



New connection on: : 26-09-2017 : 23:50:41 - Last disconnection on: : 25-09-2017 : 22:46:53

V 4.0.0.43847(LP,U,linux) (Rev:41675 2016-01-15 13:33:59 +0100#(D201710)) (RPM D201710)

Welcome to EPOQUE Rebuild under the Production Environment

[No database/cluster active] ..fi

Select a database: ..FI EPODOC

 Database: EPODOC

[EPODOC: SS 1] Lock+ and battery and (process+ or control+) and threshold and charg+

Results in EPODOC 33

[SS 2] ..li



1/33 © EPODOC / EPO

PN - [JP2017073929](#) A 20170413

PR - JP20150201012 20151009

AP - JP20150201012 20151009

DT - I

FI - G01R31/36&A; H01M10/44&P; H01M10/48&P; H01M4/58; H02J7/00&B; H02J7/00&X

FT - 2G216/AB01; 2G216/AB03; 2G216/BA03; 2G216/CB41; 5G503/AA01; 5G503/BA03; 5G503/BB02; 5G503/CA17; 5G503/DA07; 5G503/EA02; 5G503/GD03; 5G503/GD04; 5H030/AA10; 5H030/AS01; 5H030/AS08; 5H030/AS11; 5H030/AS14; 5H030/BB26; 5H030/FF41; 5H030/FF42; 5H030/FF52; 5H050/BA17; 5H050/CA01; 5H050/CA08; 5H050/CA09; 5H050/CA29; 5H050/CB02; 5H050/CB03; 5H050/CB11; 5H050/HA02; 5H050/HA17

PA - DENSO CORP

TI - **CHARGE/DISCHARGE CONTROL DEVICE AND BATTERY PACK DEVICE**

AB - PROBLEM TO BE SOLVED: To provide a **charge/discharge control** device able to detect SOC with high accuracy, and to provide a **battery** pack device.SOLUTION: A **charge/discharge control** device 3 according to the present invention is a **charge/discharge control** device 3 that **controls charge/discharge** of secondary batteries 2, 20 of **locking** chair type that has cathode and anode at which alkali metal ions de-adsorb or dope or de-dope. The **charge/discharge control** device calculates a voltage change rate (dV/dt) after the secondary **battery** stops **charge/discharge**. If the calculated voltage change rate (dV/dt) exceeds a predetermined **threshold**, **charge/discharge** reverse to **charge/discharge** conditions right before the stop are caused. A **battery** pack device 1 according to the invention comprises this **charge/discharge control** device 3.SELECTED DRAWING: Figure 1

2/33 © EPODOC / EPO

- PN - [CN106532840](#) A 20170322
- PR - CN201611118566 20161207
- AP - CN201611118566 20161207
- DT - I
- PA - GUIZHOU UNIV OF FINANCE AND ECONOMICS
- TI - Automatically- **charged** electronic door **lock** and door applying same
- AB - The invention provides an automatically-**charged** electronic door **lock** and a door applying the same, and relates to the technical field of a door **lock** apparatus. The automatically- **charged** electronic door **lock** comprises a voltage sensor, a **charging** converter, a **controller**, a display and a **battery**, wherein the **charging** converter is used for converting an input alternating current into a direct current; the voltage sensor is used for detecting a voltage value of the **battery**, and transmitting the voltage value to the **controller**; the **controller** is used for receiving the voltage value transmitted by the voltage sensor, determining whether the voltage value achieves a preset voltage **threshold** value or not, stopping the **charging** for the **battery** if the voltage value achieves the preset voltage **threshold** value while **charging** the **battery** if the voltage value does not achieve the preset voltage **threshold** value, and transmitting the **battery charging** information to the display; and the display is used for receiving the **battery charging** information from the **controller** and displaying the **battery charging** information. Therefore, the **battery** can be **charged** automatically by detecting the voltage value of the **battery**; and the **charging** efficiency is improved, and the cost is reduced.

3/33 © EPODOC / EPO

- PN - [CN205992798U](#) U 20170301
- PR - CN201621039188U 20160905
- AP - CN201621039188U 20160905
- DT - I
- PA - BEIJING SCIENCE AND TECH CO THREE FAST ONLINE
- TI - Power supply circuit and intelligent **lock**
- AB - The embodiment of the utility model provides a power supply circuit and intelligent **lock**. Power supply circuit includes a supply circuit part, the 2nd supply circuit subtotal energy storage device, the input of supply circuit part is connected with the group **battery**, the output of supply circuit part and the input of the 2nd supply circuit part are connected and be connected with the consumption parts, energy storage device connects in parallel at the output of the 2nd supply circuit part, the voltage of drawing from the output of the 2nd supply circuit part and energy storage device's tie point is used for supplying power to **control** circuit, when the input voltage of the 2nd supply circuit part is greater than **threshold** voltage, the 2nd supply circuit part is normally worked in order to supply power to **control** circuit, energy storage device **charges**, when the input voltage of the 2nd supply circuit part is less than or equal to **threshold** voltage, the 2nd supply circuit part stop work, energy storage device discharges in order to supply power to **control** circuit.

4/33 © EPODOC / EPO

- PN - [CN106385112](#) A 20170208
- PR - CN20161888897 20161011

AP - CN20161888897 20161011

DT - I

PA - ZHAO YING

TI - Electronic door **lock** with wireless power supply

AB - The invention relates to the technical field of electronic door **locks** and provides an electronic door **lock** with wireless power supply. The electronic door **lock** comprises an authentication unit, an actuator, and a man-machine interface, a wireless **charging** transmitter unit and a wireless **charging** receiver unit. Transmitting coils are integrated in the wireless **charging** transmitter unit, and receiving coils are integrated in the wireless **charging** receiver unit. The wireless **charging** transmitter unit and the wireless **charging** receiver unit are provided with MCUs. When the power stored in an energy storage element is reduced to a set **threshold**, the MCUs **control** the wireless **charging** transmitter unit and the wireless **charging** receiver unit to be switched on to **charge** the energy storage element. Multiple parallel coils are employed by the transmitting coils and the receiving coils and are close to each other mutually in a same plane or approximately in a same plane. The electronic door **lock** has the advantages that a wireless power supply mode is used to provide power for an electronic **lock** or similar equipment, the dependence on a **battery** is broken, money, labor and manpower are saved, the structure is reasonable, the **charging** efficiency is high, the electronic door **lock** is safe, and the application prospect is wide.

5/33 © EPODOC / EPO

PN - [US2016133071](#) A1 20160512

PNFP - US9574375 B2 20170221

PR - US201414587437 20141231; US201462076988P 20141107

AP - US201414587437 20141231

DT - *; Rep

CT - || R141 (A1)
[US5493279](#) A 19960220 [] (DAWSON GERALD L [US], et al);
[US5896026](#) A 19990420 [] (HIGGINS STEVEN WAYNE [US]);
[US2004061343](#) A1 20040401 [] (BASHFORD ANTHONY J [CA]);
[US2007176491](#) A1 20070802 [] (KANG JIN-A [KR], et al);
[US2007257772](#) A1 20071108 [] (MARCELLE JESSE [US], et al);
[US7334443](#) B2 20080226 [] (MEEKMA GLENN [US], et al);
[US2008256999](#) A1 20081023 [] (HAPKE KENYON A [US], et al);
[US2010031714](#) A1 20100211 [] (BROWN JAMES W [US], et al);
[US7734068](#) B2 20100608 [] (FISHER SCOTT R [US]);
[US7908896](#) B1 20110322 [] (OLSON TIMOTHY L [US], et al);
[US2011289124](#) A1 20111124 [] (DENISON WILLIAM D [US]);
[US8079240](#) B2 20111220 [] (BROWN JAMES W [US], et al);
[US2012169453](#) A1 20120705 [] (BRYLA MARK [US], et al);
[US8354914](#) B2 20130115 [] (BUCKINGHAM DUANE W [US], et al);
[US8593252](#) B2 20131126 [] (FISHER SCOTT R [US]);
[US2013305353](#) A1 20131114 [] (MCMILLAN RYAN [CA], et al);
[US2013335193](#) A1 20131219 [] (HANSON PAUL [CA], et al);
[US8772970](#) B2 20140708 [] (LAMBROU HARRY [AU]);
[US2014340032](#) A1 20141120 [] (CURTIS KEITH [US]);
[US8922333](#) B1 20141230 [] (KIRKJAN GREGORY PAUL [US]);
[US8912884](#) B2 20141216 [] (FISHER SCOTT R [US]);
[US9024759](#) B2 20150505 [] (UYEDA ALAN [US], et al);

[US2015179011](#) A1 20150625 [] (KRAMER MARK [US], et al);
[US9235942](#) B2 20160112 [] (CHEN CHUNG-YU [TW], et al);
[US9328532](#) B2 20160503 [] (NGUYEN THUAN [US], et al);
[US2013305353](#) A1 20131114 [] (MCMILLAN RYAN [CA], et al)
 - || STSE (B2)
[US5493279](#) A 19960220 [] (DAWSON GERALD L [US], et al);
[US5896026](#) A 19990420 [] (HIGGINS STEVEN WAYNE [US]);
[US7334443](#) B2 20080226 [] (MEEKMA GLENN [US], et al);
[US7734068](#) B2 20100608 [] (FISHER SCOTT R [US]);
[US7908896](#) B1 20110322 [] (OLSON TIMOTHY L [US], et al);
[US8079240](#) B2 20111220 [] (BROWN JAMES W [US], et al);
[US8354914](#) B2 20130115 [] (BUCKINGHAM DUANE W [US], et al);
[US8593252](#) B2 20131126 [] (FISHER SCOTT R [US]);
[US8772970](#) B2 20140708 [] (LAMBROU HARRY [AU]);
[US8912884](#) B2 20141216 [] (FISHER SCOTT R [US]);
[US8922333](#) B1 20141230 [] (KIRKJAN GREGORY PAUL [US]);
[US9024759](#) B2 20150505 [] (UYEDA ALAN [US], et al);
[US9235942](#) B2 20160112 [] (CHEN CHUNG-YU [TW], et al);
[US9328532](#) B2 20160503 [] (NGUYEN THUAN [US], et al);
[US2004061343](#) A1 20040401 [] (BASHFORD ANTHONY J [CA]);
[US2007176491](#) A1 20070802 [] (KANG JIN-A [KR], et al);
[US2007257772](#) A1 20071108 [] (MARCELLE JESSE [US], et al);
[US2008256999](#) A1 20081023 [] (HAPKE KENYON A [US], et al);
[US2010031714](#) A1 20100211 [] (BROWN JAMES W [US], et al);
[US2011289124](#) A1 20111124 [] (DENISON WILLIAM D [US]);
[US2012169453](#) A1 20120705 [] (BRYLA MARK [US], et al);
[US2013305353](#) A1 20131114 [] (MCMILLAN RYAN [CA], et al);
[US2013335193](#) A1 20131219 [] (HANSON PAUL [CA], et al);
[US2014340032](#) A1 20141120 [] (CURTIS KEITH [US]);
[US2015179011](#) A1 20150625 [] (KRAMER MARK [US], et al)

CCI - [G07C9/00563](#) ; [G07C9/0069](#)

CQI - [E05B47/0001](#)

CCA - [G07C2009/00373](#) ; [G07C2009/00642](#)

PA - (A1 B2)
HENDERSON KEVIN [US]

TI - (A1)
 ELECTRONIC **LOCK**
 - (B2)
 Electronic **lock**

AB - (A1 B2)
 An electronic **lock** includes a **lock** mechanism, an actuator coupled to the **lock** mechanism and configured to **lock** and release the **lock** mechanism, and an actuator **control** circuit coupled to the actuator. The electronic **lock** also includes a **battery** electrically coupled to the actuator, a super capacitor electrically coupled to the **battery**, and a **processor** coupled to the actuator, the **battery**, and the super capacitor. The **processor** is configured to selectively receive power from the **battery** and the super capacitor, wherein the **processor** receives power from the super capacitor when a state of **charge** of the **battery** is below a predetermined voltage **threshold**, and provide **control** signals to the actuator **control** circuit to **control** operation of the actuator.

6/33 © EPODOC / EPO

PN - [JP2015104193](#) A 20150604

PNFP - JP5872523B B2 20160301

PR - JP20130242108 20131122

AP - JP20130242108 20131122

DT - I

CCA - [Y02E10/58](#)

FI - G05F1/67&A; H02J7/35&F; H02M3/00&H; H02M3/00&K

FT - 5G503/AA06; 5G503/BB01; 5G503/GB03; 5H420/BB03; 5H420/BB14; 5H420/CC03; 5H420/DD02; 5H420/EB01; 5H420/EB13; 5H730/AS01; 5H730/AS02; 5H730/EE57; 5H730/EE59; 5H730/EE60; 5H730/FD01; 5H730/FD11; 5H730/FD31; 5H730/FG01; 5H730/FG12

PA - (A)
PROCESSIO CO LTD

TI - (A)
SECONDARY **BATTERY CHARGE** CIRCUIT USING SOLAR CELL AS POWER SUPPLY

AB - (A)
PROBLEM TO BE SOLVED: To stabilize startup of a **charge** circuit for **charging** a secondary **battery** by using a solar cell as a power supply. SOLUTION: A DC-DC converter 2 starts its operation when output voltage of a solar cell 8 has started up, and connects a secondary **battery** 9 to the solar cell 8. Therefore, there is provided a **control** circuit 4 for making the DC-DC converter stop in a period where the output voltage is lower than a **threshold** voltage which can drive a load (secondary **battery** 9) and is basically maximum voltage of the solar cell. Thereby, a failure such as startup malfunction caused by repeatedly trying to perform load connection before the output voltage has started up to further decrease the output voltage of the solar cell 8 can be prevented. There is also provided a **control** circuit 6 composed of a monostable circuit with respect to a **control** circuit 5 for performing MPPT **control**, to make the MPPT **control** by the **control** circuit 5 be into a minimum load state over a predetermined period from startup of the output voltage. Thereby, **lockout** of the DC-DC converter 2 also can be prevented.

7/33 © EPODOC / EPO

PN - [CN104701933](#) A 20150610

PNFP - CN104701933B B 20170517

PR - CN2015166850 20150209

AP - CN2015166850 20150209

DT - I

CT - || STSE (A)
[US2006170462](#) A1 20060803 [A] (BHATTACHARYA DIPANKAR [US], et al)
[A] 1-10
* 全文 *;
[CN101577437](#) A 20091111 [A] (SHANGHAI HUAQIN TELECOM TECHNO [CN])
[A] 1-10
* 全文 *;
[US8569996](#) B2 20131029 [A] (HA JUNG-WOO [KR], et al)
[A] 1-10
* 全文 *;
[CN203387203U](#) U 20140108 [A] (SHANGHAI FEIXUN COMM CO LTD)

[A] 1-10

* 全文 *;

[CN104035357](#) A 20140910 [A] (GUANGDONG OPPO MOBILE TELECOMM)

[A] 1-10

* 全文 *;

[CN204497773U](#) U 20150722 [R] (SHENZHEN GRANDSUN ELECTRONIC CO LTD)

[R] 1-10

* 权利要求1-10 *

- PA - (A)
SHENZHEN GRANDSUN ELECTRONIC CO LTD
- TI - (A)
OTG selective **charging** circuit and portable loudspeaker box
- AB - (A)
The invention is applicable to the field of electrons and provides an OTG selective **charging** circuit and a portable loudspeaker box. The OTG selective **charging** circuit comprises an input voltage detection unit for judging whether input voltage reaches a preset **threshold** value or not, generating a **locking charge** signal when the input voltage does not reach the preset **threshold** value and generating a **charge control** signal when the input voltage reaches the preset **threshold** value, a **charge** switching unit, and a **charge** unit for **controlling battery charge** according to **charge** voltage/current, wherein the **charge** switching unit is turned off according to the **locking charge** signal when clamped voltage is not received, or the **charge** switching unit is turned on and **charge** voltage/current is output according to the **charge control** signal, and the **charge** switching unit is turned off when the clamped voltage is received. When the portable loudspeaker box uses an OTG line to transmit a sound source for playing, an OTG machine is prevented from mistakenly **charging** batteries by detecting input voltage, normal **charge** can be performed when the OTG machine is connected with a PC or a **charger**, and the phenomenon that the OTG machine repeatedly **charges** and discharges the batteries and accordingly the service life of the batteries is shortened is effectively avoided.

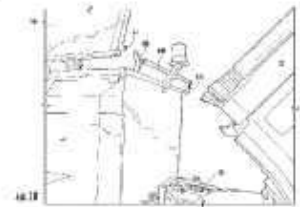
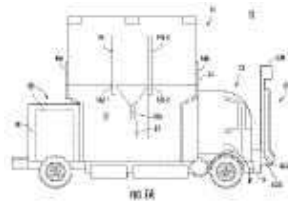
8/33 © EPODOC / EPO

- PN - [CN203911546U](#) U 20141029
- PR - CN20142310808U 20140612
- AP - CN20142310808U 20140612
- DT - I
- PA - CONTEMPORARYAMPEREXTECHNOLOGYLTD
- TI - **Charge** and discharge system of **battery** pack
- AB - The utility model provides a **charge** and discharge system of a **battery** pack. The **battery** pack comprises a plurality of series connected and/or parallelly connected single secondary batteries. The **charge** and discharge system comprises a **charge** and discharge device, a first **battery** management system, a signal source, a computer, and a **lock** protection device. The positive electrode of the **charge** and discharge device is in electric connection with the positive electrode of the **battery** pack, and the negative electrode of the **charge** and discharge device is in electric connection with the negative electrode of the **battery** pack. The first **battery** management system is in communication connection with the plurality of single secondary batteries of the **battery** pack. The signal source is in communication connection with the first **battery** management system. The computer is in communication connection with the signal source. The **lock** protection device is in communication connection with the first **battery** management system, and is

connected between the **battery** pack and the **charge** and discharge device. A **lock** protection **threshold** value is set in the **lock** protection device. The **lock** protection device determines whether the voltage of a single secondary **battery** reaches the **lock** protection **threshold** value of the **lock** protection device or not, so as to **control** the on-off operation between the positive electrode of the **battery** pack and the positive electrode of the **charge** and discharge device and the on-off operation between the negative electrode of the **battery** pack and the negative electrode of the **charge** and discharge device. Thus, each single secondary **battery** is ensured to be reasonably managed and **controlled** when reaching the **threshold** value.

9/33 © EPODOC / EPO

- PN - [US2014301783](#) A1 20141009
- PNFP - US9091030 B2 20150728
- PR - US201113812770
20110728; US20100368439P
20100728; WO2011US45699
20110728
- AP - US201113812770 20110728
- DT - **
- CT - || STSE (B2)
[US2005163565](#) A1 20050728
[] (QUENZI PHILIP J [US], et al)
[US2006008323](#) A1 20060112
[] (TORVINEN JEFFREY W [US])
- || R141 (A1)
[US2006008323](#) A1 [];
[US2005163565](#) A1 []
- CCI - [E01C23/06](#)
- CUI - [B65G65/40](#) ; [B65D88/26](#) ;
[E01C23/10](#)
- PA - (A1 B2)
KLEIGER SCOTT P [US]; PATCH
MAN INC [US]
- TI - (A1 B2)
MINI PATCHER FOR PATCHING
POTHOLE AND THE LIKE AND
METHOD FOR PERFORMING
SAME
- AB - (A1 B2)
A patcher capable of
performing patching
operations even when
operating in confined spaces
and having a pressurized
aggregate storage tank and
driving devices for opening
and air-tightly closing the
tank lid and **locking/unlocking**
the tank lid in proper
sequence. Tandem linear



10/33 © EPODOC / EPO

PN - [WO2015019165](#) A1 20150212

PR - JP20130166021 20130809

AP - WO2014IB01480 20140807

DT - *; Rep

CT - |EP| ISR (A1)
[US2007193808](#) A1 20070823
[A] (PERAKES ANDREASE [US],
et al)
[A] 1-16
* the whole document *;
[WO2012144061](#) A1 20121026
[A] (TOYOTA MOTOR CO LTD
[JP], et al)
[A] 1-16
* the whole document *;
[US2005027424](#) A1 20050203
[A] (MATSUBARA TOORU [JP], et
al)
[A] 1-16
* the whole document *

CCI - [B60K6/387](#) ; [B60K6/445](#) ;
[B60W10/08](#) ; [B60W10/26](#) ;
[B60W20/50](#)

CUI - [B60L7/10](#) ; [B60L11/1862](#)

FIG. 1

FIG. 1 is a block diagram of a power system 100. The system includes a vehicle voltage source V_o connected to a high-voltage ECU (HVECU) 21. The HVECU 21 is connected to an MG-ECU 23 and an ENG-ECU 22. The MG-ECU 23 is connected to an INVERTER 24, which is connected to a BATTERY 25. The INVERTER 24 is connected to a motor/generator 12. The motor/generator 12 is connected to a power electronic circuit 5, which includes a diode 10R, a capacitor 6C, a resistor 6R, an inductor 6P, and a switch 6S. The power electronic circuit 5 is connected to a motor/generator MG1 7 and a motor/generator MG2 3. The MG2 3 is connected to a battery 10C and a switch 10P. The ENG-ECU 22 is connected to an engine ENG 1 via a line KO. The engine ENG 1 is connected to a power source 4.

- CQI - [B60K6/365](#) ; [B60K6/48](#) ;
[B60W20/00](#)
- CCA - [Y02T10/6239](#) ; [F16H3/727](#) ;
[B60W2050/0297](#) ;
[B60W2510/0208](#) ;
[B60W2510/244](#) ;
[F16H2037/0866](#) ;
[F16H2200/2007](#) ;
[F16H2200/2097](#) ;
[Y10S903/91](#) ; [Y10S903/914](#)
- CQA - [B60Y2200/92](#)
- PA - TOYOTA MOTOR CO LTD [JP]
- TI - **CONTROL** APPARATUS
AND **CONTROL** METHOD FOR
HYBRID VEHICLE
- AB - Provided is a **control**
apparatus for a hybrid
vehicle, a clutch (K0) being
provided in a power
transmission path leading
from an engine (1) to drive
wheels (12), the clutch (K0)
transmitting torque between
the engine (1) and the drive
wheels (12) when engaged, the
clutch (K0) interrupting the
transmission of torque
between the engine (1) and the
drive wheels (12), the **control**
apparatus including an ECU
(21) configured to execute
drive **control** for consuming
electric power of a storage
device (25) by driving a first
motor (MG1), when the clutch
(K0) is kept in a released state
and the clutch (K0) cannot be
engaged and an amount of
electrical **charge** of the storage
device (25) is higher than a
prescribed first **threshold**
value.
- TXT - Preventing overcharge
of **battery** in case of clutch
failure between engine and
drive wheels (clutch is **locked**
in released state)

11/33 © EPODOC / EPO

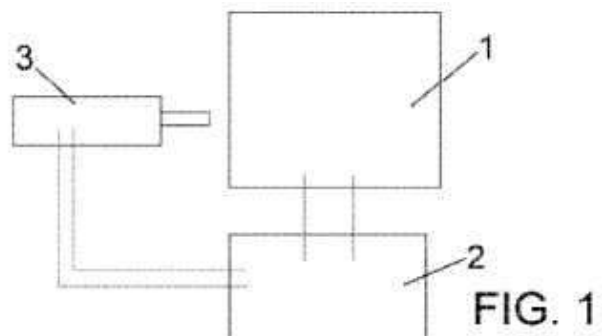
PN - [CN103810804](#) A 20140521

PR - CN20121452064 20121113

- AP - CN20121452064 20121113
- DT - I
- CT - || STSE (A)
[JP2007272634](#) A 20071018 [A] (FUJI ELECTRIC SYSTEMS CO LTD)
 [A] 1
 全文
[CN202995942U](#) U 20130612 [R] (CHENGDU WANWEI TUXIN INFORMATION TECHNOLOGY CO LTD)
 [R] 1
 权利要求1
[CN101059904](#) A 20071024 [A] (WANG YIN [CN])
 [A] 1
 全文
[US2005073423](#) A1 20050407 [A] (KIM WALTER TAEHWAN [US])
 [A] 1
 全文
- CTNP - || STSE (A)
 [] 盛南岭等,
 "一款实用的断线式防盗报警器", <<电子制作>>, (20070831), no. 8
- PA - CHENGDU WANWEI TUXIN IT CO LTD
- TI - Line breaking type antitheft alarm
- AB - The invention disclose a line breaking type antitheft alarm which comprises a transformer, a rectifying circuit, a switch, a magnetically **controlled** switch, a magnet, a first light-emitting diode, a second light-emitting diode, a relay, a time base integrated chip, a four-tone warning chip, a voltage stabilizing tube, a loudspeaker, a first diode, a second diode, a third diode, a fourth diode, a fifth diode, a first resistor, a second resistor, a third resistor, a fourth resistor, a fifth resistor, a sixth resistor, a seventh resistor, an eighth resistor, a first capacitor, a second capacitor, a third capacitor, a triode and a **battery**. When the magnetically **controlled** switch is turned off, a power supply rapidly **charges** the second capacitor through the second resistor and a sixth diode, and voltage of the trigger end of and voltage of the reset **locking** end of a time base integrated circuit also rise; when the voltage of the trigger end of and the voltage of the reset **locking** end are higher than a **threshold** value, the output end outputs a low level, a warning circuit works, and the loudspeaker gives an alarm. The line breaking type warning is adopted, a line breaking type warning mode has a breakage-proof function, and the alarm can also be given even if a signal line is destroyed; the line breaking type antitheft alarm is simple in circuit structure, adopted elements are fewer, so that the cost is low, and the line breaking type antitheft alarm is favorable for popularization.

12/33 © EPODOC / EPO

- PN - [WO2014072549](#) A1 20140515
- PR - ES20120031711 20121109
- AP - WO2013ES70707 20131016
- DT - **
- CT - |ES| ISR (A1)
[KR20110077194](#) A 20110707
 [Y] (OH HYUN TAEK [KR], et al);
[US6707358](#) B1 20040316
 [Y] (MASSMAN SALLY A [US]);



[JP2011145105](#) A 20110728
 [A] (TOYOTA MOTOR CORP);
[JP3634077B](#) B2 20050330
 [A] (NIPPON DENSO CO LTD,
 NIPPON JIDOSHA BUHIN
 SOGO);
[ES2145026T](#) T3 20000701
 [A] (C & D CHARTER HOLDINGS
 INC);
[WO0199129](#) A1 20011227
 [A] (BOSCH GMBH ROBERT
 [DE], et al)

- CCI - [H01M2/34](#) ; [H01M10/48](#)
- CUI - [H01H9/20](#)
- PA - MICÓ PÉREZ ENRIQUE [ES];
 ALBERTALBUGERRAUL[ES]
- TI - DEVICE FOR **LOCKING**
 BATTERIES AND METHOD FOR
 USING SAME
- AB - The invention relates to a
 device for **locking** batteries
 and to a method for using
 same, said device comprising
 electronic means (2)
 connected to the **battery** (1),
 and in turn, **controlling** a
 closure (3) that keeps
 the **battery** (1) fixed to the
 machine, characterised in
 that said electronic means (2)
 consist of a circuit for
 conditioning the signal from
 the **battery** (1) and a voltage
 divider that provides a set
 voltage value corresponding
 to a **threshold** value for
 the **charging** voltage of
 said **battery** (1), the outputs
 of both circuits being
 connected as inputs of a third
 comparator circuit; and
 where the output of the
 comparator is connected to
 an input of a microcontroller
 connected to a bistable
 solenoid **controlled** by two
 relays such that when the
 solenoid is activated, the
 closure (3) that holds
 the **battery** (1) is released
 and an alert is activated.

13/33 © EPODOC / EPO

PN - [EP2919315](#) A1 20150916

PNFP - EP2919315 A4 20160720

PR - ES20120031711 20121109; WO2013ES70707 20131016

AP - EP20130853778 20131016

DT - *; Rep

CT - || STSE (A4)
[EP0549950](#) A1 19930707 [A] (GRUNDIG EMV [DE])
[A] 1-7
* the whole document *;
[WO9922277](#) A1 19990506 [A] (KADY DARREN J [US], et al)
[A] 1-7
* the whole document *;
[US2010320970](#) A1 20101223 [A] (PACZKOWSKI HENRY [US])
[A] 1-7
* the whole document *

CCI - [H01M2/34](#) ; [H01M10/48](#)

CUI - [H01H9/20](#)

PA - (A1 A4)
MICÓ PÉREZ ENRIQUE [ES]; ALBERT ALBUGER RAUL [ES]

TI - (A1 A4)
DEVICE FOR **LOCKING** BATTERIES AND METHOD FOR USING SAME

AB - (A1)
The present invention relates to a **battery locking** device and method of use thereof, comprising electronic means (2) connected with the **battery** (1), and in turn **controlling** a fastener (3) keeping the **battery** (1) secured to the machine and characterized in that said electronic means (2) consist of a signal conditioner circuit for the signal from the **battery** (1) and a voltage divider providing a fixed voltage value corresponding with a **threshold charging** voltage value of said **battery** (1), the output of both circuits being connected as inputs of a third comparator circuit; and where the output of the comparator is connected with an input of a microcontroller connected with a bistable solenoid **controlled** by two relays, such that when the solenoid is activated the fastener (3) fixing the **battery** (1) is released and a warning is activated.

14/33 © EPODOC / EPO

PN - [US2013157628](#) A1 20130620

PR - US201213528156 20120620; US20090611856 20091103; US201161499018P 20110620; US20090145066P 20090115

AP - US201213528156 20120620

DT - *; Rep

CT - || R141 (A1)
[US2013346384](#) A1 [];
[US2008055154](#) A1 [];
[US6923146](#) B2 [];
[US2008272920](#) A1 [];
[US2009102668](#) A1 [];
[US2008168953](#) A1 [];
[US2005066912](#) A1 [];

[US2009174548](#) A1 [];
[US2012206296](#) A1 [];
[US2011248853](#) A1 [];
[US2008036594](#) A1 [];
[US2005035865](#) A1 [];
[US2012312250](#) A1 [];
[US8314695](#) B2 [];
[US7489251](#) B2 [];
[US7751282](#) B2 []

CCI - [A01K15/023](#)
 CUI - [H04M3/42](#)
 CQI - [A01K15/04](#) ; [A01K27/009](#)
 PA - KIM BRYANT Y [US]; KIM JOON S [US]; HARRISON JAMES A [US]; DT SYSTEMS INC [US]
 TI - SMART PHONE BASED ELECTRONIC FENCE SYSTEM
 AB - An electronic fence system capable of guiding animals under training to return to a predetermined restricted area is disclosed. The fence system may utilize either a plurality of loops to determine direction of travel for a receiver unit or, alternatively, a GPS system. For embodiments utilizing the GPS system, electronic fences are defined in relation to GPS location information. A **lock-down** mode is used to contain an animal to a very constricted area when a **control** command is received to initialize the **lock** down mode or upon a specified condition. Specified conditions include the animal approaching or entering a specified area or, alternatively, a **threshold** level of **charge** being reached for a **battery** that provides power for the receiver unit. A smart phone is communicatively coupled to a **controller** or interface device which, in turn, is communicatively coupled to a trainer/receiver.

15/33 © EPODOC / EPO

PN - [CN202995942U](#) U 20130612
 PR - CN20122595021U 20121113
 AP - CN20122595021U 20121113
 DT - I
 PA - CHENGDU WANWEI TUXIN INFORMATION TECHNOLOGY CO LTD
 TI - Disconnection-type burglar alarm
 AB - The utility model discloses a disconnection-type burglar alarm, comprising a transformer, a rectifying circuit, a switch, a magnetic **control** switch, a magnet, a first light emitting diode, a second light emitting diode, a relay, a time base integrated chip, a four-tone alarm chip, a voltage-regulator tube, a loudspeaker, first to fifth diodes, first to eighth resistors, first to third capacitors, a triode and a **battery**. When the magnetic **control** switch is disconnected, the second capacitor is rapidly **charged** by a power supply through the second resistor and the sixth diode, and the voltage at the triggering end and the reset **locking** end of the time base integrated circuit rises therewith; and when the voltage is higher than a **threshold** value, the output end outputs low level, the alarm circuit works, and the loudspeaker sends out alarm sound. The disconnection-type burglar alarm can give an alarm in a disconnection manner which has a damage resistant function, so that the disconnection-type burglar alarm can give the alarm even a signal line is damaged; and the disconnection-type burglar alarm is simple in structure and less in employed components, thus being low in cost and beneficial to popularization.

16/33 © EPODOC / EPO

PN - [GB2496754](#) A 20130522

PR - GB20110019791 20111116

AP - GB20120020631 20121116

DT - *; Rep

CT - || STSE (A)
[DE4404501](#) A1 19950817 [] (MUELLER KARL [DE])
[US6056076](#) A 20000502 [] (BARTEL PETER [DE], et al)
[US2009205384](#) A1 20090820 [] (POMERANTZ ITZHAK [IL])
[US2003155779](#) A1 20030821 [] (BELMOND JEAN-MARC [FR], et al)

CCI - [B60R25/24](#)

CNOI - [B60R25/01](#) ; [G07C9/00896](#) ; [G07C9/00944](#)

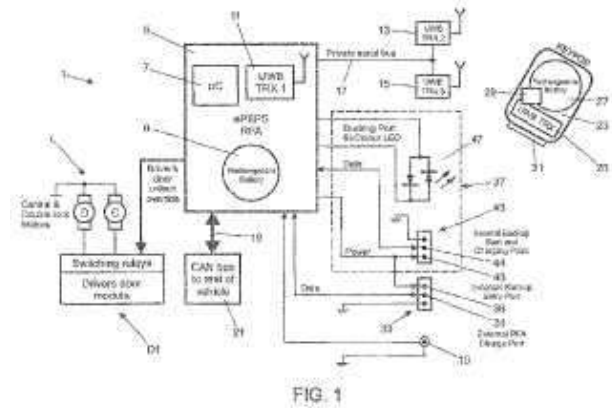
CCA - [G07C2009/00396](#) ; [G07C2009/00603](#) ; [G07C2009/00761](#)

CNOA - [G07C2009/00396](#) ; [G07C2009/00603](#) ; [G07C2009/00761](#) ; [G07C2009/00984](#)

PA - JAGUAR CARS [GB]

TI - Electronic vehicle access system and key

AB - The present invention relates to a vehicle (3) comprising a main **battery**, an auxiliary electrical energy storage means (9), an electronic **control** unit (7), a first data port (33) accessible from the exterior of the vehicle, and at least one vehicle door having an electrically operated **locking** mechanism arranged so as to be powered by either one of the main **battery** or the auxiliary electrical energy storage means (9) under the **control** of the electronic **control** unit (7). The electronic **control** unit (7) is configured to transmit a challenge signal to an electronic key connected to the first data port (33); receive a response signal



from the electronic key and, in the event that the response signal is authenticated, to initiate unlocking of said at least one door by selectively **controlling** the supply of power to the **locking** mechanism from one of the main **battery** and the auxiliary electrical energy storage means (9). The **control** unit can monitor the **charge** level of the main **battery** and depending on whether the **charge** level is below a **threshold**, the auxiliary or back-up **battery** can be used. Access to a vehicle can still be granted even when the main **battery** is flat.

17/33 © EPODOC / EPO

- PN - [CN202513640U](#) U 20121031
- PR - CN20112547204U 20111223
- AP - CN20112547204U 20111223
- DT - I
- PA - YANCHEN WANG
- TI - Electric-capacity constant-current automatic **charging** circuit
- AB - An electric-capacity constant-current automatic **charging** circuit adopts electric-capacity constant-current **charging**. Monitoring management adopts two groups of TL431 **threshold** comparators to form voltage monitoring. High and low voltage thresholds are set and can be subject to monitoring, interlocking and conversion. In the **process** of **charging**, the high **threshold** is responsible for master **control** and a low **threshold** circuit is closed. When a **battery** voltage is greater than a preset high **threshold** voltage, an optical coupling assembly closes a bidirectional thyristor AC supply and a **charger** is stopped operating. A high **threshold** circuit exits and the low **threshold** circuit is opened simultaneously. When the **battery** voltage is lower than the preset low **threshold** voltage, the optical coupling assembly is driven to conduct the bidirectional thyristor and the AC supply is opened. The high **threshold** circuit takes over monitoring management and the AC supply is self-**locked** for maintaining power supply. The **charger** is in an operation state. When the low **threshold** circuit enters monitoring management, the power supply is provided by a **battery** and the power consumption is less than 4mW. General components are adopted and the power consumption is low. By using the electric-capacity constant-current automatic **charging** circuit which is low in cost, the standby-free power conservation management of the **charger** can be realized.

18/33 © EPODOC / EPO

- PN - [CN202474901U](#) U 20121003
- PR - CN20112547218U 20111223
- AP - CN20112547218U 20111223

DT - I

PA - YANCHEN WANG

TI - Capacitor constant current automatic **charge** circuit having discharging function

AB - The utility model provides a capacitor constant current automatic **charge** circuit having a discharging function. The capacitor constant current automatic **charge** circuit having the discharging function adopts capacitor constant current for **charging**. Two groups of TL431 thresholds forming voltage monitoring in a comparing manner are adopted for monitoring management. A high voltage **threshold** and a low voltage **threshold** are arranged. The **threshold** monitoring interlocking is convertible. When in **charge**, a high **threshold** circuit is switched on and a low **threshold** circuit is switched off. When a **battery** voltage is higher than a determined high **threshold** voltage, an optical coupler stops the AC power supply of a bidirectional silicon **controlled** rectifier and a **charger** stops working. A high **threshold** circuit quits and at the same the low **threshold** circuit is connected. When the **battery** voltage is lower than a determined low **threshold** voltage, the optical coupler is driven, the bidirectional silicon **controlled** rectifier is in breakover, and the AC power supply is switched on. The high **threshold** circuit takes over the monitoring management. The AC power supply is in self-**locking** for maintaining power supply. The **charger** works. The power of the low **threshold** monitoring circuit when the low **threshold** monitoring circuit begins to monitor is supplied by a **battery** and the power consumption is smaller than 4 milliwatts. A discharge circuit starts a soft contact button through discharging, **locks** the breakover of a triode through the silicon **controlled** rectifier, and restores the memory characteristics of the storage **battery** through the discharging of a load resistor. By adopting components in common use, the capacitor constant current automatic **charge** circuit having the discharging function with low power consumption at low cost realizes the non-standby-state power consumption management of the **charger**.

19/33 © EPODOC / EPO

PN - [WO2012016025](#) A2 20120202

PNFP - WO2012016025 A3 20120503

PR - US20100368439P 20100728

AP - WO2011US45699 20110728

DT - *; Rep

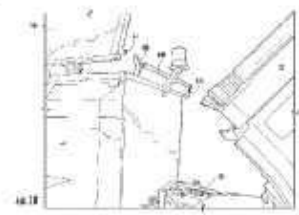
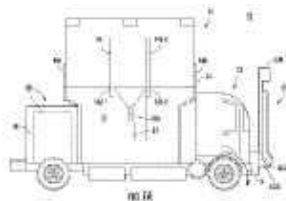
CT - |US| ISR (A3)
[US5419654](#) A [Y];
[US3874472](#) A [Y];
[US2004046394](#) A1 [Y];
[US3564985](#) A [A];
[US2008031688](#) A1 [A];
[WO2010081674](#) A1 [A]

CCI - [E01C23/06](#)

CUI - [B65G65/40](#) ; [B65D88/26](#) ;
[E01C23/10](#)

PA - (A2 A3)
 PATCH MAN INC [US]; KLEIGER
 SCOTT P [US]

TI - (A2 A3)
 MINI PATCHER FOR PATCHING



POTHOLES AND THE LIKE AND
METHOD FOR PERFORMING
SAME

AB

- (A2 A3)
A patcher capable of performing patching operations even when operating in confined spaces and having a pressurized aggregate storage tank and driving devices for opening and air-tightly closing the tank lid and **locking/unlocking** the tank lid in proper sequence. Tandem linear accelerators **control** the flow of aggregate from the tank to a dispensing outlet. An articulated boom assembly is operated to position an aggregate dispenser over the repair location. The boom assembly is movable to a vertical position to prevent the assembly from extending beyond the right and left sides of the patcher to provide a safe condition when travelling during a non-patching operating mode. All of the electrically-operated devices on the patcher derive energy from a common **battery** pack which is **charged** by the patcher engine during a non-patching mode and alternatively during a patching mode when the stored energy in the **battery** pack drops below a given **threshold**.

20/33 © EPODOC / EPO

PN - [CN201846121U](#) U 20110525

PR - CN20102503855U 20100825

AP - CN20102503855U 20100825

DT - I

PA - YANCHEN WANG

TI - Low-cost automatic **battery charger** capable of managing alternating-current switch and having reverse-connection alarm function

AB - A low-cost automatic **battery charger** capable of managing alternating-current

switch and having a reverse-connection alarm function provides a low-power-consumption and low cost method for **charging** batteries automatically and **controlling** alternating-current switches so as to overcome the shortcoming that an existing **charger** for **charging** batteries starts **control** at a direct-current low-voltage end generally and still consume electric energy even when **charging** is completed and meet the development trend of low-carbon environmental protection. The **charger** adopts a power frequency transformer, a rectifier and a sound alarm. Voltage monitoring is realized through two sets of TL431 **threshold** comparators, high and low voltage thresholds are arranged, and interlocked switching of **threshold** monitoring is realized. When in **charging**, the high-voltage **threshold** serves as main **control** and a low-voltage **threshold** circuit is turned off; when voltage of a **battery** is higher than a set voltage value of the high-voltage **threshold**, an optical coupling component drives a bidirectional silicon **controlled** thyristor to be cut off, so that alternating-current power supply is realized and the **charger** stops working. The high-voltage **threshold** circuit is cut off in a power breakdown mode, and simultaneously the low-voltage **threshold** circuit is switched on. When the voltage of the **battery** is lower than a set voltage value of the low-voltage **threshold**, the optical coupler component is driven to conduct the bidirectional silicon **controlled** thyristor, alternating-current power supply is started, and then the high-voltage **threshold** starts to manage, the alternating-current power supply is **locked** to supply power continuously, the **charger** works, the **battery** supplies power to the low-voltage **threshold** monitoring circuit when the low-voltage **threshold** monitoring circuit is managed, and the power consumption is 4mW.

21/33 © EPODOC / EPO

PN - [CN201805265U](#) U 20110420

PR - CN20102503881U 20100825

AP - CN20102503881U 20100825

DT - I

PA - YANCHEN WANG

TI - Low-cost automatic **charging** circuit for single lithium **battery**

AB - The utility model relates to a low-cost automatic **charging** circuit for a single lithium **battery**, which can be used for automatic management of a **battery charger**, the capacitor constant-current **charging** is adopted, the monitoring and the management adopt two groups of TL431 thresholds for comparison so as to constitute voltage monitoring, a high-voltage **threshold** and a low-voltage **threshold** are set, the **threshold** monitoring adopts interlocking conversion, when in **charge**, the high **threshold** is used for main **control**, and a low **threshold** circuit is closed, when the voltage of the **battery** is higher than the voltage set by the high **threshold**, a optocoupler cuts off the alternating current power supply of a silicon **controlled** rectifier, and the **charger** stops working; and then the low-cost automatic **charging** circuit exits from a high **threshold** circuit in an electric vector manner, the low **threshold** circuit is simultaneously opened, when the voltage of the **battery** is lower than the voltage set by the low **threshold**, the optocoupler is driven, the silicon **controlled** rectifier can be conducted, the alternating current power supply is opened, the high **threshold** circuit takes over the monitoring and the management, the alternating current power supply is self-**locked** for maintaining the power supply, general elements are adopted, the power consumption is less than 4 milliwatts, and the low-cost automatic **charging** circuit for the single lithium **battery** can realize management of power consumption of the **charger** without standby. The low-cost automatic **charging** circuit for the single lithium **battery** has a wide range of

applications and energy-saving and environment-friendly significance.

22/33 © EPODOC / EPO

PN - [CN201805263U](#) U 20110420

PR - CN20102503860U 20100825

AP - CN20102503860U 20100825

DT - I

PA - YANCHEN WANG

TI - **Charger** with zero standby power consumption, low cost and upper limit

AB - At present, **battery charging** is generally started and **controlled** only at the direct-current lower-voltage end, and electric energy is still consumed after the completion of the **charging**, so that a **battery** automatic **charging** alternating-current switch **control** manner with low power consumption and low cost is required for the trend of low carbon and environmental protection. The **charger** with zero standby power consumption, low cost and upper limit adopts an industrial frequency transformer, a TL431 **threshold** comparator is used for voltage detection, a **threshold** is set for the upper limit voltage of **charging**, a button switch SW provides transient power supply to start the **charging** and the low-voltage end is powered. When the **battery** voltage is lower than the **threshold** voltage, an optical coupler component drives the connection of a bidirectional thyristor, alternating-current power supply is self-**locked** to maintain power supply, and the **charger** operates; and when the **battery** voltage is higher than the **threshold** voltage, the optical coupler component cuts off the power supply to the bidirectional thyristor, and the **charger** stops operation. The **charger** provided by the utility model adopts universal element, and has low power consumption and low cost; and a zero standby power consumption **charging** upper limit alternating-current switching circuit realizes zero standby power consumption management of the **charger**. Since the number of **battery charging** users is huge, the generalization of the **charger** is significant for energy conservation and power consumption.

23/33 © EPODOC / EPO

PN - [CN201805262U](#) U 20110420

PR - CN20102503837U 20100825

AP - CN20102503837U 20100825

DT - I

PA - YANCHEN WANG

TI - Zero standby power consumption **charging** upper limit alternating current switching circuit

AB - Currently, starting **control** is generally only at a direct current low-voltage end for **charging** batteries, and after **charging**, power consumption still exists, so the trend of low-carbon environmental protection requires a **battery** automatic **charging** alternating current switch **control** mode with low power consumption and low cost. In a zero standby power consumption **charging** upper limit alternating current switching circuit, TL431 **threshold** comparison is adopted for voltage detection, the **threshold** is set for the **charging** upper voltage limit, power is supplied to **charging** start by an SW (short wave) button switch, and the low-voltage end is energized; when the **battery** is below the **threshold** voltage, an optical coupler component drives a bidirectional **controlled** silicon to be conducted, alternating current power supply is self-**locked** to maintain power supply, and a **charger** works; and when the **battery** is higher than the **threshold** voltage, the optical coupler component

stops the alternating current power supply of the bidirectional **controlled** silicon, and the **charger** stops working. With general components, low power consumption and low cost, the zero standby power consumption **charging** upper limit alternating current switching circuit realizes no standby power consumption management of the **charger**. The number of users needing **battery charge** is large, and the popularization of the automatic **charging** alternating current switching circuit has great significance for energy saving and consumption reduction.

24/33 © EPODOC / EPO

- PN - [CN201805247U](#) U 20110420
- PR - CN20102503892U 20100825
- AP - CN20102503892U 20100825
- DT - I
- PA - YANCHEN WANG
- TI - Rechargeable automatic TL431 **threshold** monitoring circuit
- AB - The utility model relates to a rechargeable automatic TL431 **threshold** monitoring circuit which can be used for the automatic management of a **battery charger**. The monitoring circuit is characterized in that two TL431 **threshold** comparators are utilized to form a voltage monitoring circuit, and high and low voltage thresholds are set and can be subject to monitoring, interlocking and conversion; in the **process** of **charging**, the high **threshold** is responsible for master **control**, and a low **threshold** circuit is closed, and when a **battery** voltage is greater than a preset high **threshold** voltage, an optical coupler blocks the AC (alternating current) supply of a silicon **controlled** rectifier or closes the operating state of a switch power supply, and then the **charger** stops operating; and a high **threshold** circuit exits, and simultaneously the low **threshold** circuit is opened, when the **battery** voltage is lower than the preset low **threshold** voltage, the optical coupler drives the silicon **controlled** rectifier to be conducted, and the AC supply of the silicon **controlled** rectifier is opened, then the high **threshold** circuit takes over the supervision and management, the AC supply is self-**locked** for maintaining power supply, and the **charger** operates. The rechargeable automatic TL431 **threshold** monitoring circuit of the utility model has the advantages that because of adopting general components, the power consumption of the monitoring circuit is less than 4mW, and the cost of the monitoring circuit is low, meanwhile, by using the monitoring circuit of the utility model, the standby-free power conservation management of the **charger** can be realized; and in addition, because the number of **charging** users of the **battery** is large, the popularization of the monitoring circuit of the utility model also has a huge effect on energy saving and consumption reduction.

25/33 © EPODOC / EPO

- PN - [CN201797366U](#) U 20110413
- PR - CN20102277746U 20100802
- AP - CN20102277746U 20100802
- DT - I
- PA - YANCHEN WANG
- TI - Mobile phone **charger** with low cost and zero standby power consumption
- AB - The utility model provides a mobile phone **charger** with low cost and zero standby power consumption, which is used for solving the problem that electric energy is still consumed after **charging** is finished because the conventional mobile

phone **charger** is only started and **controlled** at a direct-current and low-voltage end and following the trend of low carbon and environmental friendliness. The mobile phone **charger** with low cost and zero standby power consumption is an environmentally-friendly mobile phone **charger**; a low-cost alternating current and direct current converter is embedded into a **charging** upper limit **control** circuit with zero standby power consumption; voltage detection is realized by TL431 **threshold** comparison; a **threshold** is set for an upper limit voltage; in a **charging process**, an SW light touch key switch is started to supply power and electrify a low-voltage end; when a **battery** voltage is lower than a **threshold** voltage, an optical coupler drives **controllable** silicon to be conducted, alternating current loop power supply is **locked** automatically to maintain power supply and a **charger** runs; and when the **battery** voltage is higher than the **threshold** voltage, the optical coupler cuts off the power supply of the **controllable** silicon and the **charger** stops working. General elements are adopted, so that low power consumption and low cost are achieved and zero standby power consumption management after **charging** is realized for the mobile phone **charger** with low cost and zero standby power consumption. The mobile phone **charger** with low cost and zero standby power consumption has wide application, saves energy and protects the environment.

26/33 © EPODOC / EPO

PN - [CN201742137U](#) U 20110209

PR - CN20102277734U 20100802

AP - CN20102277734U 20100802

DT - I

PA - YANCHEN WANG

TI - Zero-standby power consumption mobile phone **charger**

AB - Presently, the starting **control** of the **charger** generally is completed on the DC low voltage terminal, after **charging** the **charger** still has power consumption, the trend of low carbon and environment protection requires a zero-standby power consumption mobile phone **charger** with low power consumption and low cost. The zero-standby power consumption mobile phone **charger** is an environment-friendly mobile phone **charger**, which is characterized in that a transverter of the mobile phone **charger** is inserted with a zero-standby power consumption **charge** upper **control** limit circuit, the TL431 **threshold** comparison forms voltage detection, **threshold** is set on the **charge** upper limit voltage, when in **charging** the start is supplied power by the SW light touch key switch, the low voltage terminal is electrified, when the **battery** is lower than the **threshold** voltage, a photo coupler drives the silicon **controlled** to conduct, an alternating current circuit power supply is self-**locked** to maintain power supply, the **charger** can work, and when the **battery** is higher than the **threshold** voltage, the photo coupler cuts off the power supply of the silicon **controlled**, the **charger** stops working. With the general parts, low power consumption and low cost, the zero-standby power consumption mobile phone **charger** realizes the zero-standby power consumption management after **charging**. The zero-standby power consumption mobile phone **charger** has wide application and greater significance on energy conservation and environment protection.

27/33 © EPODOC / EPO

PN - [US2010139576](#) A1 20100610

PR - US20090611856
20091103; US20090145066P
20090115

AP - US20090611856 20091103

DT - *; Rep

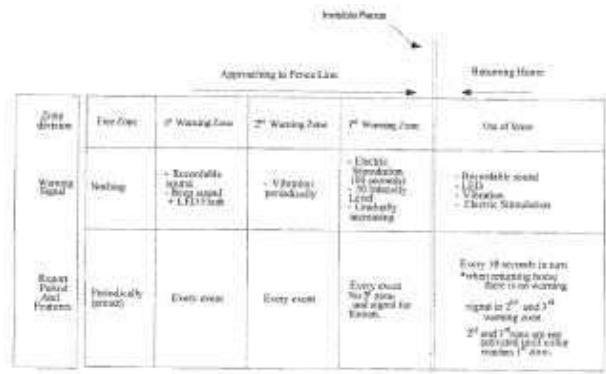
CT - || R141 (A1)
[US2006102101](#) A1 [];
[US2005066912](#) A1 [];
[US2005288007](#) A1 [];
[US2007243880](#) A1 [];
[US5425330](#) A [];
[US6271757](#) B1 [];
[US2008276879](#) A1 [];
[US2005253731](#) A1 [];
[US6166643](#) A [];
[US5121711](#) A [];
[US2003038877](#) A1 [];
[US6581546](#) B1 [];
[US6269776](#) B1 [];
[US2004108939](#) A1 [];
[US6064388](#) A []

CCI - [A01K15/023](#)

PA - DT SYSTEMS INC [US]

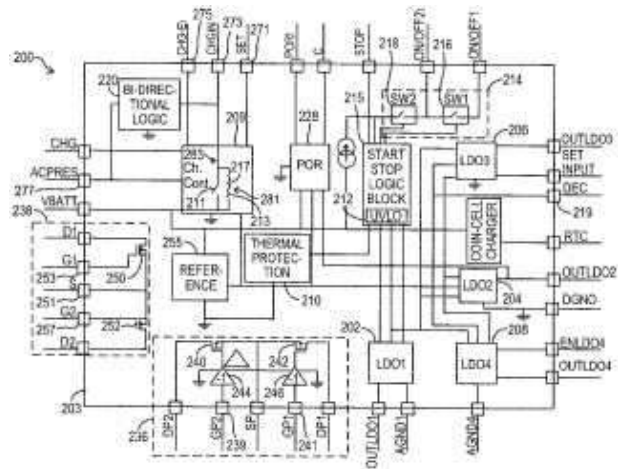
TI - ELECTRONIC FENCE SYSTEM

AB - An electronic fence system capable of guiding animals under training to return to a predetermined restricted area is disclosed. The fence system may utilize either a plurality of loops to determine direction of travel for a receiver unit or, alternatively, a GPS system. For embodiments utilizing the GPS system, electronic fences are defined in relation to GPS location information. A **lock-down** mode is used to contain an animal to a very constricted area when a **control** command is received to initialize the **lock down** mode or upon a specified condition. Specified conditions include the animal approaching or entering a specified area or, alternatively, a **threshold** level of **charge** being reached



28/33 © EPODOC / EPO

PN	-	US6507173 B1 20030114
PR	-	US20010951991 20010913; US20010300549P 20010622
AP	-	US20010951991 20010913
DT	-	*
CT	-	US6149319 A []; US6278290 B1 []
CCI	-	H02J7/027 ; H02J7/0077
CCA	-	H02J7/0068
PA	-	02MICRO INTERNAT LTD [KN]
TI	-	Single chip power management unit apparatus and method
AB	-	A power management unit (PMU) apparatus and method may include: a bi-directional pin configured to serve as an input pin during a first condition and as an output pin during a second condition; or a battery charge controller for providing a first conditioning charge and a second full charge to a voltage source of the PMU; or an adapter detector configured to detect the presence of a continuous output adapter and a pulse output adapter; an under voltage lockout protection circuit to prevent start up of the PMU until a power source reaches a predetermined threshold lockout level and to shut down the PMU once the power source reaches a lower threshold lockout disabling level; or a plurality of internal switches for allowing an external switch to have multiple functions; or a power on reset circuit; or multi-output charge status pin.



29/33 © EPODOC / EPO

PN - [JP2007018854](#) A 20070125

PR - JP20050198665 20050707

AP - JP20050198665 20050707

DT - I

CCA - [Y02B20/204](#)

FI - G03B15/03&X; G03B15/05;
H05B41/30; H05B41/30&Z;
H05B41/32; H05B41/32&M;
H05B41/36; H05B41/36&Z

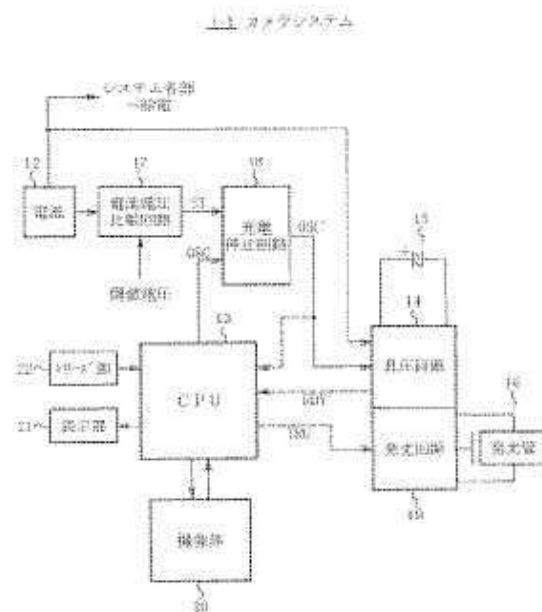
FT - 2H053/AA03; 2H053/AA04;
2H053/AC13; 2H053/AC17;
2H053/AC21; 2H053/BA01;
2H053/BA08; 3K098/AA03;
3K098/AA19; 3K098/BB08;
3K098/BB14

PA - NIPPON KOGAKU KK

TI - LIGHTING DEVICE FOR
PHOTOGRAPHY, AND CAMERA
SYSTEM

AB - PROBLEM TO BE SOLVED: To provide a technology of preventing a dead **lock** state of waiting operation of **charging** while avoiding instability of operation due to excessive voltage drop in a lighting device for photography.

- SOLUTION: The lighting device for photographing comprises a lighting part, a storage part, a **charging** circuit, and a **control** part. The lighting part illuminates a photographing object. The storage part stores driving voltage of the lighting part. The **charging** circuit **charges** the storage part using output voltage of a **battery**. At this point, the **charging** part stops **charging** operation of the storage part when the output voltage of the **battery** drops in voltage more than a prescribed **threshold** voltage. The **control** part gives a **charging** instruction to the **charging** circuit and starts



a waiting operation
of **charging** completion, and
when it detects **charging**
incompletion after a
prescribed time from the start
time of waiting operation,
stops the waiting operation.

- COPYRIGHT: (C)2007,
JPO&INPIT

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PN - [JPH10331675](#) A 19981215

PNFP - JP3807024B B2 20060809

PR - JP19970145457 19970603

AP - JP19970145457 19970603

DT - I

CCI - [B60K6/48](#) ; [B60W10/06](#) ; [B60W20/00](#)

CCA - [Y02T10/6221](#) ; [Y02T10/48](#) ; [F16H61/14](#) ; [B60W2510/244](#) ; [B60W2540/12](#) ;
[B60W2710/0616](#)

FI - B60K41/00&301A; B60K41/02; B60K6/04; B60K6/04+ZHV; B60K6/04&310;
B60K6/04&320; B60K6/04&360; B60K6/04&380; B60K6/04&530; B60K6/20&310;
B60K6/20&320; B60K6/20&360; B60K6/20&380; B60K6/48; B60K9/00&C;
B60K9/00&Z; B60L11/14; B60W10/00&102; B60W10/00&900; B60W10/02;
B60W10/02&900; B60W10/06; B60W10/06&900; B60W10/08&900; B60W10/10;
B60W10/30&900; B60W20/10; F02D29/00&H; F02D29/02&D; F02D29/02&Z;
F02D29/02&D+ZHV; F02D29/02&321Z; F16D25/14&640Z; F16D48/02&640Z

FT - 3D041/AA36; 3D041/AB01; 3D041/AC04; 3D041/AC15; 3D041/AC29; 3D041/AD02;
3D041/AD04; 3D041/AD10; 3D041/AD31; 3D041/AD41; 3D041/AD51; 3D041/AE08;
3D041/AF01; 3D202/AA02; 3D202/BB01; 3D202/BB05; 3D202/BB06; 3D202/BB11;
3D202/BB12; 3D202/BB15; 3D202/BB16; 3D202/BB37; 3D202/BB64; 3D202/BB65;
3D202/BB67; 3D202/CC01; 3D202/CC03; 3D202/CC04; 3D202/CC42; 3D202/CC44;
3D202/CC52; 3D202/DD01; 3D202/DD05; 3D202/DD06; 3D202/DD16; 3D202/DD18;
3D202/DD45; 3D202/FF05; 3D202/FF13; 3D241/AA36; 3D241/AB01; 3D241/AC04;
3D241/AC15; 3D241/AC29; 3D241/AD02; 3D241/AD04; 3D241/AD10; 3D241/AD31;
3D241/AD41; 3D241/AD51; 3D241/AE08; 3D241/AF01; 3G093/AA05; 3G093/AA07;
3G093/AA16; 3G093/BA05; 3G093/BA15; 3G093/CA04; 3G093/CA08; 3G093/CB07;
3G093/DA01; 3G093/DA06; 3G093/DA07; 3G093/DB05; 3G093/DB11; 3G093/DB15;
3G093/DB28; 3G093/EA05; 3G093/EB08; 3G093/EC01; 3G093/EC04; 3G093/FA06;
3G093/FB07; 3J057/AA03; 3J057/BB02; 3J057/GB02; 3J057/GB04; 3J057/GB05;
3J057/GB13; 3J057/GB29; 3J057/GB36; 3J057/GE07; 3J057/HH01; 3J057/JJ01;
5H111/BB02; 5H111/BB06; 5H111/CC01; 5H111/CC02; 5H111/CC15; 5H111/CC16;
5H111/DD02; 5H111/DD04; 5H111/DD05; 5H111/DD08; 5H111/DD12; 5H111/EE01;
5H111/EE10; 5H111/FF02; 5H111/FF05; 5H111/GG17; 5H111/HA05; 5H111/HA06;
5H111/HB01; 5H111/HB09; 5H111/HB10; 5H115/PA12; 5H115/PC06; 5H115/PG04;
5H115/PI14; 5H115/PI15; 5H115/PI16; 5H115/PI29; 5H115/PI30; 5H115/PO17;
5H115/PU01; 5H115/PU02; 5H115/PU09; 5H115/PU10; 5H115/PU19; 5H115/PU22;
5H115/PU24; 5H115/PU25; 5H115/PU29; 5H115/PV01; 5H115/PV02; 5H115/PV09;
5H115/QA01; 5H115/QA10; 5H115/QE01; 5H115/QE08; 5H115/QE10; 5H115/QE12;
5H115/QE17; 5H115/QE18; 5H115/QE19; 5H115/QI04; 5H115/QN02; 5H115/QN06;
5H115/QN15; 5H115/RB08; 5H115/RE01; 5H115/RE02; 5H115/RE03; 5H115/RE05;
5H115/RE20; 5H115/SE03; 5H115/SE04; 5H115/SE05; 5H115/SE08; 5H115/SE09;

PA - (A)
NISSAN MOTOR

TI - (A)
CONTROLLER FOR VEHICLE COMPOSITE DRIVING SYSTEM

AB - (A)
PROBLEM TO BE SOLVED: To maintain a fuel supply stopping state continuously during a **process** from deceleration to stopping, and prevent engine stopping from being generated frequently by disengaging a clutch so as to stop driving of an internal combustion engine with a dynamo-electric machine when engine stopping conditions including the fuel supply stopping state are satisfied. SOLUTION: When fuel supply stopping conditions, such as an idle switch 37 set ON, vehicle speed at a prescribed value V_{cut} or higher, and engine rotational speed at a prescribed value N_{cut} or higher are satisfied, fuel injection is stopped by a **control** unit 15. A **lock-up** clutch confirms a tightening state from a **lock-up** signal sent from an automatic transmission **control** unit 14, and if it is tightened, it is discriminated as kept at a decelerating mode from a high speed, and regenerative braking is applied by a dynamo-electric machine 10 to decrease vehicle speed. At the time of no applying of **lock-up** clutch, the fuel injection is restarted, and the engine stopping is prohibited if the **charging** amount of a high-voltage **battery** 33 is smaller than a **threshold** value with engine rotational speed kept lower than a prescribed value.

PN - [GB1229407](#) A 19710421

PR - GB19670018986 19670425

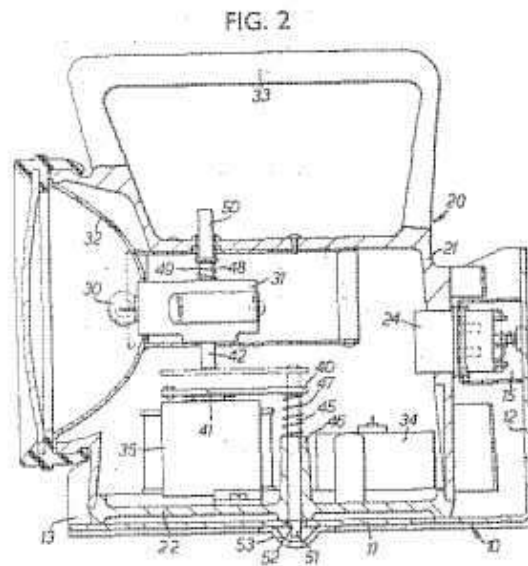
AP - GBD1229407 19670425

DT - *

CCI - [F25B41/062](#)

CCA - [F25B2341/065](#) ;
[F25B2500/26](#) ;
[F25B2600/2513](#) ; [Y02B30/72](#)

AB - 1,229,407. Refrigerating. HALL-
THERMOTANKINTERNATIONAL
Ltd. 25 July, 1968 [25 April,
1967], No. 18986/67. Heading
F4H. The expansion valve of a
vapour-compression
refrigeration system
is **controlled** in dependence
on the difference between the
temperature dependent
electrical outputs of two
devices located at spaced
points on the low pressure
side of the system. The
devices may be
thermocouples, resistance



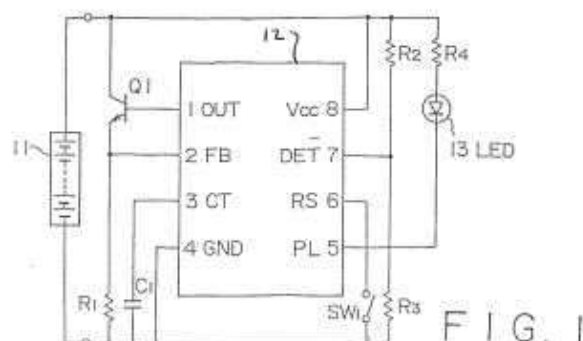
thermometers or thermistors and their outputs are fed to a differential D.C. amplifier which **controls** the solenoid of the expansion valve via a voltage sensitive **threshold** circuit and a relay. The electrical circuit includes an override to maintain the expansion valve open for a predetermined period after initial start-up. The devices may be located in the following positions: (i) One in or on the suction line, the other between the expansion valve and evaporator. (ii) One in or on the suction line, the other in or on the evaporator. (iii) Both in or on the suction line, adjacent the compressor and evaporator outlet respectively. (iv) Both in or on the suction line, the downstream device being supplied with a small quantity of liquid refrigerant metered from the high pressure side of the system.

1,229,419. Electric **battery** lamps. BARDIC SYSTEMS Ltd. 2 Oct., 1968 [5 Oct., 1967], No. 45601/67. Heading F4R. [Also in Division H2] A portable handlamp 20, including a **battery** 34, is normally positioned on a fixed bracket 10, and is connected through a plug 24 with an A.C. supply which trickle-charges the **battery** through a transformer 35. The transformer also functions as a relay **controlling** an armature 40, and when energized from the supply holds contacts 41, 42 apart so that the lamp is inoperative. A bolt 45 is also held so that it protrudes through a hole 52 in the bottom 11 of the bracket, **locking** the lamp

against removal from the bracket. If the supply fails, the transformer is de-energized, and the armature 40 rises to engage the contacts 41, 42, thereby illuminating the bulb 30 from the **battery**. At the same time, the bolt 45 disengages so that the lamp may be removed from the bracket. A push-button 50 may be provided for testing purposes while the supply is maintained.

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- PN - [GB2259814](#) A 19930324
- PNFP - GB2259814 B 19950322
- PR - JP19910227992 19910909
- AP - GB19920019103 19920909
- DT - *
- CT - (A B)
[GB1495689](#) A []; [GB2100543](#) A [];
[US3930198](#) A []; [US4575669](#) A [];
[US4713564](#) A []
- CCI - [H02J7/0057](#) ; [H02J7/008](#)
- PA - (A B)
SONY CORP [JP]
- TI - (A)
Circuit for **controlling** discharge of a **battery** prior to **charging**
- (B)
Battery discharge **control** circuit
- AB - (A)
The **battery** 11 is discharged in response to its loading into a discharger which has a **control** I.C. 12 powered by the **battery** 11, circuit 12 including a discharge **control** flip-flop (22), (Fig 2), responsive to a **battery** voltage comparator to terminate the discharge when the **battery** voltage falls below a reference level, an undervoltage **lock-out** circuit



(24) which resets logic elements in circuit 12 if the voltage Vcc at **battery** terminal 8 is below a **threshold** VTH indicative of abnormal conditions, and a monostable multivibrator timer (21) which operates in association with the **lock-out** circuit (24) to delay response of the **control** flip-flop (22) to the **battery** voltage comparator, thereby preventing false discrimination of the discharged or non-discharged state of the **battery** such as may be caused by contact bounce/chattering on initial loading of the **battery** or by influence of the self-heating and temperature characteristics of the **battery**. Circuit 12 **controls** a transistor Q1 to start constant current discharge of **battery** 11 through a resistor R1 after the delay period, the discharging state being indicated by LED 13. A switch SW1 may be operated to terminate discharge.

<IMAGE>

33/33 © EPODOC / EPO

PN - [DE2735119](#) A1 19790215

PNFP - DE2735119 C2 19860605

PR - DE19772735119 19770804

AP - DE19772735119 19770804

DT - *; Rep

CTNP - (A1)

[] Buch: Luegger, Lexikon der Technik, Band Fertigungstechnik und Arbeitsmaschinen, Band 1, 1972, S. 153

[] Buch: Siemens, Halbleiter Schaltbeispiele, April 1963, S. 30-35

CCI - [E05B77/50](#)

PA - (A1)

DAIMLER BENZ AG

TI - (A1)

Vacuum pump **control** esp. for vehicle door **locking** systems - has transistorised switch to avoid **battery** discharge

AB

- (A1)

The vehicle door **locking** system vacuum pump (1) is supplied with current via a switch (6) which is dependent on the pressure prevailing in the storage tank (2). A monitoring unit (8) interrupts the pump motor supply current after a predetermined number of working cycles to prevent **battery** discharge when the vehicle is parked. The monitoring unit circuit interrupts the pump motor feed corresponding to the air leak rate from the depression system. a transistorised switch is used to interrupt the pump motor feed by using the increasing pump motor tension at a predetermined **threshold**. The working cycle is repeated by either **charging** capacitors or a binary counter.

[SS 2] ..v

[EPODOC: SS 2] ..li 1 - 10

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[SS 2]