GH GM GN GR GW HU ID IE IL IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MC MD MG MK ML MN MR MW MX NE NL NO NZ PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TR TT UA UG US UZ VN YU ZW

Title: SYSTEM FOR SUPPLYING POWER TO ELECTRICALLY PROPELLED VEHICLES

Abstract: A power supply system is disclosed for an electrically propelled vehicle equipped with electric traction motors and including an autonomous power supply system which can be recharged on board the vehicle for supplying power to the electric traction motors. At least one station is provided with an electrical power supply system connected to the mains electrical power supply network and connection arrangements for electrically connecting the autonomous power supply system of the vehicle to the power supply system of the station, on approaching the station, in order to charge the autonomous power supply device when the vehicle is stopped in the station. The autonomous power supply system on board the vehicle includes a battery of supercapacitors and the power supply system of the station includes an energy accumulating kinetic system.

Classifications:

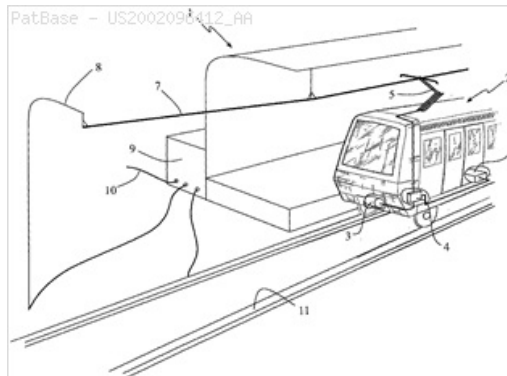
International (IPC 8-9): B60L11/16 B60L11/18 B60L9/00 B60M7/00 H02J15/00 (Advanced/Invention); B60L11/00 B60L11/18 B60L9/00 B60M7/00 H02J15/00 (Core/Invention); B60L (Subclass/Invention)

International (IPC 1-7): B60K1/04 B60L11/00 B60L11/16 B60L11/18 B60L9/00 B60M1/00 B60M3/00

CPC: B60L11/1803 B60L9/18 B60L11/16 B60L11/1837 B60L11/185 B60M7/003 Y02T10/646 Y02T10/7005 Y02T90/128 Y02T90/14 B60L2200/26 Y02T90/121 Y02T10/7072

European: B60L11/16 B60L11/18C B60L11/18L7F B60L11/18L7J12 B60L9/18 B60M7/00B L60L200/26 Y02T10/64D8 Y02T10/70B Y02T10/70F Y02T10/70J4 Y02T90/12L Y02T90/14

US: 104/289 105/35 191/22 191/22.00RP 191/22R 191/33.00R 191/33R 191/4 246/245



Family:

Publication number	Publication date	Application number	Application date
AT507103 E	20110515	AT20020290036T	20020108
CA2368037 AA	20020724	CA20022368037	20020122
CA2368037 C	20100413	CA20022368037	20020122
DE60239843 D1	20110609	DE20026039843	20020108
EP1228919 A2	20020807	EP20020290036	20020108
EP1228919 A3	20020821	EP20020290036	20020108
EP1228919 B1	20110427	EP20020290036	20020108
ES2362996 T3	20110718	ES20020290036T	20020108
FR2819759 A1	20020726	FR20010000951	20010124
FR2819759 B1	20030523	FR20010000951	20010124
HK1050166 A1	20120224	HK20030100926	20030207
JP2002238107 A2	20020823	JP20020012439	20020122
PL351805 A1	20020729	PL20020351805	20020122
US2002096412 AA	20020725	US20020044906	20020115
US6557476 BB	20030506	US20020044906	20020115

Priority:

FR20010000951 20010124 CA20022368037 20020122

Probable Assignee: ALSTOM SA

Assignee(s): (std): ALSTOM ; ALSTOM TRANSPORT SA

Assignee(s): ALSTOM TRANSPORT TECHNOLOGIES ; BATISSE JEAN PIERRE ; ALSTOM SA

Inventor(s): (std): BATISSE JEAN PIERRE

Inventor(s): JEAN PIERRE BATISSE

Agent(s): ROBIC ; HABASQUE ETIENNE J JEAN FRANCOIS ; CABINET LAVOIX ; HITOSHIO AKIO ; ONO MAKOTO ; KAWAGUCHI YOSHIO ; OSAKI KATSUMASA

Designated states: AT BE CH CY DE DK ES FI FR GB GR IE IT LI LU MC NL PT SE TR

Title: LOCOMOTIVE ENERGY TENDER

Abstract: An energy tender vehicle for use in connection with a hybrid energy locomotive system having an energy storage and regeneration system. The energy storage and regeneration system captures dynamic braking energy, excess motor energy, and externally supplied energy in one or more energy storage subsystems, including a flywheel, a battery, an ultra-capacitor, or a combination of such subsystems. In one form, the energy storage and regeneration system is located in the energy tender vehicle. The energy tender vehicle is optionally equipped with traction motors. In one form, the energy tender is configured to operate without any power connections to the locomotive. An energy management system is responsive to power storage and power transfer parameters, including data indicative of present and future track profile information, to determine present and future electrical energy storage and supply requirements. The energy management system controls the storage and regeneration of energy accordingly.

Classifications:

International (IPC 8-9): A63H19/00 B60K1/00 B60K15/00 B60K6/00 B60K6/04 B60K6/24 B60K6/28 B60K6/44 B60K6/46 B60L11/00 B60L11/02 B60L11/12 B60L11/14 B60L11/16 B60L11/18 B60L15/00 B60L15/20 B60L15/32 B60L7/06 B60L7/12 B60L7/14 B60L7/22 B60L9/00 B60L9/02 B60L9/16 B60W10/06 B60W10/08 B60W10/18 B60W10/26 B60W20/00 B60W40/02 B61C1/00 B61C17/00 B61C17/12 B61C3/00 B61C3/02 B61C5/00 B61C7/04 B61D17/00 B61L11/00 B61L15/00 B61L17/00 B61L25/02 B61L3/00 B61L3/12 F01B23/10 F02D19/00 F02D19/06 F02D28/00 F02D41/00 F02D41/02 G01M17/00 G05D1/00 G06F19/00 H02P3/14 H02P5/00 (Advanced/Invention);

B60K1/04 B60K15/03 B61L15/00 F02D29/06 F02D41/14 (Advanced/Non-invention);
B60L11/00 B60L11/02 B60L15/00 B60L15/20 B60L7/00 B61C1/00 B61C17/00 B61C3/00 B61C7/00 B61D17/00 B61L15/00 B61L25/00 B61L3/00 F01B23/00 G01M17/00 G05D1/00 G06F19/00 (Core/Invention);
B61C B61L (Subclass/Invention)

International (IPC 1-7): B60L11/12 B60L11/16 B60L15/20 B61C B61C1/00 B61C11/00 B61C17/00 B61C3/00 B61C7/04 B61L1/18 B61L15/00 B61L25/02 B61L27/00 B61L3/12 G01C21/26 G05D1/00 G06F17/00 G06F19/00 G06F7/00 H02J7/00

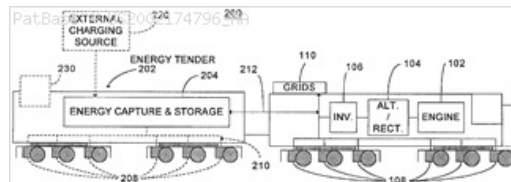
CPC: B61L25/048 Y10S903/93 Y02T10/7241 B60K6/28 B60K6/44 B60L3/0046 B60L7/02 B60L9/00 B60L2210/40 B60L2220/12 B60L2220/14 B60L2270/20 B60W10/26 Y02T10/623 Y02T10/6278 Y02T10/646 F02D19/0639 B60Y2304/076 B60L2270/40 B60L11/1842 Y02E60/721 Y02T90/128 Y02T90/163 Y04S10/126 B60L2270/12 B61L25/028 B61L27/0094 B61L2201/02 B60L9/005 B60L2260/28 B60L15/32 B61L25/021 B61L3/121 B61L3/127 B61L17/00 B61L25/023 B61L25/026 Y02T10/7027 Y02T90/121 B60L11/1801 B60K1/04 B60K2001/0455 B60K2015/03118 B60K2015/03157 B60K2015/03217 B60L11/1822 B60L2240/62 B60L2240/64 B60L2240/642 B60L2240/662 B60W10/18 B60W40/02 B60W2520/10 B60W2550/12 B60W2550/13 B60W2550/141 B60W2550/142 B60W2550/143 B60W2550/22 B60W2550/402 B60W2560/02 F02D19/0634 F02D19/0697 F02D2200/0611 Y02T10/52 Y02T10/7072 Y02T90/124 Y02T90/14 Y02T90/162 F02D41/0025 B61L15/0027 B61L15/0072 B61L25/025 B61L27/0038 B61L2205/04 B60L7/06 B60K6/46 B60L7/12 B60L7/14 B60L7/22 B60L9/02 B60L9/16 B60L11/005 B60L11/12 B60L11/123 B60L11/14 B60L11/16 B60L11/1803 B60L15/2045 B60L2200/40 B60L2220/20 B60L2240/70 B60Y2200/14 Y02T10/6217 Y02T10/6269 Y02T10/7005 Y02T10/7022 Y02T10/7077 Y02T10/7283 Y02T10/7291 Y02T10/645 Y02T10/72 F02D2041/1417 B61C7/04 F02D19/0665 Y02T10/84 B60L15/20 Y02T30/16 B60L2200/26 B61L3/006 B61L3/125 B61L15/0036 B61L15/0081 F02D19/0615 F02D29/06 F02D41/021 F02D2200/604 F02D2200/701 Y02T10/36 Y02T90/16 B60L3/12 B60L11/02 B60L2270/142

European: B60K6/04B6 B60K6/04D6 B60K6/04H6 B60K6/28 B60K6/44 B60K6/46 B60L11/00B2 B60L11/12 B60L11/12D B60L11/14 B60L11/16 B60L11/18A B60L11/18C B60L11/18L6 B60L15/20 B60L15/20E B60L15/32 B60L3/00F6 B60L7/02 B60L7/06 B60L7/12 B60L7/14 B60L7/22 B60L9/00 B60L9/00B B60L9/02 B60L9/16 B60W10/18 B60W10/26 B60W40/02 B61C3/02 B61L15/00B1 B61L15/00B2 B61L15/00G B61L15/00H B61L17/00 B61L25/02A B61L25/02B B61L25/02C B61L25/02D B61L25/02E B61L27/00 B61L27/00C B61L27/00H2 B61L3/00C B61L3/12A B61L3/12D F02D41/00F F02D41/02C L60K1/04 L60K1/04C L60K15/03L L60K15/03L9 L60K15/03S2 L60L200/26 L60L200/40 L60L210/40 L60L220/12 L60L220/14 L60L220/20 L60L240/62 L60L240/64 L60L240/64B L60L240/66B L60L240/70 L60L260/28 L60L270/20 L60W520/10 L60W550/12 L60W550/13 L60W550/14A L60W550/14B L60W550/14C L60W550/22 L60W550/40A L60W560/02 L60Y200/14 L61L201/02 L61L205/04 R02D200/0611 R02D200/604 R02D200/701 R02D29/06 R02D41/14B20A2 Y02T10/52 Y02T10/62F12 Y02T10/62F2 Y02T10/62F6 Y02T10/62H2 Y02T10/64D8 Y02T10/70 Y02T10/70B Y02T10/70D Y02T10/70F Y02T10/70F2 Y02T10/70J Y02T10/70J2 Y02T10/72D6 Y02T10/72D8 Y02T30/12 Y02T90/12F Y02T90/14 Y02T90/16 Y02T90/16B2

US: 1/1 104/288 104/288S 104/289 105/1.4 105/1.400P 105/14 105/26.05 105/26.050P 105/27 105/34.2 105/342 105/35 105/35P 105/35S 105/49 105/49S 105/5 105/50 105/50P 105/61 105/61P 180/65.2 180/65.21 180/65.245 180/65.265 180/65.285 180/65.29 180/65.3 180/65.31 180/65.310S 180/65.51 246/167.00R 246/167R 246/182 246/182.00RS 246/182R 246/186 246/187 246/187.00A 246/187.00C 246/187A 246/187C 246/3 246/3P 290/3 303/16 303/20 303/7 318/139 318/139P 318/139S 318/376 318/376P 318/66 318/66S 318/86 320/101 320/104 320/104P 340/424 340/426 340/426.35 340/5.6 340/6.11 340/825.36 370/432 377/24 377/26 455/456.3 701/1 701/102 701/102P 701/104 701/19 701/19P 701/1S 701/20 701/20P 701/213 701/213S 701/22 701/22P 701/29 701/29P 701/33.4 701/33.400P 701/35 701/35P 701/469 701/469S 701/70 903/930

Family:

Publication number	Publication date	Application number	Application date
AU2004243288 AA	20041209	AU20040243288	20040521
AU2004243288 BB	20100218	AU20040243288	20040521
AU2005267004 AA	20060202	AU20050267004	20050721
AU2005267004 BB	20120315	AU20050267004	20050721
AU2012202675 AA	20120531	AU20120202675	20120508
AU2012202675 BB	20131024	AU20120202675	20120508
CA2378774 AA	20020927	CA20022378774	20020325
CA2378774 C	20091222	CA20022378774	20020325
CA2547996 AA	20060223	CA20052547996	20050804
CA2547996 C	20130514	CA20052547996	20050804
CA2548956 AA	20060608	CA20042548956	20040521
CA2575057 AA	20070123	CA20052575057	20050721
CN101027211 A	20070829	CN200580032262	20050721
CN101027211 B	20101103	CN200580032262	20050721
CN101687506 A	20100331	CN200880010344	20080123
CN101687506 B	20130731	CN200880010344	20080123
CN103770659 A	20140507	CN201410042153	20050804
CN1906050 A	20070131	CN200580001562	20050804
DE112005000056 T5	20060727	DE200511000056	20050804
DE602005024407 D1	20101209	DE200560024407T	20050721
EP1245431 A2	20021002	EP20020252126	20020325
EP1245431 A3	20031126	EP20020252126	20020325
EP1776266 A1	20070425	EP20050773380	20050721
EP1776266 B1	20101027	EP20050773380	20050721



IN00675DN2007 A	20070427	IN2007DN00675	20070124
IN285398 B	20170721	IN2007DN00675	20070124
IN295085 B	20180406	IN2009CN04339	20090721
MX2007000946 A1	20070412	MX20070000946	20050721
RU2006121131 A	20071227	RU20060121131	20040521
RU2357886 C2	20090610	RU20060121131	20040521
US2002174796 AA	20021128	US20010032714	20011226
US2002174797 AA	20021128	US20010033191	20011226
US2002174798 AA	20021128	US20010033347	20011226
US2002177929 AA	20021128	US20010033172	20011226
US2003120400 AA	20030626	US20030354638	20030130
US2003150352 AA	20030814	US20030378335	20030303
US2003151387 AA	20030814	US20030378431	20030303
US2003233959 AA	20031225	US20030435261	20030509
US2004245410 AA	20041209	US20040849314	20040519
US2005005814 AA	20050113	US20040914731	20040809
US2005010338 AA	20050113	US20040850992	20040521
US2005039630 AA	20050224	US20040918849	20040809
US2005120904 AA	20050609	US20040008708	20041209
US2005171658 AA	20050804	US20050094006	20050330
US2005235865 AA	20051027	US20050149014	20050609
US2006005736 AA	20060112	US20050180345	20050713
US2006005737 AA	20060112	US20050180320	20050713
US2006005738 AA	20060112	US20050215376	20050830
US2006005739 AA	20060112	US20050215377	20050830
US2006012320 AA	20060119	US20050180251	20050713
US2006129289 AA	20060615	US20050136769	20050525
US2007137514 AA	20070621	US20070680706	20070301
US2007142985 AA	20070621	US20070671656	20070206
US2007144398 AA	20070628	US20070681597	20070302
US2007145918 AA	20070628	US20070681557	20070302
US2009132113 AA	20090521	US20080345135	20081229
US2009314179 AA	20091224	US20090502427	20090714
US2010186619 AA	20100729	US20100752309	20100401
US2011041723 AA	20110224	US20100939353	20101104
US2011106401 AA	20110505	US20110984792	20110105
US2013338901 AA	20131219	US20130965712	20130813
US2016010574 AA	20160114	US20150862563	20150923
US6591758 BB	20030715	US20010033347	20011226
US6612245 BB	20030902	US20010032714	20011226
US6612246 BB	20030902	US20010033191	20011226
US6615118 BB	20030902	US20010033172	20011226
US6922619 BB	20050726	US20030354638	20030130
US6973880 BB	20051213	US20030378335	20030303
US7131614 BB	20061107	US20040849314	20040519
US7137344 BB	20061121	US20040918849	20040809
US7185591 BB	20070306	US20040914731	20040809
US7231877 BB	20070619	US20030435261	20030509
US7302895 BB	20071204	US20040008708	20041209
US7325498 BB	20080205	US20070681597	20070302
US7430967 BB	20081007	US20050180251	20050713
US7448328 BB	20081111	US20050180320	20050713
US7500436 BB	20090310	US20050136769	20050525
US7532960 BB	20090512	US20030378431	20030303
US7571683 BB	20090811	US20050149014	20050609
US7669534 BB	20100302	US20070681557	20070302
US7854203 BB	20101221	US20090502427	20090714
US7882789 BB	20110208	US20070680706	20070301
US7949441 BB	20110524	US20050094006	20050330
US8371230 BB	20130212	US20100752309	20100401
US8534199 BB	20130917	US20110984792	20110105
US9151232 BB	20151006	US20130965712	20130813
US9193268 BB	20151124	US20070671656	20070206
US9233612 BB	20160112	US20100939353	20101104
US9822717 BB	20171121	US20150862563	20150923
WO04106133 A2	20041209	WO2004US16240	20040521
WO04106133 A3	20070208	WO2004US16240	20040521
WO05120925 A2	20051222	WO2004US16050	20040521
WO05120925 A3	20060209	WO2004US16050	20040521
WO06012484 A1	20060202	WO2005US25988	20050721
WO06020476 A2	20060223	WO2005US27623	20050804
WO06020476 A3	20060323	WO2005US27623	20050804
WO08097715 A2	20080814	WO2008US51787	20080123
WO08097715 A3	20091210	WO2008US51787	20080123
WO08109215 A2	20080912	WO2008US52871	20080204
WO08109215 A3	20081204	WO2008US52871	20080204
ZA200605314 A	20071227	ZA20060005314	20060627
ZA200701160 A	20080827	ZA20070001160	20070208

Priority:

US20010278975P 20010327	US20010278978P 20010328	US20010033172 20011226
US20010033347 20011226	US20010033191 20011226	US20010032714 20011226

US20020319128P	20020228	CA20022378774	20020325	US20030354638	20030130
US20030378431	20030303	US20030378335	20030303	US20030435261	20030509
US20030474151P	20030522	US20030528021P	20031209	US20040849314	20040519
US20040850992	20040521	WO2004US16240	20040521	US20040474151P	20040522
US20040590853	20040723	US20040590853P	20040723	US20040914731	20040809
US20040918849	20040809	US20040008708	20041209	US20050094006	20050330
US20050136769	20050525	US20050149014	20050609	US20050180251	20050713
US20050180320	20050713	US20050180345	20050713	AU20050267004	20050721
WO2005US25988	20050721	WO2005US27623	20050804	US20050215376	20050830
US20050215377	20050830	US20070671656	20070206	US20070680706	20070301
US20070681597	20070302	US20070681557	20070302	WO2008US51787	20080123
US20080345135	20081229	US20090502427	20090714	US20100752309	20100401
US20100939353	20101104	US20110984792	20110105	AU20120202675	20120508
US20130965712	20130813	US20150862563	20150923		

Probable Assignee: GENERAL ELECTRIC CO

Assignee(s): (std): DZHENERAL EHLEKTRIK KOMPANI ; KELLNER STEVEN ANDREW ; KRAELING MARK BRADSHAW ; PELTONEN GLEN PAUL ; KISS JAMES ; KUMAR AJITH KUTTANNAIR ; PELKOWSKI STEPHEN MATTHEW ; KELLNER STEVEN A ; KISAK JEFFREY ; HESS GERALD J ; KUMAR AJITH K ; PELKOWSKI STEVEN MATTHEW ; HESS GERALD JAMES JR ; HILL LEONARD MICHAEL ; PELKOWSKI STEVEN M ; KRAELING MARK B ; PELTONEN GLEN P ; HESS GERALD J JR ; HILL LEONARD M ; KUMAR AJITH KUTTANNAIR ; HENDRICKSON BRADLEY CHARLES ; DAUM WOLFGANG ; HENDRICKSON BRADLEY C ; GENERAL ELECTRIC COMPANY ; SEXAUER SCOTT ; SWEeley BRUCE M ; SHAFFER GLENN ; SHAFFER GLENN ROBERT ; WOLF DANIEL F ; YOUNG HENRY TODD ; SHAFFER GLENN R ; BALLESTY DANIEL ; BALLESTY DANIEL M ; BALLESTY DANIEL MALACHI ; CARL ROWOLD ; GEN ELECTRIC

Assignee(s): GENERAL ELECTRIC CO ; AHMED BAIG MIRZA AREF ; BAIG MIRZA A A ; BAIG MIRZA AA ; PELTZ DAVID MICHAEL ; WOLF DANIEL ; ZHANG NING ; CORRY JAMES G ; EVANS RICHARD L ; CORRY JAMES GLEN ; HESS GERALD JAMES ; KISAK JEFFREY JAMES ; KUMAR AJITH ; HILL LEONARD ; PALLO CHRISTOPHER E

Inventor(s): (std): AHMED BAIG MIRZA AREF ; ANDREW CHAEL KELLNER STEVEN ; BAIG MIRZA A A ; BAIG MIRZA AREF AHMED ; BALLESTI DEHNIEL MALAKAJ ; BALLESTY DANIEL ; BALLESTY DANIEL MALACHI ; CORRY JAMES G ; CORRY JAMES GLEN ; DAUM WOLFGANG ; EVANS RICHARD L ; HENDRICKSON BRADLEY C ; HENDRICKSON BRADLEY CHARLES ; HESS GERALD J ; HESS GERALD JAMES ; HESS GERALD JAMES JR ; HESS JR GERALD J ; HILL LEONARD ; JAME KUMAR AJITH KUTTANNAIR PE ; KAJSAK DZHEFFRI DZHEJMS ; KELLNER STEVEN A ; KELLNER STEVEN ANDREW ; KHENDRIKSON BREHDLI CHARLZ ; KHESS DZHERALD DZHEJMS ML ; KING ROBERT DEAN ; KISAK JEFFREY ; KISAK JEFFREY JAMES ; KISS DZHEJMS ; KISS JAMES ; KRAELING MARK BRADSHAW ; KREJLING MARK BREHDSHOU ; KUMAR ADZHIT KUTTANNAIR ; KUMAR AJITH KUTTANNAIR ; KUTTANNAIR KUMAR AJITH ; LEONARD MICHAEL HILL ; MALACHI BALLESTY DANIEL ; MARK BRADSHAW KRAELING ; MATTHEW PELKOWSKI STEPHEN ; MATTHEW PELKOWSKI STEVEN ; MICHAEL HILL LEONARD ; MICHAEL PELTZ DAVID ; PALLO CHRISTOPHER E ; PAUL PELTONEN GLEN ; PELKOVSKI STIVEN MEHTT JU ; PELKOWSKI STEPHEN MATTHEW ; PELKOWSKI STEVEN M ; PELKOWSKI STEVEN MATTHEW ; PELTONEN GLEN P ; PELTONEN GLEN PAUL ; PELTONEN GLEN POL ; PELTTS DEHVID MAJKL ; PELTZ DAVID MICHAEL ; ROBERT SHAFFER GLENN ; SALASOO LEMBIT ; SEXAUER SCOTT ; SHAFFER GLENN ; SHAFFER GLENN R ; SWEeley BRUCE M ; TODD KUMAR AJITH KUTTANNAIR YO ; WOLF DANIEL ; WOLFGANG DAUM ; YOUNG HENRY TODD ; ZHANG NING ; KRAELING MARK B ; JAMES KISS ; JAMES KISAK JEFFREY ; JAMES HESS JR GERALD ; JAMES HESS GERALD JR ; HILL LEONARD M ; HESS JR GERALD JAMES ; STEVEN ANDREW KELLNER ; STEVEN MATTHEW PELKOWSKI ; HESS GERALD J JR ; GLENN ROBERT SHAFFER ; GLEN PAUL PELTONEN ; GERALD JAMES JR HESS ; CHARLES HENDRICKSON BRADLEY ; BRADSHAW KRAELING MARK ; BRADLEY CHARLES HENDRICKSON ; BALLESTY DANIEL M ; ANDREW KELLNER STEVEN ; AJITH KUTTANNAIR KUMAR ; KISS JR JAMES MICHAEL ; YOUNG HENRY T ; WOLF DANIEL F ; SHAFFER GLENN ROBERT ; KUMAR AJITH KUTTANNAIR ; KUMAR AJITH K ; KUMAR AJITH ; KUMAR AJITH KUTTANNAIR ; DANIEL MALACHI BALLESTY ; DANIEL F WOLF ; HILL LEONARD MICHAEL ; MESALIC ADMIR ; KUTTANNAIR KUMAR AJITH

Inventor(s): KUMAR AJITH KUTTANNAIR PELKOWSKI STEVEN... ; GERALD JAMES HESS JR ; KELLNER STEVEN ; PELKOWSKI STEVEN ; KUMAR AJITH KUTTANNAIR PELKOWSKI STEVEN MATTHEW KRAELING MARK BRADSHAW PELTONEN GLEN PAUL KISS JAMES BALLESTY DANIEL MALACHI DAUM WOLFGANG HENDRICKSON BRADLEY CHARLES HESS GERALD JAMES JR SHAFFER GLE ; YOUNG HENRY ; DAVID MICHAEL PELTZ ; HESS ; SWEeley BRUCE ; HESS GERALD JJR ; JR GERALD J ; JEFFREY JAMES KISAK ; PELKOVSKI STIVEN MEHTT'JU ; PELTZ DAVID ; PELTONEN GLEN ; PELKOWSKI STEPHEN ; PALLO CHRISTOPHER ; KUMAR AJITH KUTTANNAIR YOUNG HENRY TODD ; KRAELING MARK ; KING ROBERT ; HESS GERALD ; HENDRICKSON BRADLEY ; EVANS RICHARD ; CHAEL KELLNER STEVEN ANDREW ; CORRY JAMES ; BAIG MIRZA AA ; BAIG MIRZA

Agent(s): PHILLIPS ORMONDE FITZPATRICK; CRAIG WILSON AND CO; BEDFORD GRANT RICHARD; SENNIGER POWERS LEAVITT AND ROEDEL; BEUSSE BROWNLEE WOLTER MORA AND MAIRE P A; SENNIGER POWERS; BEUSSE BROWNLEE WOLTER MORA AND MAIRE PA; BEUSSE WOLTER SANKS MORA AND MAIRE PA; SENNIGER POWERS (GETS); SENNIGER POWERS GETS; GENERAL ELECTRIC COMPANY,GLOBAL RESEARCH; GENERAL ELECTRIC CO GLOBAL RESEARCH; JOSEPH FISCHER BEUSSE BROWNLEE WOLTER MORA AND MAIRE PA; ROWOLD ESQ CARL; MORA ESQ ENRIQUE J; CARL; ENRIQUE J; SENNIGER POWERS CARL ROWOLD; CARLOS; SENNIGER POWERS CARLOS HANZE; BEUSSE WOLTER SANKS MORA AND MAIRE P A; DAVID G; CARLOS LUIS; SENNIGER POWERS LLP; WAWRZYN ESQ ROBERT; OBRIEN ESQ CIAN G; CIAN G; ROBERT; JOHN; GE GLOBAL PATENT OPERATION; JOHN A; GLOBAL PATENT OPERATION; TOOP BARBARA A ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: SYSTEM FOR DIRECT ELECTRIC POWER SUPPLY TO A RAILWAY VEHICLE AND CORRESPONDING RAILWAY LINE

Abstract: The invention concerns a system for direct power supply to a railway vehicle, comprising a supply circuit (F_1, F_2, M_i, M_{i+1}) enabling to generate between rail sections (RA_1, RA_2) a low-voltage electric potential, protective elements (S_1, S_2) for shorting the rails (RA_1, RA_2) of the power collector circuits (fr, MC_1, MC_2) located at least at a pair of opposite electrically conductive wheels (R_1, R_2) and enabling to supply electric power to the railway car (VF). The invention is applicable to urban transportation railway vehicles.

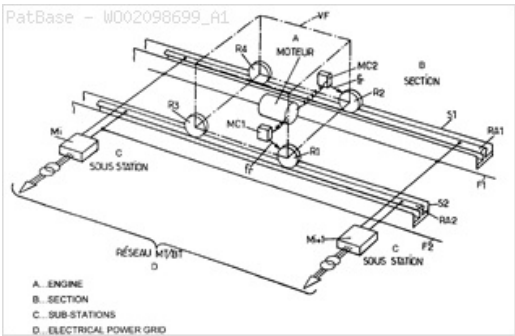
Classifications:

International (IPC 8-9): B60M1/00 B60M5/00 (Advanced/Invention);
B60M1/00 B60M5/00 (Core/Invention)

International (IPC 1-7): B60M1/00 B60M5/00

CPC: B60M1/00 B60M5/00

European: B60M1/00 B60M5/00



Family:

Publication number	Publication date	Application number	Application date
FR2825666 A1	20021213	FR20010007397	20010606
FR2825666 B1	20030912	FR20010007397	20010606
WO02098699 A1	20021212	WO2002FR01880	20020604
WO02098699 C2	20030320	WO2002FR01880	20020604

Priority:

FR20010007397 20010606

Probable Assignee: ELECTRICITE DE FRANCE

Assignee(s): (std): ELECTRICITE DE FRANCE SERVICE ; ELECTRICITE DE FRANCE ; KRATZ MAURICE

Assignee(s): ELECTRICITE DE FRANCE SERVICE NATIONAL ; ELECTRICITE DE FRANCE SERVICE NATIONAL

Inventor(s): (std): KARTZ MAURICE ; KRATZ MAURICE

Inventor(s): MAURICE KARTZ

Agent(s): CABINET PLASSERAUD

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NE NL NO NZ OM PH PL PT RO RU SD SE SG SI SK SL SN SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VN YU ZA ZM ZW

Title: SYSTEM FOR SUPPLYING VERY LOW VOLTAGE ELECTRICAL ENERGY FOR AN ELECTRICAL TRACTION VEHICLE COMPRISING AN ONBOARD STORE OF ENERGY

Abstract: The invention relates to a system for supplying very low voltage electrical energy for at least one electric traction vehicle (30) running on a track (20), and comprising: at least one very low voltage electric power system (10) installed directly next to the track (20); two parallel power supply rails (41, 42) or the like, that are adjacent or distant, a first rail (41) being connected to a terminal (11) of said power supply means (10) and the second rail (42) being connected to another terminal (12) of said power supply means (10); at least one onboard means for storing electrical energy (60) in the vehicle; and at least one onboard power supply means (80) that is joined to the means for collecting electrical energy (51, 52), and is connected both to the storage means (60) and the traction chain (70), such that the very low voltage power supply means (10) feeds the onboard power supply means (80) which, in turn, feeds the storage means (60) so that it stores electrical energy, to its full capacity, in the successive rolling phases.

Classifications:

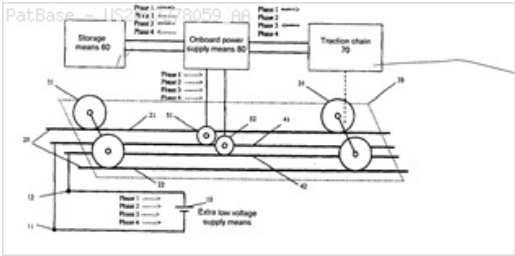
International (IPC 8-9): B60L11/14 B60L11/18 B60M3/04 B60M3/06 B60M7/00 H02J7/00 (Advanced/Invention); B60M1/30 (Advanced/Non-invention); B60L11/14 B60L11/18 B60M3/00 B60M7/00 H02J7/00 (Core/Invention)

International (IPC 1-7): B60L11/00 B60M1/30 B60M3/00 B60M3/06

CPC: B60M1/30 B60L11/1801 B60M3/06 Y02T10/7005 Y02T10/92 B60L2200/26

European: B60L11/18A B60M3/06 L60L200/26 Y02T10/70 Y02T10/70B Y02T10/92

US: 104/88.04 104/88.040S 191/29.00R 191/29.00RP 191/29R



Family:

Publication number	Publication date	Application number	Application date
CA2555418 AA	20060803	CA20052555418	20050223
CN1930017 A	20070314	CN200580007560	20050223
EP1725424 A1	20061129	EP20050730852	20050223
EP1725424 B1	20180221	EP20050730852	20050223
FR2866607 A1	20050826	FR20040001802	20040223
IN04740DN2006 A	20070810	IN2006DN04740	20060818
JP2007523589 T2	20070816	JP20070500251T	20050223
US2007278059 AA	20071206	US20050590418	20050223
WO05082666 A1	20050909	WO2005FR00422	20050223
WO05082666 B1	20051103	WO2005FR00422	20050223

Priority:

FR20040001802 20040223 WO2005FR00422 20050223

Probable Assignee: AFRIAT HERVE

Assignee(s): (std): AFRIAT HERVE ; AFRIAT HERVE BENJAMIN ; HERVE AFRIAT

Assignee(s): HERVE BENJAMIN AFRIAT

Inventor(s): (std): AFRIAT HERVE ; HERVE AFRIAT ; AFRIAT HERVE BENJAMIN

Inventor(s): HERVE BENJAMIN AFRIAT

Agent(s): ROBIC ; CABINET JOLLY ; SUGHRUE MION PLLC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

Title: HYBRID LOCOMOTIVE CONFIGURATION

Abstract: The present invention is directed to a locomotive that includes:

- (a) a transmission **105** operable to drive a plurality of axles;
- (b) an electric motor **104** operatively connected to and driving the transmission;
- (c) an energy storage unit **106** operable to store electrical energy and supply electrical energy to the electric motor;
- (d) one or more prime movers **102** operable to supply electrical energy to the energy storage unit and electric motor; and
- (e) a power distribution bus **109** electrically connecting the energy storage unit, prime mover(s), and electric motor. The energy storage unit and/or generator provide electrical energy to the electric motor via the power distribution bus to cause the electric motor to rotate the axles via the transmission.

Classifications:

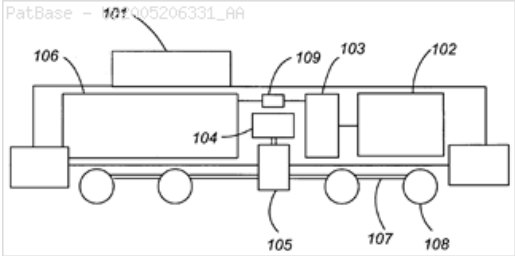
International (IPC 8-9): B60L11/12 B60L11/16 B60L7/16 B61C1/00 B61C3/00 B61C3/02 B61C7/04 H02P5/46 (Advanced/Invention); B60L11/00 B60L11/02 B60L7/00 B61C1/00 B61C3/00 B61C7/00 H02P5/46 (Core/Invention)

International (IPC 1-7): H02P5/46

CPC: B60L2200/26 B60L7/14 B60L7/04 B60L7/06 B60L7/12 B60L7/22 B60L11/005 B60L11/123 B60L11/16 B60L2220/18 B61C3/02 Y02T10/6217 Y02T10/7005 Y02T10/7022 Y02T10/7033 Y02T30/12 Y02T10/7027

European: B60L11/00B2 B60L11/12D B60L11/16 B60L7/04 B60L7/06 B60L7/12 B60L7/14 B60L7/22 B61C3/02 L60L200/26 L60L220/18 Y02T10/62F2 Y02T10/70B Y02T10/70D Y02T10/70F2 Y02T30/12

US: 318/52 318/52P



Family:

Publication number	Publication date	Application number	Application date
EP1723018 A2	20061122	EP20050735921	20050308
EP1723018 A4	20080813	EP20050735921	20050308
US2005206331 AA	20050922	US20050075550	20050308
WO05086910 A2	20050922	WO2005US07937	20050308
WO05086910 A3	20060427	WO2005US07937	20050308

Priority:

US20040551519P 20040308 US20050075550 20050308 WO2005US07937 20050308

Probable Assignee: RAILPOWER LLC

Assignee(s): (std): DONNELLY FRANK WEGNER ; RAILPOWER TECHNOLOGIES CORP

Assignee(s): RAILPOWER LLC

Inventor(s): (std): DONNELLY FRANK W ; DONNELLY FRANK WEGNER

Inventor(s): DONNELLY FRANK

Agent(s): SHERIDAN ROSS PC

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE KG KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NI NL NO NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN YU ZA ZM ZW

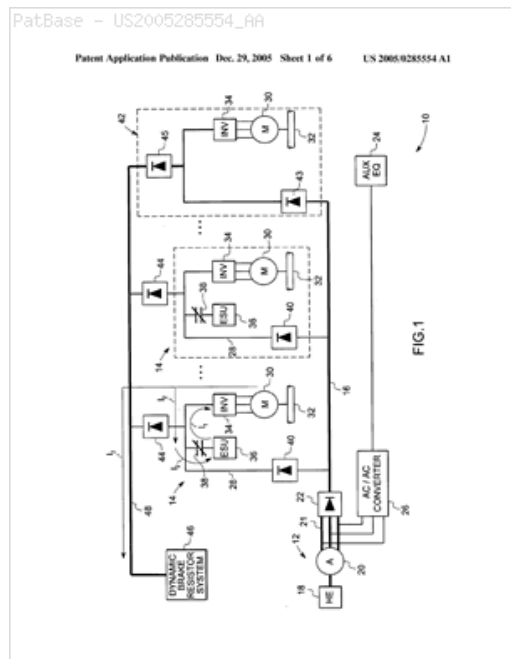
Abstract: A hybrid propulsion system. The system comprises one or more hybrid propulsion traction drives having an electric motor operable to produce mechanical power for propulsion. A hybrid propulsion traction drive is operable to receive power from an on-board power generation system. The electric motor is operable to receive power from an energy storage unit and operable to supply power to the energy storage unit. The energy storage unit may be coupled to the electric motor via a switch.

International (IPC 8-9): B60K6/00 B60L11/18 B60W10/24 B60W20/00 B61C3/00 H02P3/14 (Advanced/Invention); B60K6/00 B60L11/00 B60L11/18 B61C3/00

International (IPC 1-7): B60L11/18 H02P3/00

European: B60L11/18 L60L200/26 L60L210/20 Y02T10/70
Y02T10/70B Y02T10/72B6

US: 105/26.05 105/34.2 105/35 105/61 105/73 180/165 180/65.2
180/65.285 180/65.3 318/139 318/139S 318/371 318/375 318/376
318/376P 320/101 320/104



Publication number	Publication date	Application number	Application date
AT534546 E	20111215	AT20050762310T	20050621
AU2005267432 AA	20060202	AU20050267432	20050621
AU2005267432 BB	20110203	AU20050267432	20050621
AU2010257243 AA	20110113	AU20100257243	20101216
AU2010257243 BB	20130307	AU20100257243	20101216
BRPI0512448 A	20080304	BR2005PI12448	20050621
CA2570827 AA	20061214	CA20052570827	20050621
CA2570827 C	20150317	CA20052570827	20050621
CN1976828 A	20070606	CN200580021565	20050621
CN1976828 B	20120307	CN200580021565	20050621
DE602005031367 D1	20120223	DE200560031367T	20050621
EP1763451 A2	20070321	EP20050762310	20050621
EP1763451 B1	20111123	EP20050762310	20050621
IN07556DN2006 A	20070824	IN2006DN07556	20061213
IN279384 B	20170120	IN2006DN07556	20061213
MXPA06015114 A1	20070208	MX2006PA15114	20050621
RU2007103196 A	20080810	RU20070103196	20050621
RU2397076 C2	20100820	RU20070103196	20050621
US2005285554 AA	20051229	US20040878804	20040628
US7190133 BB	20070313	US20040878804	20040628
WO06012089 A2	20060202	WO2005US21769	20050621
WO06012089 A3	20060323	WO2005US21769	20050621
ZA200700380 A	20080925	ZA20070000380	20070112

US20040878804	20040628	AU20050267432	20050621	WO2005US21769	20050621
EP20050762310	20050621	AU20100257243	20101216		

Assignee(s): (std): DZHENARAL EHLEKTRIK KOMPANI ; GEN ELECTRIC ; KING ROBERT D ; KING ROBERT DEAN ; SONG DONGWOO ; KUMAR AJITH K ; SALASOO LEMBIT ; KUMAR AJITH KUTTANNAIR

Assignee(s): THE GENERAL ELECTRIC COMPANY ; GENERAL ELECTRIC CO ; GENERAL ELECTRIC CO SCHENECTADY
: GENERAL ELECTRIC COMPANY

Inventor(s): (std): DEAN KING ROBERT ; DONGWOO SONG ; KING ROBERT ; KING ROBERT D ; KING ROBERT DEAN ; KUMAR AJITH ; KUMAR AJITH K ; KUMAR AJITH KUTTANNAIR ; KUTTANNAIR KING ROBERT DEAN SO ; KUTTANNAIR KUMAR AJITH ; LEMBIT SALASOO ; SALASOO LEMBIT ; SONG DONGWOO ; SONG DONGVU ; SALASU LEMBIT ; KUMAR ADZHIT KUTTANNAIR ; KING ROBERT DIN

Inventor(s): SONG DONGWOO LATHAM ; SALASOO LEMBIT SCHENECTADY ; AJITH KUTTANNAIR KUMAR ; ROBERT DEAN KING ; KUMAR AJITH KUTTANNAIR ERIE ; KING ROBERT DEAN SCHENECTADY ; KING ROBERT DEAN SONG DONGWOO SALASOO LEMBIT KUMAR AJITH KUTTANNAIR ; KING ROBERT DEAN SONG DONGWOO SALASOO LEMBIT...

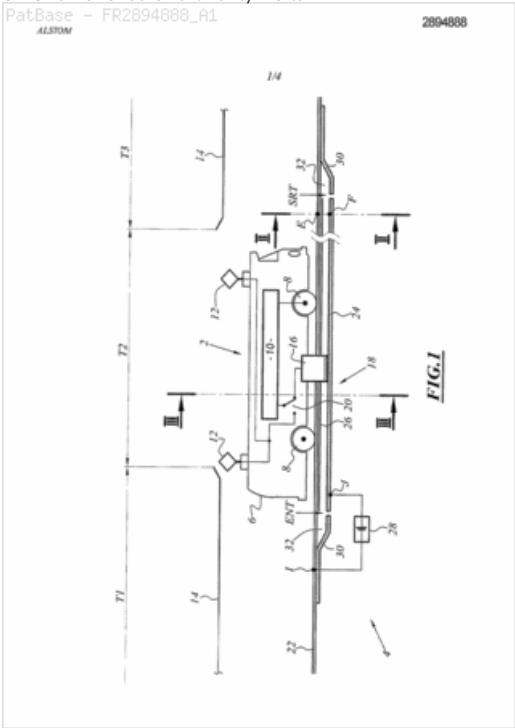
Agent(s): DAVIES COLLISON CAVE PTY LTD; DAVIES COLLISON CAVE; CRAIG WILSON AND CO; RUEGER BARTHELT AND ABEL PATENTANWALTE; ILLINGWORTH LAW WILLIAM ILLINGWORTH; PATRICK S YODER FLETCHER YODER; FLETCHER

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ
DE DK DM DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GW HR HU ID IE IL IN IS IT JP KE
KG KM KP KR KZ LC LI LK LR LS LT LU LV MA MC MD MG MK ML MN MR MW MX MZ NA NE NG NI NL NO
NZ OM PG PH PL PT RO RU SC SD SE SG SI SK SL SM SN SY SZ TD TG TJ TM TN TR TT TZ UA UG US
UZ VC VN YU ZA ZM ZW

Title: ELECTRIC ENERGY SUPPLYING DEVICE FOR TRAMWAY, HAS ELECTRIC VOLTAGE SUPPLYING SOURCE ARRANGED FOR ESTABLISHING CONTINUOUS VOLTAGE BETWEEN RETENTION RAIL AND TRACK, WHERE VOLTAGE IS LOWER THAN ONE HUNDRED AND TWENTY VOLTS

Abstract: The device has a retention rail (24) and a track (22) that are electrically accessible by a vehicle during displacement of the vehicle, where the retention rail is placed on a ground of a tramway (2). An electric voltage supplying source (28) is connected between the retention rail and the track. The source is arranged for establishing continuous voltage between the retention rail and the track, where the voltage is lower than one hundred and twenty volts.

Classifications:
International (IPC 8-9): B60M1/34 (Advanced/Invention); B60M1/00 (Core/Invention)
CPC: B60L5/39 B60L5/40 B60L2200/26 B60M1/34
European: B60L5/39 B60L5/40 B60M1/34 L60L200/26



Family:

Publication number	Publication date	Application number	Application date
FR2894888 A1	20070622	FR20060003633	20060424

Priority:

FR20060003633 20060424

Probable Assignee: ALSTOM SA

Assignee(s): (std): ALSTOM SA ; ALSTOM TRANSPORT SA

Assignee(s): ALSTOM TRANSPORT SA SOCIETE ANONYME ; ALSTOM TRANSPORT SOC ANONYME SA

Inventor(s): (std): CHANTAL OLIVIER

Title: SYSTEM AND PROCESS FOR POWER SUPPLY TO A RAILWAY VEHICLE, CONVERTER, CONTROL UNIT, AND AIR-CONDITIONING UNIT FOR THE SYSTEM

Abstract: A power supply system for a railway vehicle is provided including a converter able to receive information from a transmission system between a power supply unit and air-conditioning units and to deduce from this information the demand for electrical power from each air-conditioning unit, this demand indicating the electrical power required by that air-conditioning unit to cool and/or dehumidify the air within a car in which it is installed, and the first electrical converter being equipped with a module for adjusting the amplitude and/or frequency of the three-phase voltage in a power supply network in response to the demands transmitted by each air-conditioning unit.

Classifications:

International (IPC 8-9): B60H1/00 B60L1/00 B60L1/04 B60L1/12 B60L3/00 B60L5/34 B60L9/18 B60M3/00 B61D27/00 F25D15/00 H02J11/00 H02J3/00 H02J3/14 H02J3/36 H02M5/00 H02M5/02 H02M7/42 (Advanced/Invention);

B60L9/18 (Advanced/Non-invention); B60L1/00 B60L9/00 B61D27/00 F25D15/00 H02J11/00 H02J3/00 H02J3/36 H02M5/00 H02M5/02 H02M7/42 (Core/Invention)

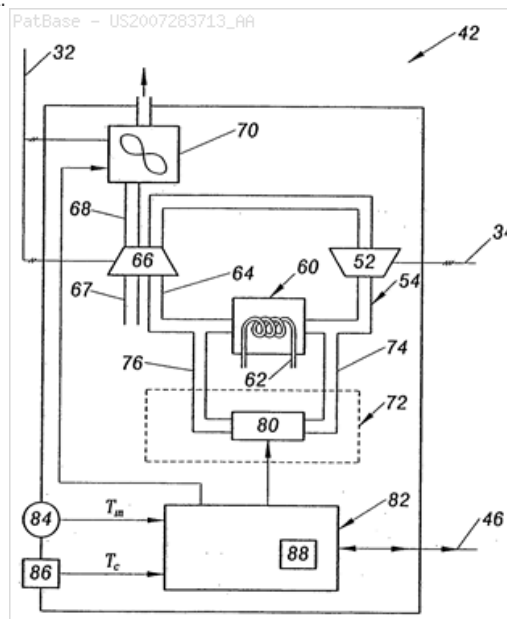
International (IPC 1-7): B60L1/00 B60L9/18 B60M1/00 B61D27/00

CPC: B60L2200/26 B60L1/003 B60L1/04 B60L3/003 B60L2210/20 Y02T10/725 Y10T307/406 Y10T307/50 Y10T307/582 Y10T307/707

European: B60L1/00B B60L1/04 B60L3/00F2 L60L200/26

L60L210/20 Y02T10/72B6

US: 104/88.04 191/29.00R 191/29R 307/10.1 307/31 307/43 307/58 307/82 307/9.1 62/331 62/331P



Family:

Publication number	Publication date	Application number	Application date
AT475552 E	20100815	AT20070290640T	20070516
AU2007202301 AA	20080103	AU20070202301	20070522
BRPI0701706 A	20080219	BR2007PI01706	20070515
CA2585835 AA	20071209	CA20072585835	20070417
CA2585835 C	20140617	CA20072585835	20070417
CL2007001616 A1	20080118	CL20070001616	20070606
CN101085601 A	20071212	CN200710110307	20070608
CN101085601 B	20110706	CN200710110307	20070608
DE602007008014 D1	20100909	DE200760008014T	20070516
EP1864846 A1	20071212	EP20070290640	20070516
EP1864846 B1	20100728	EP20070290640	20070516
EP1864846 B2	20170405	EP20070290640	20070516
ES2348456 T3	20101207	ES20070290640T	20070516
ES2348456 T5	20170817	ES20070290640T	20070516
FR2902049 A1	20071214	FR20060005135	20060609
FR2902049 B1	20080905	FR20060005135	20060609
IN01201CH2007 A	20081128	IN2007CH01201	20070608
JP2007336798 A2	20071227	JP20070153085	20070608
KR101386517 B1	20140417	KR20070056118	20070608
KR20070118043 A	20071213	KR20070056118	20070608
MA29987 B1	20081201	MA20070029979	20070608
MX2007006494 A1	20081208	MX20070006494	20070531
NO20072820 A	20071210	NO20070002820	20070604
NO20072820 L	20071210	NO20070002820	20070604
NO341545 B1	20171204	NO20070002820	20070604
SG138544 A1	20080128	SG20070041452	20070607
TH90187 A	20080620	TH20071002694	20070530
TW200821193 A	20080516	TW20070117977	20070521
TWI383905 B	20130201	TW20070117977	20070521
US2007283713 AA	20071213	US20070810364	20070605
US8013469 BB	20110906	US20070810364	20070605

Priority:

FR20060005135 20060609 CA20072585835 20070417

Probable Assignee: ALSTOM SA

Assignee(s): (std): ALSTOM TRANSP SA SOC FR ; ALSTOM TRANSP SOC FR SA ; ALSTOM TRANSP TECH ; ALSTOM TRANSPORT SA

Assignee(s): MASSELUS JEAN EMMANUEL ; ALSTOM TRANSPORT SOC ANONYME SA ; ALSTOM TRANSPORT SOCIETE FRANCAISE SA ; ALSTOM TRANSPORT TECHNOLOGIES ; ALSTOM TRANSPORT SA SOCIETE FRANCAISE ; ALSTOM SA ; ALSTOM TRANSP SA ; ALSTOM TRANSPORT S A ; ALSTOM TRANSPORT SA SOCIETE ANONYME

Inventor(s): (std): JEAN EMMANUEL MASSELUS ; MASSELUS JEAN EMMANUEL ; MASSELUS JEAN EMMANUEL RAYMOND ;

MASSELUS JEAN EMMANUEL RAYMOND JULIEN

Inventor(s): JEAN EMMANUEL RAYMOND JULIEN MASSELUS

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; ROBIC; TRANSGLOBO; BLOT PHILIPPE
ROBERT EMILE; LAVOIX; SALVA JOAN; CABINET LAVOIX; DAVIDSON DAVIDSON AND KAPPEL LLC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL PL PT
RO SE SI SK TR YU

Title: REFINEMENT OF A SYSTEM FOR SUPPLYING VERY LOW VOLTAGE ENERGY FOR AN ELECTRICAL TRACTION VEHICLE COMPRISING AN ONBOARD STORE OF ENERGY

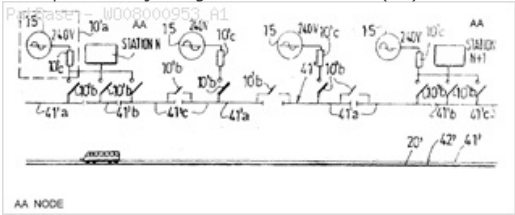
Abstract: The invention concerns a system for supplying electricity for at least one electrical vehicle on a path (20'), characterized in that it comprises an electrical supply means (10'a) made up of an adjoining electrical network (15).

Classifications:

International (IPC 8-9): B60L11/00 B60M3/00 (Advanced/Invention);
B60L11/00 B60M3/00 (Core/Invention)

CPC: B60M3/00

European: B60M3/00



Family:

Publication number	Publication date	Application number	Application date
DE602007035148 D1	20140403	DE200760035148T	20070627
EP2038139 A1	20090325	EP20070803786	20070627
EP2038139 B1	20140219	EP20070803786	20070627
FR2902710 A1	20071228	FR20060005793	20060627
FR2902710 B1	20080919	FR20060005793	20060627
WO08000953 A1	20080103	WO2007FR01077	20070627
WO08000953 B1	20080313	WO2007FR01077	20070627

Priority:

FR20060005793 20060627 EP20070803786 20070627 WO2007FR01077 20070627

Probable Assignee: AFRIAT HERVE

Assignee(s): (std): AFRIAT HERVE

Assignee(s): HERVE AFRIAT

Inventor(s): (std): AFRIAT HERVE

Inventor(s): HERVE AFRIAT

Agent(s): DE SAINT PALAIS ARNAUD MARIE; HERVE AFRIAT

Designated states: AE AG AL AM AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: POWER SUPPLY INSTALLATION FOR A RAILWAY VEHICLE

Abstract: Power supply installation for a railway vehicle (2), the said vehicle (2) being capable of running on a track (5) punctuated with station stops (Sx), in which a device for supplying power via the ground (19) is installed on at least one portion of the track (5) between two successive station stops (Sx) and (Sy), when the energy which the energy storage device (15) is capable of providing to at least one traction motor (11) and to at least one item of auxiliary equipment (12) on a journey Txy between two successive station stops (Sx) and (Sy) is insufficient to comply with a predefined route plan, the said device for supplying power via the ground (19) being capable of supplying the said energy storage device (15), the said at least one traction motor (11) and the said at least one item of auxiliary equipment (12), when the said vehicle (2) is connected to the said device for supplying power via the ground (19).

Classifications:

International (IPC 8-9): B60L11/16 B60L5/42 B60M1/36
B60M3/00 (Advanced/Invention);
B60L5/42 (Advanced/Non-invention);
B60L11/00 B60L5/00 B60M1/00 B60M3/00 (Core/Invention);
B60L5/00 (Core/Non-invention)

CPC: B60L2200/26 B60M1/36 B60L5/42 B60L9/16 B60L11/16
B60L11/1803 B60M3/00 Y02T10/7005

European: B60L11/16 B60L11/18C B60L5/42 B60L9/16 B60M1/36
B60M3/00 L60L200/26 Y02T10/70B Y02T10/70F

[illegible]

Tableau A.

Family:

Publication number	Publication date	Application number	Application date
AU2008270512 AA	20090108	AU20080270512	20080526
AU2008270512 BB	20140109	AU20080270512	20080526
CN101772437 A	20100707	CN200880101584	20080526
CN101772437 B	20130717	CN200880101584	20080526
DK2162313 T3	20170508	DK20080760002T	20080526
EP2162313 A1	20100317	EP20080760002	20080526
EP2162313 B1	20170301	EP20080760002	20080526
ES2626083 T3	20170721	ES20080760002T	20080526
FR2918004 A1	20090102	FR20070004692	20070629
FR2918004 B1	20090911	FR20070004692	20070629
PL2162313 T3	20170831	PL20080760002T	20080526
PT2162313 T	20170522	PT20080760002T	20080526
TR201707298 T4	20170621	TR20170007298T	20080526
WO90003765 A1	20090108	WO2008EP56403	20080526

Priority:

FR20070004692 20070629
WO2008EP56403 20080526

EP20080760002 20080525

EP20080760002 20080526

Probable Assignee: ALSTOM SA

Assignee(s): (std): ALSTOM TRANSP TECH ; ALSTOM TRANSPORT SA ; MOSKOWITZ JEAN PAUL ; CHRISTELLER REINHART

Assignee(s): ALSTOM TRANSPORT SOC ANONYME SA ; ALSTOM TRANSPORT TECHNOLOGIES ; ALSTOM TRANSPORT SA SOCIETE ANONYME ; ALSTOM SA

Inventor(s): (std): CHRISTELLER REINHARD ; CHRISTELLER REINHART ; JEAN PAUL MOSKOWITZ ; MOSKOWITZ JEAN PAUL ; REINHART CHRISTELLER

Inventor(s): REINHARD CHRISTELLER

Agent(s): PHILLIPS ORMONDE FITZPATRICK; LAVOIX; SALVA JOAN; ALSTOM TRANSPORT SA; EBRU GUEMUESBAS

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SYSTEM FOR POWERING AN ELECTRIC VEHICLE INCLUDING AN ON-BOARD POWER STORAGE SYSTEM

Abstract: The invention relates to a system for electrically powering at least one vehicle (30) travelling on a track (20). The power system includes: non-continuous electrical power supply rail elements (41, 41', 42, 42') having two ends, said rail elements being associated with electrical power supply means (10, 10'); at least one electrical power collector (51, 52) installed on board the vehicle (30); at least one on-board electrical power storage means (60); and at least one on-board electrical power supply (80) which is capable of powering the vehicle (30) and is connected to the electrical power collector (51, 52), said on-board electrical power supply (80) also including a computer (85) capable of managing the electrical power supply so as to receive electrical power from electrical power supply means (10, 10') when the power collector (51, 52) is in contact with the power supply rail element (41, 41', 42, 42'). The system includes at least one protection means (40, 50) provided with an electrically conductive detection element (42d, 55) capable of delivering a control signal which interrupts the electrical power supply to the vehicle (30) by the electrical power supply means (10, 10') when part of the power collector means (52) leaves one end of the power supply rail element (42, 42') such as to prevent the formation of electric arcs between the rail element (42, 42') and the power collector means (52). The system includes non-powered rail elements (43, 43', 44, 44') located between the power supply rail elements (41, 41', 42, 42') and defining unpowered areas (44, 44') having a length greater than that of the current collector means (52).

Classifications:

International (IPC 8-9): B60L11/18 B60L9/00 B60M1/02

B60M3/00 (Advanced/Invention);

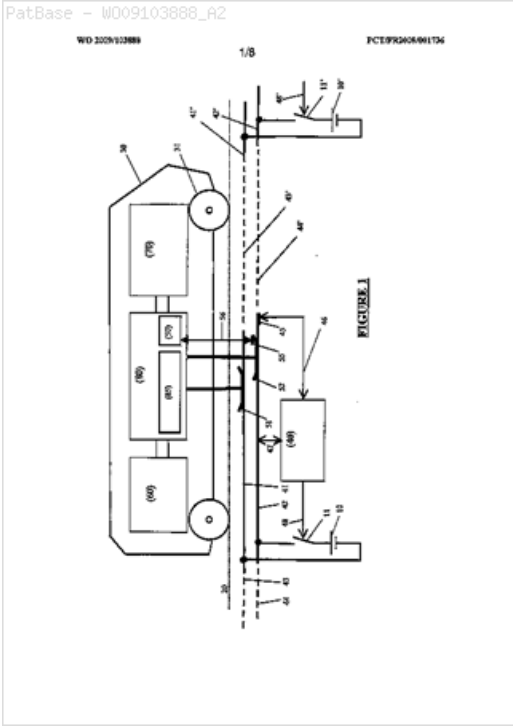
B60L11/18 B60L9/00 B60M1/00 B60M3/00 (Core/Invention)

CPC: B60M1/10 B60L5/42 B60L11/005 B60L2200/30 B60M1/36

Y02T10/7022

European: B60L11/00B2 B60L5/42 B60M1/36 L60L200/30

Y02T10/70D



Family:

Publication number	Publication date	Application number	Application date
EP2231438 A2	20100929	EP20080872555	20081212
FR2924990 A1	20090619	FR20070008664	20071212
FR2924990 B1	20180622	FR20070008664	20071212
WO09103888 A2	20090827	WO2008FR01736	20081212
WO09103888 A3	20091217	WO2008FR01736	20081212

Priority:

FR20070008664 20071212 WO2008FR01736 20081212

Probable Assignee: HERVE BENJAMIN AFRIAT

Assignee(s): (std): AFRIAT HERVE ; AFRIAT HERVE BENJAMIN

Assignee(s): HERVE BENJAMIN AFRIAT

Inventor(s): (std): AFRIAT HERVE ; AFRIAT HERVE BENJAMIN

Inventor(s): HERVE BENJAMIN AFRIAT

Agent(s): NOVAGRAAF TECHNOLOGIES; HERVE AFRIAT; NOVAGRAAF IP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: GROUND-LEVEL POWER SUPPLY CIRCUIT, ESPECIALLY FOR A TRAMWAY

Abstract: The ground-level power supply circuit includes two running ways each having a power supply track which includes a series of conducting track segments separated by insulated joints, and a power supply line. The power supply line is common to the two power supply tracks, and the power supply circuit includes switching devices for independently and selectively connecting the power supply track segments to the common power supply line.

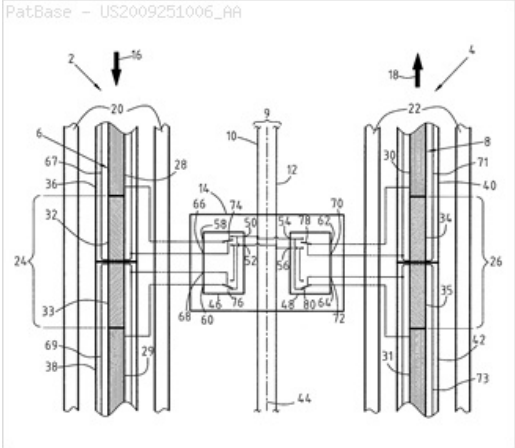
Classifications:

International (IPC 8-9): B60L1/00 B60L5/42 B60M1/02 B60M1/30 B60M1/34 B60M1/36 B60M3/04 H02J4/00 (Advanced/Invention); B60L5/00 B60M1/00 B60M3/00 H02J4/00 (Core/Invention)

CPC: B60L2200/26 B60L5/42 B60M1/36 B60M3/04 Y10T307/642

European: B60L5/42 B60M1/36 B60M3/04 L60L200/26

US: 307/69 307/69P 307/9.1



Family:

Publication number	Publication date	Application number	Application date
AU2009200431 AA	20090820	AU20090200431	20090205
AU2009200431 BB	20140306	AU20090200431	20090205
BRPI0900257 A2	20090929	BR2009PI00257	20090206
DK2088025 T3	20180702	DK20090152157T	20090205
EP2088025 A1	20090812	EP20090152157	20090205
EP2088025 B1	20180404	EP20090152157	20090205
ES2675378 T3	20180710	ES20090152157T	20090205
FR2927025 A1	20090807	FR20080050750	20080206
FR2927025 B1	20100326	FR20080050750	20080206
JP2009184667 A2	20090820	JP20090026134	20090206
JP5439646 B2	20140312	JP20090026134	20090206
SG154425 A1	20090828	SG20090008368	20090205
US2009251006 AA	20091008	US20090367223	20090206
US7932625 BB	20110426	US20090367223	20090206

Priority:

FR20080050750 20080206

Probable Assignee: ALSTOM SA

Assignee(s): (std): ALSTOM TRANSP TECH ; ALSTOM TRANSP TECHNOLOGIES ; ALSTOM TRANSPORT SA ; ALSTON TRANSP SA

Assignee(s): COVIDIEN LP ; ALSTOM TRANSPORT SOC ANONYME SA ; ALSTOM TRANSPORT TECHNOLOGIES ; ALSTOM TRANSPORT SA SOCIETE ANONYME ; ALSTON TRANSPORT SA ; ALSTOM SA

Inventor(s): (std): VIENNEY JEAN ; VIENNEY JEAN PIERRE ; VIENNEY PIERRE JEAN

Inventor(s): PIERRE JEAN VIENNEY ; JEAN PIERRE VIENNEY ; JEAN VIENNEY

Agent(s): DAVIES COLLISON CAVE; DAVIES COLLISON CAVE PTY LTD; BLOT PHILIPPE ROBERT EMILE; LAVOIX; SALVA JOAN; CABINET LAVOIX; DAVIDSON DAVIDSON AND KAPPEL LLC

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO RS SE SI SK TR

Title: SYSTEM ADAPTED FOR ONE OR MORE VEHICLES, WHICH MAY BE DRIVEN FORWARD ELECTRICALLY

Abstract: The present invention has its application to a system for driving an electric and by one or more batteries powered vehicle along a roadway, comprising "a" one or more vehicles, which may be driven by an individual electric motor or motors and where in the respective vehicles exhibit a power-controlling control circuit for creating the necessary power and/or speed control and wherein required power i.a. can be provided primarily by a chargeable can be provided primarily by a chargeable battery set associated with the vehicle and "b" a plurality of road sections road portions divisible for the roadway, each being allotted one or more vehicle external electric stations for charging the battery set thereby and/or for supplying necessary power and energy for driving the vehicle. The underneath side of the mentioned vehicle is provided with a contact means displaceably positioned up and down and sideways, counted in the direction of transportation. Said roadway and its road sections or portions exhibits an elongated track or groove, each road section is supporting two rails in the groove and disposed under the driving path of the road section or portion. The rails being supplied with current and voltage. Said contact means is coordinated with a control equipment for creating simple adaptation of the contact means for registering the contact means for mechanical and electrical contact against said two rails.

Classifications:

International (IPC 8-9): B60L B60L11/12 B60L11/18 B60L5/38 B60L5/40 B60L9/16 B60M1/30 B60M1/34 B60M1/36 B60M3/04 H02J7/00 (Advanced/Invention);

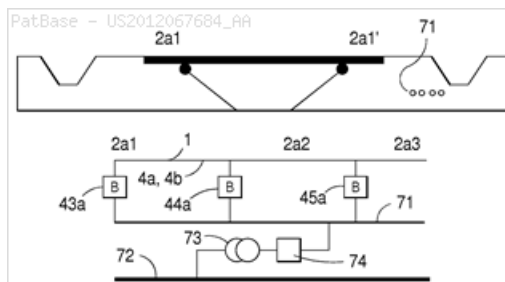
B60L5/38 B60M1/36 H01R41/02 (Advanced/Non-invention);

B60L (Subclass/Invention)

CPC: B60L11/1816 B60M1/36 B60L5/40 B60L9/16 B60L11/12 B60L11/1801 B60L2200/26 B60M1/34 B60M3/04 H01R41/02 Y02T10/7005 Y02T10/7077 B60L5/38 Y02T10/646

European: B60L5/40 B60M1/34 B60M3/04 L60L200/26 T01R41/02

US: 104/140 191/22.00CP 191/22C 191/48 191/48S



Family:

Publication number	Publication date	Application number	Application date
CN102498011 A	20120613	CN201080024934	20100602
CN102498011 B	20140723	CN201080024934	20100602
EP2437959 A1	20120411	EP20100783661	20100602
EP2437959 A4	20170503	EP20100783661	20100602
IL216715 A0	20120229	IL20100216715	20100602
IL216715 A1	20160421	IL20100216715	20100602
IN02437MN2011 A	20120330	IN2011MN02437	20111118
KR20120027455 A	20120321	KR20127000084	20100602
SE200900759 A1	20101204	SE20090000759	20090603
SE535136 C2	20120424	SE20090000759	20090603
US2012067684 AA	20120322	US20100322305	20100602
US8794410 BB	20140805	US20100322305	20100602
WO10140964 A1	20101209	WO2010SE50602	20100602

Priority:

SE20090000759 20090603 WO2010SE50602 20100602

Probable Assignee: ELWAYS AB

Assignee(s): (std): ASPLUND GUNNAR ; ELWAYS AB

Assignee(s): ELWAYS AB ASPLUND GUNNAR

Inventor(s): (std): ASPLUND GUNNAR ; GUNNAR ASPLUND

Agent(s): MELIN GRANBERG LINDA; REINHOLD COHN AND PARTNERS; MORGAN LEWIS AND BOCKIUS LLP; GROTH AND CO KB

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: POWER-RECHARGING DEVICE FOR AN ITEM OF POWER-STORAGE EQUIPMENT ON BOARD A VEHICLE DISPOSITIF DE RECHARGE EN ENERGIE POUR UN EQUIPEMENT DE STOCKAGE D'ENERGIE EMBARQUE

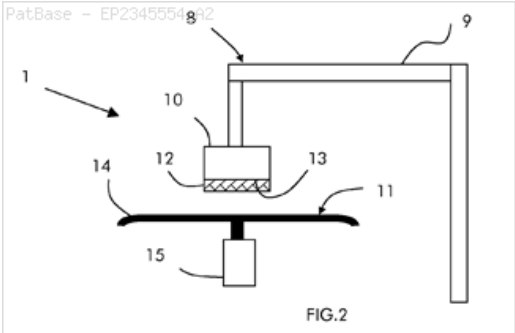
Abstract: Source: EP2345554A3 [FR] La presente invention porte sur un dispositif de recharge en energie (1) pour un equipement de stockage d'energie embarque a bord d'un vehicule, comprenant au moins un dispositif d'alimentation en energie (8) exterieur au vehicule, au moins un collecteur d'energie (11) apte a etre fixe sur le vehicule, le dispositif d'alimentation en energie (8) et le collecteur d'energie (11) presentant chacun au moins une surface apte a etre mise en contact l'une avec l'autre. Au moins un materiau conducteur souple (12) est interpose entre les deux surfaces pour former un contact surfacique permettant le transfert d'energie entre le collecteur d'energie (11) et le dispositif d'alimentation en energie (8) par la surface dudit materiau fibreux metallique souple (12).

Classifications:

International (IPC 8-9): A63H18/12 B60L11/18 B60L5/00 B60L5/42 B60M1/36 (Advanced/Invention)

CPC: B60L11/1816 B60L2200/30 B60L5/42 B60L11/18 Y02T10/7005 B60L11/1837 Y02T90/128 Y02T90/14 B60L2200/26 Y02T90/121 Y02T10/7072

European: B60L11/18 B60L11/18L7F B60L5/42 Y02T10/70 Y02T10/70B Y02T10/70J4 Y02T90/12L Y02T90/14



Family:

Publication number	Publication date	Application number	Application date
CN102101439 A	20110622	CN201010598162	20101216
CN102101439 B	20160309	CN201010598162	20101216
EP2345554 A2	20110720	EP20100195379	20101216
EP2345554 A3	20140514	EP20100195379	20101216
FR2953776 A1	20110617	FR20090059048	20091216
FR2953776 B1	20120120	FR20090059048	20091216
FR2966397 A1	20120427	FR20100058671	20101022

Priority:

FR20090059048 20091216 FR20100058671 20101022

Probable Assignee: ALSTOM SA

Assignee(s): (std): ALSTOM SA ; ALSTOM TRANSPORT SA

Inventor(s): (std): CARON JEAN PAUL ; CHANTAL OLIVIER ; FREDERIC PORCHER ; HOURS JEAN LUC ; HOURS JEAN LUC ; ILIOZER MARC ; JEAN LUC HOURS ; JEAN PAUL CARON ; JEAN PAUL MOSKOWITZ ; MARC ILIOZER ; MOSKOWITZ JEAN PAUL ; MOSKOWITZ JEAN PAUL ; OLIVIER CHANTAL ; PORCHER FREDERIC

Inventor(s): JEAN PAUL MOSKOWITZ ; JEAN LUC HOURS

Agent(s): RENOUS CHAN VERONIQUE; ALSTOM TRANSPORT SA

Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Title: SYSTEM ADAPTED FOR ONE OR MORE ELECTRICALLY PROPELLABLE VEHICLES (A SNOW PLOUGH ARRANGEMENT)

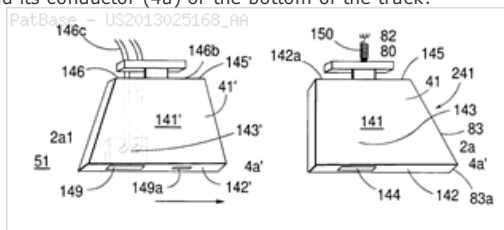
Abstract: The present invention comprises a snow plough arrangement (41, 14') adapted to a vehicle-related system for driving an electrically driven vehicle (1) along a stretch of road, said adapted system (5) comprising: a one or more over an individual electric motor (5) or motors drivable vehicles (1), and b a plurality of road sections (2a1, 2a) subdividing the stretch of road, each road section being allotted a track (51). Said snow plough arrangement (241) is in the form of a yieldable means (80) cleansing a track (51) of loose obstacles, such as snow, ice, water, sand, gravel and the like, and being foldable away, by rotatably fastened in its upper area (145) over a horizontally disposed axis of rotation (82) so that the cleansing means (80) and said axis of rotation (82) are movably fastened in vertical direction towards and away from an allotted chassis over a resilient means (150). The arrangement (241) and/or said means (80) are, in a direction disposed in the direction of motion, provided with a forwardly directed edge portion (83), said edge portion being allotted a point (83a), which may be connected to or adjacent arranged to the track (51) and its conductor (4a) or the bottom of the track.

Classifications:

International (IPC 8-9): B60L11/18 B60L5/40 B60M1/30 B60M1/34 B60M1/36 E01H5/06 E01H8/12 H01R41/00 (Advanced/Invention); B60L11/18 B60M1/34 E01H5/06 H01R41/02 (Advanced/Non-invention) **CPC:** H01R41/00 B60M1/36 B60L5/40 B60L11/1801 B60L2200/26 B60M1/34 E01H8/12 H01R41/02 Y02T10/70 Y02T10/7005 Y02A30/38 Y02T10/646

European: B60L5/40 B60M1/34 B60M1/36 E01H8/12 L60L200/26 T01R41/02

US: 191/10 191/22C 191/48 37/207



Family:

Publication number	Publication date	Application number	Application date
CN102858583 A	20130102	CN201180017561	20110331
CN102858583 B	20151125	CN201180017561	20110331
DE602011048246 D1	20180607	DE201160048246T	20110331
EP2552733 A1	20130206	EP20110763163	20110331
EP2552733 A4	20160427	EP20110763163	20110331
EP2552733 B1	20180509	EP20110763163	20110331
SE201000328 A1	20110726	SE20100000328	20100401
SE534362 C2	20110726	SE20100000328	20100401
US2013025168 AA	20130131	US20110638547	20110331
US8875857 BB	20141104	US20110638547	20110331
WO11123051 A1	20111006	WO2011SE50382	20110331

Priority:

SE20100000328 20100401 EP20110763163 20110331 WO2011SE50382 20110331

Probable Assignee: ELWAYS AB

Assignee(s): (std): ASPLUND GUNNAR ; ELWAYS AB

Inventor(s): (std): ASPLUND GUNNA ; ASPLUND GUNNAR ; ASPLUND LARS GUNNAR

Inventor(s): LARS GUNNAR ASPLUND

Agent(s): LOEFGREN HAKAN BENGT ALPO; GROTH AND CO KB; RAYMOND R; ADAMS AND REESE LLP

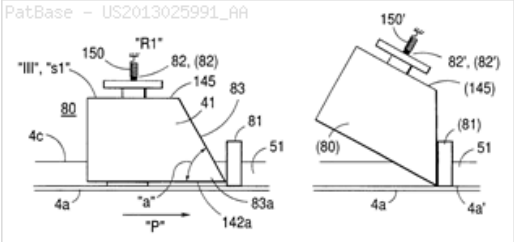
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SYSTEM ADAPTED FOR ONE OR MORE ELECTRICALLY PROPELLABLE VEHICLES (CLEANSING MEANS)

Abstract: The present invention comprises a cleaning and/or cleansing means (41) related to a vehicle-related system for driving an electrically and by one or more batteries drivable vehicle (1) along a stretch of roadway, said system (S) is comprising: a one or more over an individual electric motor (5) or motors drivable vehicles (1), with the respective vehicles (1) exhibiting a control circuit (R1) controlling the power for creating a necessary power or speed control and wherein a necessary power can be provided i.a. primarily by a set of rechargeable batteries B allotted to the vehicle and b a plurality of road sections or portions (2a1, 2a) subdividing the stretch of the roadway, each roadway portion being allotted a track (51) and one or more electric stations (s1, III) so as to thereby charge the batteries (B) of the vehicle and/or supply necessary power and energy for driving the vehicle (1). A means (80) cleansing the track (51) from loose objects, such as sand, gravel, water, snow, and the like, and/or displaceable by solid obstacles (81), is rotatably fastened in its upper area (145) by means of a horizontally oriented axis (82) of rotation, so that the cleansing means (80) and said axis of rotation (82) are movably attached in vertical direction towards and away from a chassis, allotted to the vehicle, by a spring means (150). The means (80) is disposed with a forwardly directed edge portion (83) oriented in the direction of travel (P), said edge portion being allotted a point (83a), connected to or closely related to a track (51) and its contact surface (4a').

Classifications:

International (IPC 8-9): B60L B60L11/18 B60L5/38 B60L5/40 B60M1/30 B60M1/34 B60M1/36 B60M7/00 E01H1/08 E01H8/12 H01R41/00 (Advanced/Invention); B60L11/18 B60L5/38 E01H1/08 (Advanced/Non-invention); B60L B60M E01H (Subclass/Invention)
CPC: E01H8/125 B60M1/36 B60L5/40 B60L11/1809 B60L2200/26 B60M7/003 E01H8/12 Y02T10/646 Y02T10/7005 Y02T10/7088 Y02T90/14 Y02T10/7072 Y02A30/38
European: B60L11/18L B60L5/40 B60M1/36 B60M7/00B E01H8/12 L60L200/26 Y02T10/64D8 Y02T10/70B Y02T10/70J4 Y02T90/14
US: 191/10 191/22C



Family:

Publication number	Publication date	Application number	Application date
CN102834282 A	20121219	CN201180017681	20110331
CN102834282 B	20160120	CN201180017681	20110331
DE602011032718 D1	20170105	DE201160032718T	20110331
DK2552730 T3	20170227	DK20110763160T	20110331
EP2552730 A1	20130206	EP20110763160	20110331
EP2552730 A4	20150128	EP20110763160	20110331
EP2552730 B1	20161123	EP20110763160	20110331
IL222124 A0	20121129	IL20110222124	20110331
IL222124 A1	20170629	IL20110222124	20110331
SE201000325 A1	20110913	SE20100000325	20100401
SE534508 C2	20110913	SE20100000325	20100401
US2013025991 AA	20130131	US20110638605	20110331
US8851252 BB	20141007	US20110638605	20110331
WO11123048 A1	20111006	WO2011SE50379	20110331

Priority:

SE20100000325 20100401 EP20110763160 20110331 WO2011SE50379 20110331

Probable Assignee: ELWAYS AB

Assignee(s): (std): ASPLUND GUNNAR ; ELWAYS AB

Inventor(s): (std): ASPLUND GUNNAR ; ASPLUND LARS GUNNAR

Inventor(s): LARS GUNNAR ASPLUND

Agent(s): LOEFGREN HAKAN BENGT ALPO; GROTH AND CO KB; SANFORD TCOLB AND CO; RAYMOND R; ADAMS AND REESE LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SYSTEM ADAPTED FOR ONE OR MORE ELECTRICALLY PROPELLABLE VEHICLES (BATTERY CHARGING ARRANGEMENT)

Abstract: This invention comprises a vehicle-related system (S) adapted for driving an electrically and by one or more batteries driven vehicle (1, 5) along a distance of a road-way, comprising; a one or more vehicles (1) driven by an individual electric motor or motors (5), wherein the respective vehicles (1) exhibit a control circuit (R2) for creating necessary power and/or speed control and wherein a required power can i.a. be supplied primarily by a battery set up (II, B) allotted to the vehicle and being chargeable, and b a plurality of road sections or portions (2a1) subdividing the stretch of a roadway (2), each one allotted one or more electric stations (III, s1) in the form of an external source of power for thereof charging the battery set up (II,B) and/or supplying the necessary power and energy for driving the vehicle (1). A circuit (151), determining instantaneous power content of the battery set up, is adapted, in determining a predetermined level of power lying below a maximized power content, and in an occurring feed voltage for the external source of power (III, s1) to connect the external source of power over a switch (43a) allotted to the source of power for offering charging of the battery set and/or for offering power and energy feeding of said motor (5) over said circuit (R1) controlling the power.

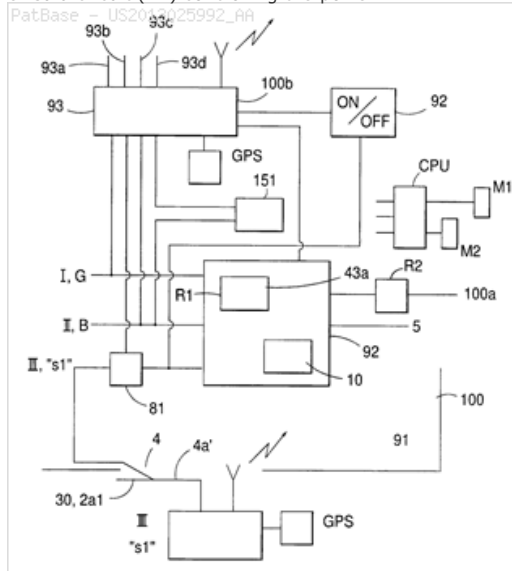
Classifications:

International (IPC 8-9): A63H19/30 B60L11/18 B60L5/38 B60L5/42 B60M1/36 B60M7/00 (Advanced/Invention); B60M1/36 B60M7/00 (Advanced/Non-invention)

CPC: B60L5/38 B60L11/1801 B60L11/1816 B60L11/1851 B60L5/42 B60L11/1809 B60L2200/26 B60M1/36 B60M7/003 Y02T10/646 Y02T10/7005 Y02T10/7088 Y02T90/14 Y02T10/7072

European: B60L11/18L B60L5/42 B60M1/36 B60M7/00B L60L200/26 Y02T10/64D8 Y02T10/70B Y02T10/70J4 Y02T90/14

US: 104/243 191/22C 191/29R



Family:

Publication number	Publication date	Application number	Application date
CN103025564 A	20130403	CN201180017577	20110331
CN103025564 B	20160224	CN201180017577	20110331
DE602011043976 D1	20180111	DE201160043976T	20110331
DK2552739 T3	20180226	DK20110763157T	20110331
EP2552739 A1	20130206	EP20110763157	20110331
EP2552739 A4	20161012	EP20110763157	20110331
EP2552739 B1	20171206	EP20110763157	20110331
SE201000321 A1	20111002	SE20100000321	20100401
SE535869 C2	20130122	SE20100000321	20100401
US2013025992 AA	20130131	US20110638829	20110331
US8851253 BB	20141007	US20110638829	20110331
WO11123045 A1	20111006	WO2011SE50376	20110331

Priority:

SE20100000321 20100401 EP20110763157 20110331 WO2011SE50376 20110331

Probable Assignee: ELWAYS AB

Assignee(s): (std): ASPLUND GUNNAR ; ELWAYS AB

Inventor(s): (std): ASPLUND GUNNAR ; ASPLUND LARS GUNNAR

Inventor(s): LARS GUNNAR ASPLUND

Agent(s): LOEFGREN HAKAN BENGT ALPO; GROTH AND CO KB; RAYMOND R; ADAMS AND REESE LLP

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: OVERLOAD RESTRICTION IN SYSTEM FOR ELECTRICAL VEHICLES

Abstract: This invention comprises an arrangement for overload restriction, adapted to cooperate with a system (S) for an electric and by one or more batteries or a battery set driven vehicle (1) to be driven along a stretch of roadway, comprising a one or more over an individual electric motor or motors drivable vehicles (1), with said respective vehicles (1) exhibiting a control circuit (100, R1) controlling the power for creating the necessary power and/or speed control, wherein a necessary power i.a. can be supplied primarily by a chargeable battery set (B) allotted to the vehicle, and b a plurality of a roadway sections (2a1) sub-dividing the stretch of road, each one allotted to one or more electric stations (s1, III) for thereby charging the battery set (II; B) of the vehicle and/or supplying the necessary power and energy for driving the vehicle. The invention indicates that to said vehicles external source of power (III; 71; 42) is connected, at least to a chosen maximized power outlet, a withdrawn power limiting circuit (74a) and that this circuit (74a) is adapted, over a switch (44a) to supply the power to said conductor (4a, 4b) in its roadway section (2a2), during the time periods when the vehicle (1) passes said roadway section (2a2).

Classifications:**International (IPC 8-9):** A63H19/30 B60L11/18 B60L3/00

B60L9/00 (Advanced/Invention)

CPC: B60L11/1801 Y02E60/721 Y02T90/169 Y04S10/126 Y04S30/14

B60L9/00 B60L3/0046 B60L3/0092 B60L11/123 B60L11/1809

B60L11/1824 B60L11/1838 B60L11/1844 B60L11/1846 B60L15/20

Y02T10/6217 Y02T10/646 Y02T10/7005 Y02T10/7077 Y02T90/128

Y02T90/14 Y02T90/163 B60L2200/26 Y02T10/7275 Y02T90/121

Y02T10/645 Y02T10/7072 Y02T10/72

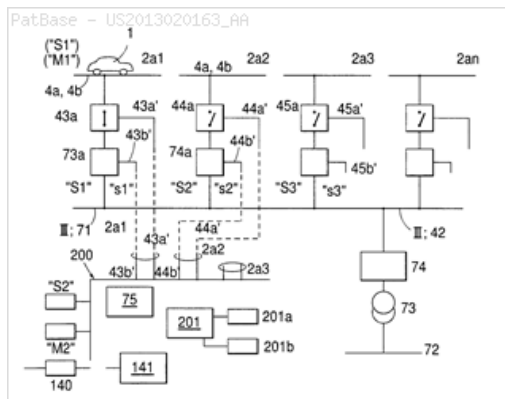
European: B60L11/12D B60L11/18L B60L11/18L7 B60L11/18L7J

B60L11/18L7J6 B60L11/18L7J8 B60L15/20 B60L3/00F6 B60L3/00R

B60L9/00 L60L200/26 Y02E40/72 Y02T10/62F2 Y02T10/64D8

Y02T10/70B Y02T10/70J2 Y02T10/70J4 Y02T90/12L Y02T90/14

Y02T90/16D

US: 104/243 191/22C 191/29R**Family:**

Publication number	Publication date	Application number	Application date
CN102834290 A	20121219	CN201180017560	20110331
CN102834290 B	20150520	CN201180017560	20110331
DE602011043799 D1	20180104	DE201160043799T	20110331
DK2552740 T3	20180205	DK20110763166T	20110331
EP2552740 A1	20130206	EP20110763166	20110331
EP2552740 A4	20161005	EP20110763166	20110331
EP2552740 B1	20171129	EP20110763166	20110331
SE201000331 A1	20111002	SE20100000331	20100401
SE536043 C2	20130416	SE20100000331	20100401
US2013020163 AA	20130124	US20110638366	20110331
US8776969 BB	20140715	US20110638366	20110331
WO11123054 A1	20111006	WO2011SE50385	20110331

Priority:

SE20100000331 20100401

EP20110763166 20110331

WO2011SE50385 20110331

SE20100000331 20120401

Probable Assignee: ELWAYS AB**Assignee(s):** (std): ASPLUND GUNNAR ; ELWAYS AB**Inventor(s):** (std): ASPLUND GUNNAR ; ASPLUND LARS GUNNAR**Inventor(s):** LARS GUNNAR ASPLUND**Agent(s):** LOEFGREN HAKAN BENGT ALPO; GROTH AND CO KB; ADAM AND REESE LLP; RAYMOND R

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT RO RS RU SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: SWITCHED BATTERY AND CAPACITOR ARRANGEMENT AND RELATED OPERATING METHODS

Abstract: Systems and methods are provided for regulating the state of charge of a battery. An exemplary electrical system includes a fuel cell coupled to a bus and a battery coupled to the bus via a switching arrangement coupled to a capacitor. An exemplary method for operating the electrical system involves operating the switching arrangement such that a voltage of the battery is substantially equal to a voltage of the fuel cell when a state of charge of the battery is greater than a lower threshold value and less than an upper threshold value, and operating the switching arrangement to couple the capacitor electrically in series between the battery and the bus when the state of charge of the battery is not between the lower threshold value and the upper threshold value.

Classifications:

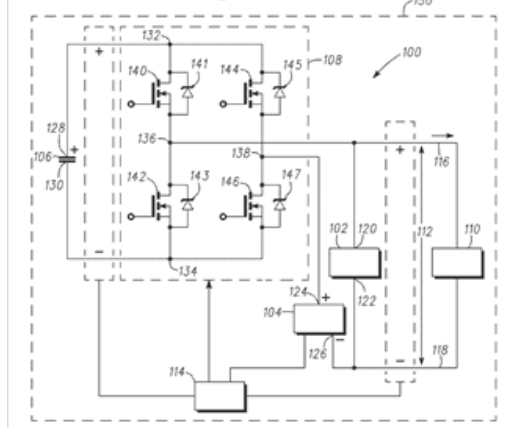
International (IPC 8-9): B60L1/00 B60L11/00 B60L11/18 B60L7/14 B60R16/03 G05F5/00 H02J1/14 H02J17/00 H02J7/00 H02J7/34 (Advanced/Invention)

CPC: B60L11/1861 B60L7/14 B60L11/005 B60L11/1803 B60L11/1887 B60L2240/547 B60L2240/549 H02J7/345 Y02T10/7022 Y02T10/7044 Y02T10/705 Y02T90/34 Y10T307/313 Y10T307/336 Y10T307/406 Y10T307/461 Y10T307/74 Y10T307/747 Y10T307/76 Y10T307/819 Y10T307/826 Y10T307/937 Y10T307/944 G05F5/00

European: B60L11/00B2 B60L11/18C B60L11/18M28 B60L11/18R4 B60L7/14 L60L240/547 L60L240/549 Y02T10/70D Y02T10/70H2 Y02T10/70H4 Y02T90/34

US: 307/10.1 307/107 307/108 307/112 307/113 307/115 307/124 307/125 307/139 307/140 307/19 307/22 307/31 307/38 307/9.1 307/9.100P 320/103 320/104 320/138 320/166 320/167 323/225 323/271 323/272 363/131 363/132 363/95 363/97 363/98

PatBase - US2012133203_AA

**Family:**

Publication number	Publication date	Application number	Application date
CN102431464 A	20120502	CN201110305360	20110824
CN102431464 B	20141022	CN201110305360	20110824
DE102011081182 A1	20130207	DE201110081182	20110818
DE102011081182 B4	20161229	DE201110081182	20110818
US2012133203 AA	20120531	US20110204547	20110805
US2015165925 AA	20150618	US20150614147	20150204
US8981589 BB	20150317	US20110204547	20110805

Priority:

US20100376605P 20100824 US20110204547 20110805 US20150614147 20150204

Probable Assignee: GM GLOBAL TECHNOLOGY OPERATIONS LLC

Assignee(s): (std): GM GLOBAL TECH OPERATIONS INC ; GM GLOBAL TECH OPERATIONS LLC ; KILIAN PETER ; LIENKAMP SEBASTIAN ; RAISER STEPHEN

Assignee(s): WILMINGTON TRUST CO ; GM GLOBAL TECHNOLOGY OPERATIONS ; GM GLOBAL TECHNOLOGY OPERATIONS LLC

Inventor(s): (std): KILIAN PETER ; LIENKAMP SEBASTIAN ; RAISER STEPHEN ; STEPHEN RAISER ; SEBASTIAN LIENKAMP ; PETER KILIAN

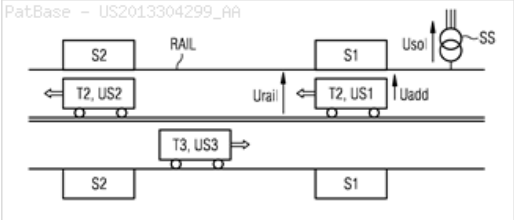
Agent(s): INGRASSIA FISHER AND LORENZ PC

Title: METHOD OF ADJUSTING THE ELECTRICAL SUPPLY VOLTAGE FOR THE OPERATION OF AT LEAST ONE ELECTRICALLY POWERED VEHICLE

Abstract: A vehicle is supplied by a first electrical energy storage unit on board the vehicle, and a ground electrical network providing an energy supply by application of a supply voltage through electrical distribution. The first energy storage unit is controllable under a generator regime or a receiver regime. The supply voltage is adjusted, in the generator regime, by applying an algebraically additive supply voltage originating from the first electrical storage unit to the distribution, to maintain a supply voltage above a minimum threshold. In the receiver regime, if a surplus of supply voltage originating at least partially from a second storage unit in the generator regime is detected above the minimum threshold, this surplus is channeled energetically to the first energy storage unit of the vehicle if it is required for operating the vehicle and enables maintaining the supply voltage below a maximum threshold and above the minimum threshold.

Classifications:

International (IPC 8-9): B60L11/18 B60L9/00 B60W10/26
H02J7/34 (Advanced/Invention)
CPC: H02J7/34 B60W10/26 Y02T90/121 B60L9/00 B60L11/1801
B60L11/1842 B60L11/1844 B60L2200/26 Y02E60/721 Y02T10/7005
Y02T10/7088 Y02T90/128 Y02T90/14 Y02T90/163 Y04S10/126
Y10S903/93 Y10S903/905 Y10T307/305 Y10T307/50 Y10T307/593
Y10T307/615 Y10T307/658 Y02T10/7072
European: B60L9/00
US: 307/18 307/43 307/60 307/64 307/72 701/101 701/112 701/22
903/905 903/930



Family:

Publication number	Publication date	Application number	Application date
BR112013015730 A2	20180515	BR20131115730	20110915
CA2822702 AA	20130621	CA20112822702	20110915
DE602011026730 D1	20160630	DE201160026730T	20110915
EP2656476 A2	20131030	EP20110757323	20110915
EP2656476 B1	20160518	EP20110757323	20110915
ES2587605 T3	20161025	ES20110757323T	20110915
PL2656476 T3	20161130	PL20110757323T	20110915
TR201608510 T4	20160721	TR20160008510T	20110915
US2013304299 AA	20131114	US20110997354	20110915
US9043065 BB	20150526	US20110997354	20110915
WO12084281 A2	20120628	WO2011EP66026	20110915
WO12084281 A3	20130627	WO2011EP66026	20110915

Priority:

EP20100290676 20101223 EP20110757323 20110915 WO2011EP66026 20110915

Probable Assignee: SIEMENS SAS

Assignee(s): (std): BAVARD XAVIER ; BEVARD XAVIER ; CHATTOT ERIC ; SIEMENS S A S ; VERHILLE JEAN NOEL ; SIEMENS SAS

Inventor(s): (std): ERIC CHATTOT ; JEAN NOEL VERHILLE ; XAVIER BAVARD ; VERHILLE JEAN NOEL ; CHATTOT ERIC ; BEVARD XAVIER ; BAVARD XAVIER

Agent(s): SMART AND BIGGAR; MAIER DANIEL OLIVER DIPL ING UNIV; FISCHER MICHAEL; MAIER DANIEL OLIVER; CARVAJAL Y ISABEL; HALISE BETUEL ATABAY VARLIK; LAURENCE A; RALPH E; WERNER H

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD OF ADJUSTING POWER ABSORBED BY AT LEAST ONE ELECTRICALLY POWERED VEHICLE

Abstract: A method of adjusting the power absorbed by at least one vehicle powered by at least one electrical energy storage unit and one electrical network on the ground providing the vehicle with at least one inrush current necessary for starting up the vehicle, includes adjusting the inrush current, before and at least during the starting-up of the vehicle, to a constant mean value and keeping variations of the inrush current around the mean value to a minimum by controlling at least one variable supply of compensating energy from the energy storage unit of the vehicle. A computer for implementing the method is also provided.

Classifications:

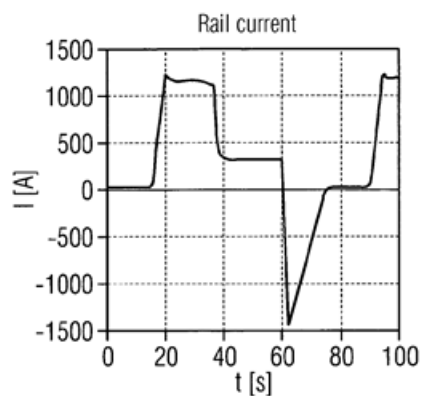
International (IPC 8-9): B60K1/04 B60L11/00 B60L11/18 B60L3/00 B60L7/18 B60L9/00 H02H9/02 H02J1/14 H02J3/28 H02J3/32 H02J7/34 (Advanced/Invention)

CPC: B60L7/18 B60L9/005 B60L11/005 B60L11/1816 B60L11/1842 B60L11/1844 B60L11/1846 B60L2200/18 B60L2200/26 B60L2240/12 B60L2260/32 H02J1/14 Y02E60/721 Y02T10/7005 Y02T10/7022 Y02T10/7072 Y02T10/92 Y02T90/121 Y02T90/128 Y02T90/14 Y02T90/163 Y02T90/169 Y04S10/126 Y04S30/14 B60L9/00 H02J3/28 H02J3/32 H02J7/34

European: B60L9/00B H02J1/14 H02J3/28 H02J3/32 H02J7/34

US: 307/9.1

PatBase - US2013270904_AA



Family:

Publication number	Publication date	Application number	Application date
CA2822703 AA	20130621	CA20112822703	20110915
CN103328252 A	20130925	CN201180060235	20110915
CN103328252 B	20161019	CN201180060235	20110915
DE602011026731 D1	20160630	DE201160026731T	20110915
EP2655121 A2	20131030	EP20110757326	20110915
EP2655121 B1	20160518	EP20110757326	20110915
ES2587597 T3	20161025	ES20110757326T	20110915
IN05157DN2013 A	20141128	IN2013DN05157	20130610
KR20140005187 A	20140114	KR20137016097	20110915
PL2655121 T3	20161130	PL20110757326T	20110915
TR201608898 T4	20160721	TR20160008898T	20110915
US2013270904 AA	20131017	US20110997358	20110915
US9487091 BB	20161108	US20110997358	20110915
WO12084282 A2	20120628	WO2011EP66037	20110915
WO12084282 A3	20130228	WO2011EP66037	20110915

Priority:

EP20100290675 20101223 EP20110757326 20110915 WO2011EP66037 20110915

Probable Assignee: SIEMENS SAS

Assignee(s): (std): BAVARD XAVIER ; CHATTOT ERIC ; EL FASSI SAID ; SIEMENS LTDA ; VERHILLE JEAN NOEL ; SIEMENS S A S ; SIEMENS SAS

Inventor(s): (std): VERHILLE JEAN NOEL ; EL FASSI SAID ; CHATTOT ERIC ; BAVARD XAVIER

Inventor(s): ERIC CHATTOT

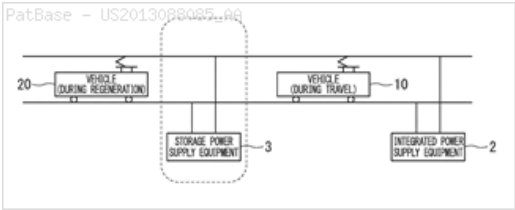
Agent(s): SMART AND BIGGAR; MAIER DANIEL OLIVER DIPL ING UNIV; FISCHER MICHAEL; MAIER DANIEL OLIVER; CARVAJAL Y ISABEL; HALISE BETUEL ATABAY VARLIK; LAURENCE GREENBERG WERNER STEMER; RALPH

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: ANALYSIS DEVICE OF CATENARY-BASED TRANSPORTATION SYSTEM, ANALYSIS METHOD AND PROGRAM THEREFOR

Abstract: In a catenary-based transportation system which is provided with integrated power supply equipment having an electricity storage unit which stores electricity regenerated by vehicles traveling by electricity received from a catenary and supplies electricity to the catenary and the other power supply system which is a power supply system different from the electricity storage unit concerned, the performance of a rectifier of the other power supply system is determined based on a power-supplying contribution ratio gamma of the other power supply system so that the cost value of the integrated power supply equipment becomes lower than a target cost value.

Classifications:
International (IPC 8-9): B60L7/10 B60M3/06 H02J3/00
H02J4/00 (Advanced/Invention)
CPC: H02J4/00 Y10T307/642 B60M3/06
European: B60M3/06
US: 191/33R 191/44 307/69 307/9.1 701/19 701/22



Family:

Publication number	Publication date	Application number	Application date
CN102971180 A	20130313	CN201280001908	20120213
CN102971180 B	20160113	CN201280001908	20120213
IN00862CN2013 A	20160831	IN2013CN00862	20130201
JP2012171415 A2	20120910	JP20110033501	20110218
JP5427803 B2	20140226	JP20110033501	20110218
KR101392581 B1	20140508	KR20127033423	20120213
KR20130032320 A	20130401	KR20127033423	20120213
US2013088085 AA	20130411	US20120805381	20120213
US9035495 BB	20150519	US20120805381	20120213
WO12111607 A1	20120823	WO2012JP53261	20120213

Priority:

JP20110033501 20110218 WO2012JP53261 20120213

Probable Assignee: MITSUBISHI HEAVY IND LTD

Assignee(s): (std): KONO TAKAYUKI ; MITSUBISHI HEAVY IND LTD ; MORITA KATSUAKI ; OZAKI KAZUKI ; NAGAKI YASUNARI

Assignee(s): MITSUBISHI HEAVY INDUSTRIES LTD

Inventor(s): (std): KONO TAKAYUKI ; OZAKI KAZUKI ; NAGAKI YASUNARI ; MORITA KATSUAKI

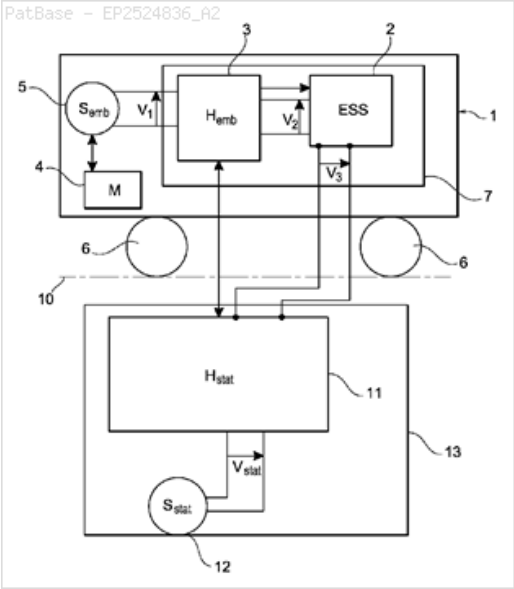
Agent(s): WENDEROTH LIND AND PONACK LLP; MORI RYUICHIROU ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: METHOD FOR SUPPLYING POWER TO A RAILWAY VEHICLE, STATION SUPPLY SYSTEM, RELATED ON-BOARD POWER-STORAGE SYSTEM AND RAIL VEHICLE PROCEDE D'ALIMENTATION ELECTRIQUE D'UN VEHICULE FERROVIAIRE, SYSTEME D'ALIMENTATION EN STATION, SYSTEME DE STOCKAGE D'ENERGIE EMBARQUE ET VEHICULE FERROVIAIRE ASSOCIES

Abstract: Source: EP2524836A3 [FR] Procédé d'alimentation électrique d'un véhicule ferroviaire (1) comprenant un système de stockage d'énergie embarqué (7), caractérise en ce que: - un convertisseur statique d'énergie fixe (11), localisé au niveau d'une station d'arrêt (10) du véhicule, reçoit de l'énergie électrique; - le véhicule ferroviaire étant arrêté en station, un transfert d'énergie à destination du système de stockage d'énergie embarqué (7) est réalisé par le convertisseur statique fixe (11) à partir de ladite énergie électrique reçue, ledit convertisseur statique fixe adaptant la tension fournie (V3) au système de stockage d'énergie embarqué en fonction de l'état de charge dudit système de stockage d'énergie embarqué; - le système de stockage d'énergie embarqué (7) se charge en fonction de l'énergie transférée sous la tension (V3) adaptée par le convertisseur statique fixe.

Classifications:
International (ipc 8-9): B60L11/00 B60L11/16 B60L11/18 B60L9/00 B60L9/18 B60M1/36 B60M7/00 B61C3/02 (Advanced/Invention)
CPC: Y02T10/7005 Y02T10/7022 Y02T30/12 Y02T90/128 Y02T90/14 B60L11/1837 B60L11/005 B61C3/02 B60L2200/26 Y02T90/121 Y02T10/7072
European: B60L11/00B2 B60L11/18L7F B61C3/02 L60L200/26



Family:

Publication number	Publication date	Application number	Application date
CA2778162 AA	20121119	CA20122778162	20120518
CN102785592 A	20121121	CN201210154619	20120517
CN102785592 B	20160413	CN201210154619	20120517
EP2524836 A2	20121121	EP20120168201	20120516
EP2524836 A3	20151007	EP20120168201	20120516
FR2975351 A1	20121123	FR20110054359	20110519
FR2975351 B1	20160506	FR20110054359	20110519
SG185904 A1	20121228	SG20120036265	20120517

Priority:

FR20110054359 20110519 CA20122778162 20120518

Probable Assignee: ALSTOM SA

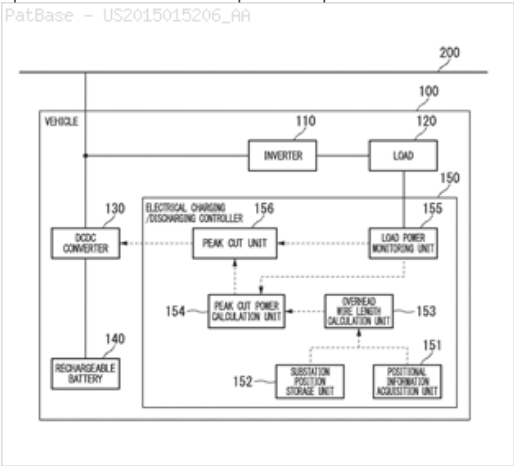
Assignee(s): (std): ALSTOM TRANSP TECH ; ALSTOM TRANSPORT SA
Assignee(s): ALSTOM TRANSPORT TECHNOLOGIES ; CHANTAL OLIVIER ; ALSTOM SA
Inventor(s): (std): OLIVIER CHANTAL ; CHANTAL OLIVIER
Agent(s): SMART AND BIGGAR; DOMENEGO BERTRAND; CABINET LAVOIX; DREW AND NAPIER LLC
Designated states: AL AT BA BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC ME MK MT NL NO PL PT RO RS SE SI SK SM TR

Title: ELECTRICAL CHARGING/DISCHARGING CONTROLLER, CHARGING CONTROL METHOD, DISCHARGING CONTROL METHOD, AND PROGRAM

Abstract: A peak cut power calculation unit calculates peak cut power transmittable to an overhead wire as power exhibiting monotonic non-increase with respect to a resistance value of the overhead wire between a vehicle and a substation. In addition, a peak cut unit controls electrical charging/discharging of a rechargeable battery with power of a difference between load power and transmission peak cut power when the load power is equal to or more than the peak cut power.

Classifications:

International (IPC 8-9): B60L B60L11/18 B60L3/00 B60L3/04 B60L3/12 B60L7/14 B60L9/18 B60M3/06 B61C3/00 B61D43/00 H02J H02J1/14 H02J7/00 (Advanced/Invention); H02J7/02 (Advanced/Non-invention); B60L H02J (Subclass/Invention)
CPC: B60L11/1838 H02J7/007 B60L3/04 B60L3/12 B60L7/14 B60L9/18 B60L11/1824 B60L2230/30 B60L2240/622 B60M3/06 H02J1/14 H02J7/022 Y02T10/7005 Y02T10/7088 Y02T10/7291 Y02T10/92 Y02T90/121 Y02T90/128 Y02T90/14 Y02T90/16 Y02T90/162 Y02T90/163
US: 320/128



Family:

Publication number	Publication date	Application number	Application date
CN104053572 A	20140917	CN201380005562	20130201
CN104053572 B	20160622	CN201380005562	20130201
HK1200777 A1	20150814	HK20150101409	20150209
IN01536MN2014 A	20150508	IN2014MN01536	20140730
JP2013162582 A2	20130819	JP20120021172	20120202
JP5901318 B2	20160406	JP20120021172	20120202
SG11201404438T A1	20141030	SG20141104438	20130201
US2015015206 AA	20150115	US20130375258	20130201
US9694704 BB	20170704	US20130375258	20130201
WO13115365 A1	20130808	WO2013JP52357	20130201

Priority:

JP20120021172 20120202 WO2013JP52357 20130201

Probable Assignee: MITSUBISHI HEAVY IND LTD

Assignee(s): (std): MITSUBISHI HEAVY IND LTD

Assignee(s): MITSUBISHI HEAVY IND ENGINEERING LTD

Inventor(s): (std): KAMEI SHUNSUKE ; KAMEI TOSHINORI ; KONO TAKAYUKI ; WAKASUGI KAZUYUKI ; MORITA KATSUAKI

Agent(s): LIU SHEN AND ASSOCIATES; WENDEROTH LIND AND PONACK LLP; MORI RYUICHIROU ET AL

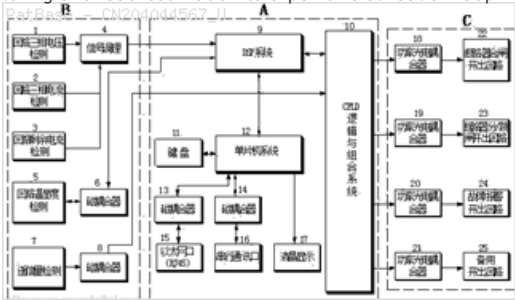
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IS IT KE KG KM KN KP KR KZ LA LC LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW

Title: URBAN RAIL-TRANSIT LOW-VOLTAGE DISTRIBUTION SYSTEM CONTROL TERMINAL

Abstract: The utility model relates to an urban rail-transit low-voltage distribution system control terminal. By using an existing rail-transit low-voltage distribution system, an automation level is not high. The terminal comprises a host, an interface link A, a forward measurement and control channel link B and a backward measurement and control channel link C. In the A, a DSP system, a single chip microcomputer system and a CPLD logic and combination system are connected; The single chip microcomputer system is connected to an Ethernet port and a serial communication module via a magnetic coupler. In the B, a loop three-phase voltage and current detection module and a loop residual current detection module are connected to the DSP system via signal conditioning; a loop temperature and humidity detection module is connected to the DSP system via the magnetic coupler; a remote communication quantity detection module is connected to the CPLD logic and combination system via the magnetic coupler. In the C, four open-out loops are connected to the CPLD logic and combination system. The terminal collects electric power working condition parameters of the rail-transit low-voltage distribution system in real time so as to realize protection, monitoring, measurement, metering and load estimation to a power distribution loop.

Classifications:

International (IPC 8-9): G05B19/042 (Advanced/Invention)



Family:

Publication number	Publication date	Application number	Application date
CN104142648 A	20141112	CN201410413618	20140821
CN104142648 B	20170704	CN201410413618	20140821
CN204044567 U	20141224	CN201420473039U	20140821

Priority:

CN201410413618 20140821 CN201420473039U 20140821

Probable Assignee: CHINA RAILWAY FIRST SURVEY AND DESIGN INST GROUP LTD

Assignee(s): (std): CHINA RAILWAY FIRST SURVEY AND DESIGN INST GROUP LTD

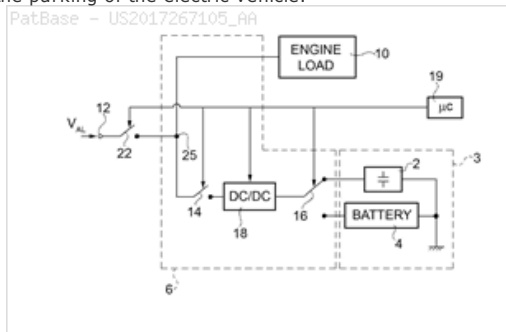
Assignee(s): CHINA RAILWAY FIRST SURVEY AND DESIGN INST GROUP CO LTD

Inventor(s): (std): CHEN XIHU ; GU YANQI ; JIA JUNXIN ; JIN ZHONGFU ; SUN JIANXIN ; WU CHUN ; ZHANG JINHUA ; ZHAO HUAIJUN

Abstract: An auxiliary power supply system for an electric motor of an electric vehicle, comprising supercapacitors to generate a first auxiliary power supply, batteries to generate a second auxiliary power supply, one single common bidirectional converter and a control logic, which is configured for: (i) supplying power to the electric motor by means of network power supply voltage and through the energy stored in the supercapacitors during the acceleration of the electric vehicle; (ii) charging the supercapacitors during the braking of the electric vehicle, harvesting kinetic energy; (iii) supplying power to the electric motor through the sole energy of the batteries in the absence of the network power supply voltage; and (iv) charging the batteries during the running at constant speed and the parking of the electric vehicle.

International (IPC 8-9): B60L11/18 B60L7/12 B60L7/16 H02J7/00
H02J7/34 H02P3/14 (Advanced/Invention)

HC2P3/12 H02P3/14 B60L11/1801 B60L7/16 B60L7/14
B60L11/1809 B60L15/20 B60L15/2045 H02J7/345 Y02T10/645
Y02T10/7005 Y02T10/7072 Y02T10/72 Y02T10/7283 Y02T10/90
Y02T90/14



Publication number	Publication date	Application number	Application date
EP3224927 A1	20171004	EP20150825816	20151127
JP2017537596 T2	20171214	JP20170528512T	20151127
US2017267105 AA	20170921	US20150528669	20151127
WO16084043 A1	20160602	WO2015I859178	20151127

IT2014TO00984 20141128 WO2015IB59178 20151127

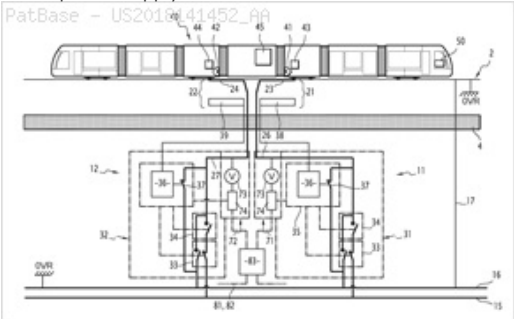
Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZW ZC

Title: ASSEMBLY CONSISTING OF AN ELECTRIC VEHICLE AND A SYSTEM FOR STATIONARY CHARGING BY CONDUCTION; ASSOCIATED SYSTEM, FACILITY, VEHICLE AND METHOD

Abstract: An assembly made up of a recharging system including a power supply contact on the ground, and a switching device, to bring the power supply contact to a supply voltage delivered by a source to which the recharging system is connected, and a vehicle including a contact shoe electrically connected to onboard energy storage means, the contact shoe being placed below the vehicle and movable between a high position and a low position, the vehicle including a control device able to command the movement of the contact shoe from the high position to the low position so that it is placed in contact with the power supply contact, only when the vehicle is stopped in said predetermined position allowing the capture of energy from the recharging system, in which the footprint of the vehicle covers the power supply contact.

Classifications:

International (IPC 8-9): B60L B60L11/18 B60L5/42 H01R24/60 H01R27/00 H01R33/94 H02J7/00 (Advanced/Invention); B60L (Subclass/Invention)
CPC: Y02T10/7005 Y02T10/7072 Y02T90/121 Y02T90/128 Y02T90/14 B60L11/1837 B60L5/42 B60L11/1816 B60L2250/10



Family:

Publication number	Publication date	Application number	Application date
BR112017025801 A2	20180807	BR20171125801	20160608
CA2988845 AA	20171207	CA20162988845	20160608
CL2016001387 A1	20170407	CL20160001387	20160607
CN107709083 A	20180216	CN201680033237	20160608
CO16148591 A1	20180131	CO20160148591	20160607
CO20160148591 A1	20180131	CO20160148591	20160607
EP3303045 A1	20180411	EP20160727717	20160608
FR3037195 A1	20161209	FR20150055205	20150608
IL256072 A0	20180131	IL20160256072	20160608
MX2016007468 A1	20170425	MX20160007468	20160608
US2018141452 AA	20180524	US20160579428	20160608
WO16198465 A1	20161215	WO2016EP63057	20160608

Priority:

FR20150055205 20150608 CO20160148591 20160607 WO2016EP63057 20160608

Probable Assignee: ALSTOM SA

Assignee(s): (std): ALSTOM SA ; ALSTOM TRANSP TECH ; ALSTOM TRANSP TECHNOLOGIES ; CHAINTRON YANN ; HOURTANE JEAN LUC

Assignee(s): ALSTOM TRANSPORT TECHNOLOGIES

Inventor(s): (std): CHAINTRON YANN ; HOURTANE JEAN LUC ; JEAN LUC HOURTANE ; YANN CHAINTRON

Agent(s): BENOIT AND COTE INC; PORZIO RIOS AND ASOCIADOS; JUAN PABLO CADENA SARMIENTO; LAVOIX; BLOT PHILIPPE ET AL

Designated states: AE AG AL AM AO AT AU AZ BA BB BE BF BG BH BJ BN BR BW BY BZ CA CF CG CH CI CL CM CN CO CR CU CY CZ DE DK DM DO DZ EC EE EG ES FI FR GA GB GD GE GH GM GN GQ GR GT GW HN HR HU ID IE IL IN IR IS IT JP KE KG KM KN KP KR KZ LA LC LI LK LR LS LT LU LV LY MA MC MD ME MG MK ML MN MR MT MW MX MY MZ NA NE NG NI NL NO NZ OM PA PE PG PH PL PT QA RO RS RU RW SA SC SD SE SG SI SK SL SM SN ST SV SY SZ TD TG TH TJ TM TN TR TT TZ UA UG US UZ VC VN ZA ZM ZW