

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
filed in the U.S. District Court Southern District on the following

☐ Trademarks or ☐ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 9:21-cv-81009-DMM	DATE FILED 6/7/2021	U.S. DISTRICT COURT Southern District
PLAINTIFF PILOT, INC.		DEFENDANT Baccus Global LLC
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 9,525,297		SEE COMPLAINT
2 10,046,653		
3 10,328,806		
4 10,875,410		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading		
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK	
1			
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3			
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK Angela E. Noble	(BY) DEPUTY CLERK s/ Carlos Davis	DATE 7/30/2021
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF FLORIDA**

CASE NO. 21-81009-CV-MIDDLEBROOKS/Matthewman

PILOT, INC.,

Plaintiff,

v.

BACCUS GLOBAL LLC,

Defendant.

ORDER CLOSING CASE

THIS CAUSE comes before the Court upon the Parties' Joint Stipulation of Dismissal of Complaint with Prejudice and Joint Stipulation of Counterclaims Without Prejudice ("Stipulation"), filed on July 28, 2021. (DE 20). The Court congratulates the Parties on their amicable resolution of this matter and notes that pursuant to *Anago Franchising, Inc. v. Shaz, LLC*, 677 F.3d 1272 (11th Cir. 2012), the Parties' Stipulation is self-executing and no order of the Court is required to dismiss this action.

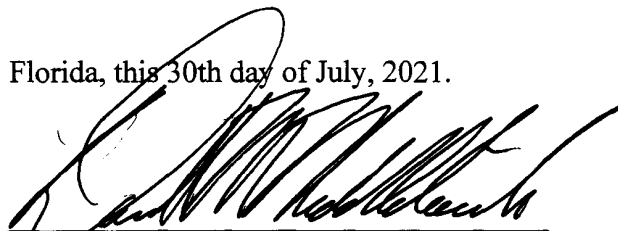
Accordingly, it is hereby **ORDERED and ADJUDGED** that:

(1) Plaintiff Pilot, Inc.'s claims against Defendant Baccus Global LLC are **DISMISSED WITH PREJUDICE**.

(2) Defendant Baccus Global LLC's Counterclaims against Plaintiff Pilot, Inc. are **DISMISSED WITHOUT PREJUDICE**.

(3) The Clerk of Court shall **CLOSE THIS CASE** and **DENY AS MOOT** all pending motions.

SIGNED in Chambers in West Palm Beach, Florida, this 30th day of July, 2021.

A handwritten signature in black ink, appearing to read 'Donald M. Middlebrooks', written over a horizontal line.

DONALD M. MIDDLEBROOKS
UNITED STATES DISTRICT JUDGE

Copies to: Counsel of Record

AO 120 (Rev. 08/10)

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CLERK Angela E. Noble	(BY) DEPUTY CLERK s/ Carlos Davis	DATE 6/7/2021
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

below, Baccus has incorporated Pilot's patented technology into a number of other products currently featured on its websites at <https://www.stanley12volt.com/> and <https://www.blackanddecker12volt.com/>.

32. The infringing Baccus product models (collectively "the Accused Baccus Jump Starters") are at least those depicted in the below table:

TABLE 1: ACCUSED BACCUS JUMP STARTERS		
Model #	Product Description	Product Imaging
SS4LS Sold at various prices through third party retailers and websites	Stanley PowerToGo™ Lithium Ion Jump Starter / Power Pack 5 th Call out: "Reverse polarity warning to alert when there is an improper connection" 6 th Call out: "Backlit digital readout displays battery level and voltage"	 The image shows a black, rectangular Stanley PowerToGo SS4LS Lithium Ion Jump Starter. It has a carrying handle on top and several cables and connectors attached. A digital display is visible on the front. https://www.stanley12volt.com/copy-of-p2g7s
P2G7S Sold at various prices through third party retailers and websites	Stanley Simple Start™ Lithium Ion Battery Booster 6 th Call out: "Reverse polarity warning to alert when there is an improper connection"	 The image shows a black, rectangular Stanley Simple Start P2G7S Lithium Ion Battery Booster. It has a carrying handle on top and several cables and connectors attached. A digital display is visible on the front. https://www.stanley12volt.com/p2g7s

P2G7B Sold at various prices through third party retailers and websites	BLACK+DECKER Power to Go™ Lithium Ion Battery Booster 5th Call Out: “Reverse polarity warning to alert when there is an improper connection”	 https://www.blackanddecker12volt.com/p2g7b
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33. These products, their functionality, their Instruction Manuals, and the circuit boards incorporated within them have all been reviewed and inspected and that analysis confirms that manufacture, offer for sale, sale and/or use of the Accused Baccus Jump Starters’ constituted literal and doctrine of equivalents infringement of at least Claims 7, 8, 9, 10, 11, 17, 18, 19 and 20 of the ‘653 patent.

34. The Instruction Manual that accompanied the P2G7S is attached as Exhibit E. This Manual applies to P2G7S and P2G7B.

35. The Instruction Manual that accompanied the SS4LS is attached as Exhibit F.

36. Claim 7 of the ‘653 patent requires as follows:

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7. A charging device, comprising:
a battery level detector to detect a level of a first battery;
a load detector to detect a type of connection of a load;
a microcontroller to generate an output signal based on
the level of the first battery and the type of connection
of the load; and
switching circuitry to selectively connect the first battery
to the load based on the output signal.

37. Each limitation in Claim 7 is literally present within the P2G7S, the P2G7B, and the SS4LS products, as well as their associated cables.

38. The P2G7S, P2G7B, and SS4LS products are charging devices to the extent this limitation is required by Claims 7-11 and 17-20 of the '653 patent.

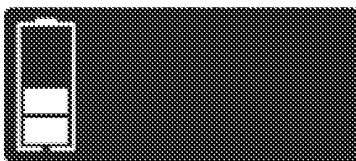
39. The P2G7S, P2G7B, and SS4LS have the claimed "battery level detector." Here, the first battery is the lithium battery within the housing. When in operation, the P2G7S or P2G7B user clicks the power button on the face of the housing. A Colored LED immediately displays an indication of the electrical power level of the first battery using the LED color to indicate battery level. *See* Ex. D at 7 (excerpted below).

READING THE OPERATING STATUS LED INDICATOR RING	
The Operating Status LED indicator Ring is a translucent ring around the Main Power Button. Press the Main Power Button to turn the unit on. The Operating Status LED Indicator Ring lights or flashes in one of four colors, indicating the following:	
Battery Status (Standby) Mode This displays constantly when the unit has been turned on and is not in Charging or Booster Mode.	
Blue (solid):	The unit's internal lithium-ion battery is in a fully charged state (80-100%).
Yellow (solid):	The unit's internal lithium battery is in a partially charged state (41-79%).
Red (solid):	The unit's internal lithium-ion battery has low battery power and should be recharged.



40. In the case of the SS4LS product, the LCD display illuminates and shows an indication of the level of the lithium battery. *See* Ex. E at 1 (excerpted below).

VIEWING BATTERY STATUS



The Battery Status Icon indicates the battery charge level as follows:

- If the battery charge level is at full capacity, four solid bars will display.
- If the battery is partially charged, two or three solid bars will display.
- If the battery is nearly empty, one solid bar will display. The unit should be charged at this time.
- If the battery is completely empty, four blank bars will display. The unit **MUST** be charged at this time or the unit's built-in low voltage protection will activate. The empty Battery Status Icon will light for a short period of time before automatic shut down. The unit will not operate until the battery is recharged.

41. The P2G7S, P2G7B, and SS4LS products have the claimed “load detector to detect a type of connection of the load.” As instructed in both Instruction Manuals, the user is directed to connect the jump starter to an automobile battery. As a result, the P2G7S and P2G7B products literally infringe Claims 9 and 19 of the ‘653 patent.

42. The LED’s function on the P2G7S and P2G7B products confirms the existence of the load detector. The housing features an LED that will flash red, yellow, or green based upon certain conditions, including the type of connection of the load. The SS4LS product uses a Bi-Color Booster Status Indicator for the same purpose.

43. On Page 7 of the Instruction Manual for the P2G7S product, the following chart appears:

Booster Mode This displays when the unit is boosting the vehicle battery using either the 12V DC Boosting/Charging Cable or the Battery Clamps. Important: The length of time for each stage of the boosting process varies depending on ambient temperature and the condition of the vehicle battery.	
Red (flashing):	This continues for up to 25 minutes when the unit detects that the vehicle battery it is connected to is at low charge level. It will automatically begin the boosting process. The Operating Status LED Indicator Ring continues to flash red until the process moves to stage 2, when it changes to flashing yellow.
Yellow (flashing):	This continues for up to 12 minutes until the process moves to stage 3, when it changes to flashing green.
Green (flashing):	This continues for up to 12 minutes until the process moves to the final stage, when it changes to solid green.
Green (solid):	The vehicle battery voltage has reached a sufficient charge level that you can attempt to start the vehicle.
Fault Condition	
Red & Blue (flashing alternately):	A fault condition has been detected. This could include unit overheating or reverse polarity connection of the battery clamps. The unit will stop operating until the fault has been corrected.
Red & Green (flashing alternately):	A vehicle battery fault condition has been detected. This could include lead sulfation or an internal shorted cell in the vehicle battery. The unit will stop operating until it is disconnected from the faulty battery.
Red & Yellow (flashing alternately):	The unit's internal lithium-ion battery has dropped to a low charged state (0%) and must be recharged at this time or the unit's built-in low voltage protection will activate shortly, when the unit will stop operating until it recharged.

44. In the Instruction Manual for the SS4LS product, the following chart appears:

Procedure

Take the following steps, observing all cautions and warnings in the "Important Safety Instructions" section at the front of this manual.

1. Turn off vehicle ignition and all accessories (radio, A/C, lights, connected cell phone chargers, etc.). Place vehicle in "park" and set the emergency brake.
2. Make sure all the unit functions are turned off (the LCD Screen is not lit) and the USB Charging Cable is NOT connected.
3. Lift up the protective cover of the unit's Smart Cables Port. Insert the double-barrel Smart Cables Connector into the Smart Cables Port on the unit.
4. Set up the unit as described in the "Preparing to Boost Using the Included Battery Clamps" section, observing all warnings and cautions in the "Important Safety Instructions" section.
5. When the unit is properly connected, the Bi-Color Booster Status Indicator on the Smart Cables Controller will light green.
6. Turn on the ignition and crank the engine in 5-6 second bursts until the engine starts.
7. When the process is completed, disconnect the booster. First remove the NEGATIVE black (-) clamp from vehicle chassis, and then remove the POSITIVE red (+) clamp from the POSITIVE battery post. Disconnect the double barrel Smart Cables Connector from the Smart Cables Port.
8. Store the Smart Cables Controller in a safe place.
9. Recharge the unit fully.

IMPORTANT NOTES:

If the battery clamps are incorrectly connected with regard to polarity, the Bi-Color LED Status Indicator will light red until the clamps are disconnected. Remove the clamps and then reconnect them with correct polarity.

If the voltage of the unit's internal lithium battery is low and has insufficient output power, the Bi-Color LED Status Indicator will light red. Disconnect the unit and fully charge following the directions in the "Charging / Recharging the Booster" section.

If the Smart Cables Controller is overheated, the Bi-Color LED Status Indicator will light red. Disconnect the Battery Clamps and allow the unit to cool down for a period before resuming any operation.

If the cranking current and/or time period exceeds the unit's parameters, the Bi-Color Booster Status Indicator will flash red for 30 seconds (a cooling down period) before lighting green again (resuming normal operation).

45. The load detector claimed in the '653 patent contributes to the behavior of Accused Baccus Jump Starters as described above. Specifically, the load detector of the P2G7S and P2G7B products will detect the type of connection of the load. Based upon the type of connection detected, the microcontroller will cause the LED to be illuminated when polarity is proper and boosting is occurring and will cause the LED to flash to alternate between colors when a faulty load connection is detected, for example, alternating blue and red when reverse polarity is detected. In the case of the SS4LS product, the load detector will detect the type of connection of the load. Based upon the

type of connection detected, the microcontroller will cause the Bi-Color LED Status Indicator to be solid green when polarity is proper and red when the connection is reversed.

46. Claim 8 and 18 require as follows:

8. The charging device of claim 7, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

18. The method of claim 17, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

47. The behavior described in the Instruction Manuals, and as observed in operation, confirms that the P2G7S, P2G7B, and SS4LS products detect a proper connection and an improper connection, as indicated by the LEDs. As a result, the Accused Baccus Jump Starters literally infringe Claims 8 and 18 of the '653 patent.

48. Claim 10 requires as follows:

10. The charging device of claim 9, wherein the proper connection of the load is a polarity match between the second battery and the motor, and wherein the improper connection of the load is a polarity reversal between the second battery and the motor or a disconnection of the second battery from the motor.

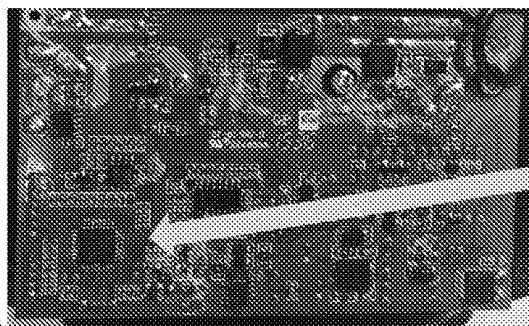
49. Claim 19 similarly requires "A method claim of **claim 18**, wherein the load is a second source and an electrical component powered by the second source,"

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wherein the proper connection of the load is a correct polarity connection between the second power source and the electrical component, and wherein the improper connection of the load is an incorrect polarity connection between the second power source and the electrical component or a disconnection of the second power source from the electrical component.

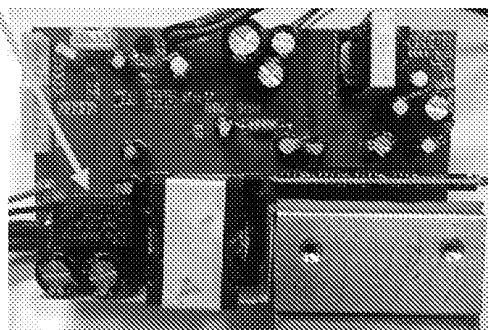
50. The behavior described in the Instruction Manuals, and as observed in operation, confirms that the P2G7S, P2G7B, and SS4LS products require a polarity match to achieve a proper connection, i.e. green light. Further, the P2G7S, P2G7B, and SS4LS products treat a polarity reversal as an improper connection, i.e. the flashing alternating colors or a red light. As a result, the Accused Baccus Jump Starters literally infringe Claim 10 and Claim 19 of the '653 patent.

51. The P2G7S and P2G7B products have a “microcontroller to generate an output signal based on the level of the first battery and the type of connection of the load.” The microcontroller used in the P2G7S and the P2G7B products receives information from the load detector and the battery detector and produces an output signal which travels to the switching circuitry.

Switching Circuitry
to Selectively
Connect the first
Battery to the load
based on the
output signal

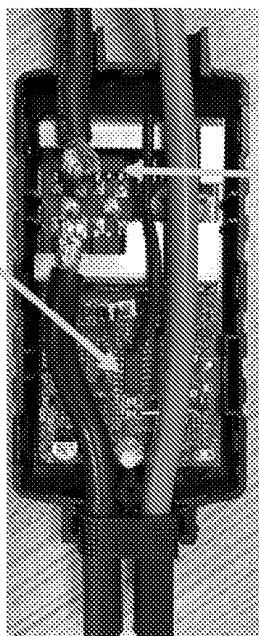


Microcontroller
to generate an
output signal
based on the
level of the
first battery and
the type of
connection of
the load



P2G7S

Microcontroller
to generate an
output signal
based on the
level of the
first battery and
the type of
connection of
the load



Switching Circuitry
to Selectively
Connect the first
Battery to the load
based on the output
signal

SS4LS

52. Both the P2G7S and the P2G7B products utilize a relay as switching circuitry. The SS4LS product uses a plurality of Metal Oxide Field Effect Transistors (“MOSFETs”) as the switching circuitry. The switching circuitry will only allow passage of the load based upon the output signal received from the microcontroller.

53. Based upon inspection, the P2G7S, P2G7B, and SS4LS products also literally infringe Claims 11 and 20 of the ‘653 patent. Claim 11 requires as follows:

11. The charging device of claim 8, wherein the micro-
controller is configured to:
generate the output signal to cause the switching circuitry
50 to connect the first battery to the load if the load is
properly connected and the level of the first battery is
above a threshold; and
generate the output signal to cause the switching circuitry
to disconnect the first battery from the load if i) the
55 level of the first battery is below the threshold, or ii) the
load is improperly connected.

54. Claim 20 requires as follows:

10	20. The method of claim 18, the generating comprising:
	generating the output signal to cause the switching cir-
	cuitry to connect the first power source to the load if the
	load is properly connected and the level of the first
	power source is above a threshold; and
15	generating the output signal to cause the switching cir-
	cuitry to disconnect the first power source from the load
	if i) the level of the first power source is below the
	threshold, or ii) the load is improperly connected.

55. The microcontroller of the P2G7S, P2G7B, and SS4LS products generate an output signal that is delivered to the claimed switching circuitry which causes the switching circuitry to connect the lithium battery (or first power source) to the automobile if (1) the load is properly connected and (2) the level of the first power source is above a threshold.

56. In addition, the microcontroller of the P2G7S, P2G7B, and SS4LS products generate an output signal that is delivered to the claimed switching circuitry which causes the switching circuitry to disconnect the lithium battery (or first power source) from the automobile when (1) the power of the first power source is below a threshold or (2) the load is improperly connected.

57. The SS4LS product and its functionality, its Instruction Manual, and the circuit boards incorporated within it were also analyzed and examined in connection with assessing infringement of the '806 patent. Based upon a careful inspection of the Accused Baccus Jump Starters' configuration and operation and related materials, the SS4LS product infringes, both literally and under the doctrine of equivalents, at least claims 16-19 of the '806 patent.

58. Exemplary independent claim 16 of the '806 patent reads:

16. A method for a device to charge an automobile battery, the method comprising:
detecting a voltage level of a battery;
detecting a connection and a type of connection between the battery and the automobile battery;
generating, by a microcontroller, an output signal based on the voltage level of the battery, the connection to the automobile battery and the type of connection of the automobile battery;
selectively connecting the battery to the automobile battery using the output signal; and
providing a low voltage protection to prevent damages caused by over discharging of the battery.

59. The SS4LS chargers include a lithium “battery” inside the housing that supplies a charging current and thus meet the first limitation of the claim. As explained above, in the case of the SS4LS chargers, detection of a voltage level of a battery is shown by the LCD display, which shows an indication of the level of the lithium battery, and the device’s Bi-Color LED Status Indicator, which will light red or green depending on the detected level of the lithium battery. In order to use the SS4LS chargers as intended, and as directed in the Instruction Manual, “detecting a voltage level of a battery” occurs automatically.

60. The SS4LS chargers include circuitry to detect whether there is a connection between the lithium battery and an automobile battery and the type of connection between them. As discussed above, the Bi-Color LED Status Indicator’s function on the SS4LS confirms the existence of a detection of a connection. The cable housing features an LED that illuminates red or green based upon certain conditions, including whether an automobile is connected and the type of connection. In order to use the SS4LS chargers as intended and as directed in the Instruction Manual, “detecting a connection and a type of connection between the battery and the automobile battery” occurs automatically.

**IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF FLORIDA
WEST PALM BEACH DIVISION**

PILOT, INC.,
a California Corporation,

Plaintiff,

v.

BACCUS GLOBAL LLC, a Florida Limited
Liability Company,

Defendant.

Case No.

JURY TRIAL DEMANDED

COMPLAINT FOR PATENT INFRINGEMENT

Plaintiff Pilot, Inc. (“Pilot” or “Plaintiff”) files this Complaint with Jury Demand for Patent Infringement against Defendant Baccus Global LLC (“Baccus”), and alleges as follows:

THE PARTIES

1. Pilot is a corporation organized under the laws of the state of California with its principal place of business at 13000 Temple Avenue, City of Industry, California 91746.

2. Defendant Baccus is a limited liability company organized under the laws of Florida having its principal place of business at 621 NW 53rd Street, Suite 450, Boca Raton, Florida 33487.

JURISDICTION AND VENUE

3. This is an action for patent infringement under the Patent Laws of the United States. 35 U.S.C. § 101, *et seq.*

4. This Court has subject matter jurisdiction over this action pursuant to 28 U.S.C. §§ 1331 and 1338(a).

5. This Court has personal jurisdiction over Baccus because Baccus resides in the state of Florida and engages in continuous and systematic business in Florida and this District.

61. The SS4LS chargers include microcontroller configured to generate, when the jump starter device is connected with a correct connection to the automobile battery and the lithium battery voltage is sufficient, an output signal based on a detected battery voltage. As explained above, the microcontroller used in the SS4LS chargers receives information from the battery voltage detector and load detector that produces an output signal which travels to the switching circuitry and signaling LEDs. In order to use the SS4LS chargers as intended and as directed in the Instruction Manual, “generating, by a microcontroller, an output signal based on the voltage level of the battery, the connection to the automobile battery and the type of connection of the automobile battery” occurs automatically.

62. The SS4LS chargers include a plurality of MOSFETs as switching circuitry to selectively connect the lithium battery to the automobile battery when the microcontroller generates the output signal to the MOSFETs. As discussed, and identified above, the switching circuitry in the SS4LS chargers consist of a plurality of MOSFETs that are activated on receipt of an output signal from the microcontroller creating a connection whereby power is supplied from the lithium battery in the housing to the automobile battery. In order to use the SS4LS chargers as intended and as directed in the Instruction Manual, “selectively connecting the battery to the automobile battery using the output signal” occurs automatically.

63. The same MOSFETs discussed above function to disconnect the lithium battery from the automobile battery as appropriate in response to an output signal from the microcontroller. Based on testing and references in the Instruction Manual to the devices performance during the jump start process, the SS4LS disconnects the lithium battery from the automobile battery at the MOSFETs when the lithium battery is sufficiently charged, and this status is indicated by the Bi-Color LED Status Indicator. Disconnection in the instance of a low lithium battery protects the

lithium battery from becoming overly discharged, resulting in damage. In order to use the SS4LS chargers as intended and as directed in the Instruction Manual, “providing a low voltage protection to prevent damages caused by over discharging of the battery” occurs automatically.

64. All the limitations of claim 16 of the '806 patent, as above shown, necessarily occur in using the SS4LS chargers as intended and instructed, meaning manufacture, use, offer for sale, and/or sale in the U.S. and/or importation of these devices into the U.S. constitutes infringement of that independent claim.

65. The SS4LS chargers include a lithium battery that supplies a charging current and thus meets the first limitation of the claim. They also have the claimed “battery voltage detector, connected to a microcontroller, to detect a voltage of an automobile battery when the charging device is connected to an automobile.” When the cables are connected, the charges measure the voltage of the automobile battery and determine whether the detected voltage is above or below a threshold. Specifically, the Owner’s Manual directs that after a good connection between the charger and a sufficiently charged load battery is made, the system will indicate it is ready to jump and the “Bi-Color Booster Status Indicator on the Smart Cables Controller will light green.” Ex. E at 1. However, even if the cables are correctly connected, if the automobile battery is below 2-volts based on the voltage detector, the system will not indicate it is ready to jump. *Id.* (“The Battery Booster requires a minimum voltage to detect the correct connection before it will begin to boost. If the vehicle battery voltage is below approximately 2 volts, it may not be able to detect connection and may not be able to boost the vehicle. While this low battery voltage is rare it may occur under extreme conditions.”). These signals are mediated through the microprocessor, which controls the signaling LEDs.

66. The SS4LS chargers also include the claimed “load detector, connected to the microcontroller, to detect when the charging device is connected to the automobile battery.” As discussed above, the LED’s function on the SS4LS confirms the existence of the load detector. The cable housing features an LED that will turn red or green based upon certain conditions, including whether a load is connected and the type of connection.

67. The SS4LS chargers further have the claimed “microcontroller generating, when the charging device is connected to the automobile battery, an output signal based on a detected voltage of the automotive battery.” The microcontroller used in the SS4LS chargers receives information from the battery voltage detector and produces an output signal which travels to the switching circuitry and signaling LEDs. As discussed, and identified above, the switching circuitry in the SS4LS consists of a plurality of MOSFETs and thus also meets the fifth limitation of claim 1.

68. The SS4LS chargers finally also include the claimed “boost device for boosting a gate voltage of the plurality of MOSFETs.” The “boost device” is located in the circuit between the battery and the MOSFETs.

69. The SS4LS charger, its functionality, its Instruction Manual and the circuit boards incorporated with it were further examined and analyzed in connection with assessing infringement of the ’410 patent. Based upon a careful inspection of the Accused Baccus Jump Starters’ configuration and operation and related materials, the SS4LS chargers infringes, both literally and under the doctrine of equivalents, at least claims 16-19 of the ’410 patent.

70. Exemplary independent claim 16 of the ’410 patent reads:

16. A method for a device to charge an automobile battery, the method comprising:
detecting a voltage level of a battery;
detecting a connection and a type of connection between the battery and the automobile battery;
generating, by a microcontroller, an output signal based on the voltage level of the battery, the connection to the automobile battery and the type of connection of the automobile battery;
based on the output signal, selectively connecting the battery to the automobile battery by activating a plurality of MOSFETs; and
based on the output signal, selectively disconnecting the battery from the automobile battery to prevent damages caused by over-discharging of the battery.

71. The SS4LS chargers include a lithium “battery” inside the housing that supplies a charging current and thus meet the first limitation of the claim. As explained above, in the case of the SS4LS chargers, detection of a voltage level of a battery is shown by the LCD display, which shows an indication of the level of the lithium battery, and the device’s Bi-Color LED Status Indicator, which will light red or green depending on the detected level of the lithium battery. In order to use the SS4LS chargers as intended and as directed in the Instruction Manual, “detecting a voltage level of a battery” occurs automatically.

72. The SS4LS chargers include circuitry to detect whether there is a connection between the lithium battery and an automobile battery and the type of connection between them. As discussed above, the Bi-Color LED Status Indicator’s function on the SS4LS confirms the existence of a detection of a connection. The cable housing features an LED that illuminates red or green based upon certain conditions, including whether an automobile is connected and the type of connection. In order to use the SS4LS chargers as intended and as directed in the Instruction Manual, “detecting a connection and a type of connection between the battery and the automobile battery” occurs automatically.

73. The SS4LS chargers include microcontroller configured to generate, when the jump starter device is connected with a correct connection to the automobile battery and the lithium battery voltage is sufficient, an output signal based on a detected battery voltage. As explained above, the microcontroller used in the SS4LS chargers receives information from the battery voltage detector and load detector that produces an output signal which travels to the switching circuitry and signaling LEDs. In order to use the SS4LS chargers as intended and as directed in the Instruction Manual, “generating, by a microcontroller, an output signal based on the voltage level of the battery, the connection to the automobile battery and the type of connection of the automobile battery” occurs automatically.

74. The SS4LS chargers include a plurality of MOSFETs as switching circuitry to selectively connect the lithium battery to the automobile battery when the microcontroller generates the output signal to the MOSFETs. As discussed, and identified above, the switching circuitry in the SS4LS chargers consist of a plurality of MOSFETs that are activated on receipt of an output signal from the microcontroller creating a connection whereby power is supplied from the lithium battery in the housing to the automobile battery. In order to use the SS4LS chargers as intended and as directed in the Instruction Manual, “based on the output signal, selectively connecting the battery to the automobile battery by activating a plurality of MOSFETs” occurs automatically.

75. The same MOSFETs discussed above function to disconnect the lithium battery from the automobile battery as appropriate in response to an output signal from the microcontroller. Based on testing and references in the Instruction Manual to the devices performance during the jump start process, the SS4LS disconnects the lithium battery from the automobile battery at the MOSFETs when the lithium battery is sufficiently charged, and this status is indicated by the Bi-Color LED Status Indicator. Disconnection in the instance of a low lithium battery protects the

lithium battery from becoming overly discharged, resulting in damage. In order to use the SS4LS chargers as intended and as directed in the Instruction Manual, “based on the output signal, selectively disconnecting the battery from the automobile battery to prevent damages caused by over-discharging of the battery” occurs automatically in appropriate circumstances.

76. All the limitations of claim 16 of the ’410 patent, as above shown, necessarily occur in using the SS4LS chargers as intended and instructed, meaning manufacture, use, offer for sale, and/or sale in the U.S. and/or importation of these devices into the U.S. constitutes infringement of that independent claim.

77. Baccus directs and controls how the Accused Baccus Jump Starters are used through the Instruction Manuals that it provides with its products. These Instruction Manuals set out in detail the steps that users should carry out in using the Accused Baccus Jump Starters so that they will function for their intended purpose. Ex. D. E. Failure to follow the instructions will result in the Accused Baccus Jump Starters not providing any benefit to users because the jump starter will not function as intended. Additionally, Baccus establishes the manner and timing that users trigger the functions of the Accused Baccus Jump Starters by providing user instructions and/or determining the functions, circuitry, and programming of the Accused Baccus Jump Starters such that they carry out certain steps automatically when activated by the user.

78. On information and belief, Baccus has tested the Accused Baccus Jump Starters by carrying out the jump starter process using them and has directed its employees to test and use the Accused Baccus Jump Starters.

79. By letter dated September 30, 2020, Pilot informed Baccus of its rights in the ’297 Patent family and its allegations that Baccus’ products infringed the claims of those patents. This letter was received by Baccus, which responded.

80. During the pre-suit correspondence, Baccus stated that certain alleged prior art rendered the claims of the patent in suit invalid. Pilot provided all such alleged prior art and the related correspondence from Baccus to the USPTO prior to the issuance of the '410 Patent. Exhibit J at 1-2. Baccus was thus well aware of Pilot's asserted patents and their disclosure and their validity over and above the art it suggested would be relevant to at least some of the here asserted claims, and nevertheless continued to utilize the teachings of these patents to enrich itself and at the expense of Pilot, making its infringement complained of herein willful and wonton.

FIRST CAUSE OF ACTION
Patent Infringement of the '653 Patent

81. Pilot incorporates and re-alleges paragraphs 1 through 80 as set forth above as though fully set forth herein.

82. The '653 Patent is non-anticipated and non-obvious as defined in 35 U.S.C. §§ 102 and 103.

83. The '653 Patent is not subject to prosecution history claim disclaimer. *See* Exhibit F, G, & H.

84. Baccus has made, used, imported, supplied, distributed, sold, and/or offered for sale in the U.S. the Accused Baccus Jump Starters.

85. By so doing, the Accused Baccus Jump Starters directly infringe (literally and/or under the doctrine of equivalents, through Baccus' own acts and as joint infringement with users) at least Claim 7-11 and 17-20 of the '653 patent. Baccus's infringement in this regard is ongoing and not limited to the analysis set forth herein.

86. Consistent with 35 U.S.C. § 287, Pilot has marked, or caused its licensees to mark, all products relevant to the '653 patent.

87. Pilot has been damaged as a result of Baccus's infringing conduct alleged herein. Baccus is liable to Pilot in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by the Court under 35 U.S.C. § 284.

88. Pilot has been damaged by loss of profits associated with the sale of its patented lithium jump starter to retailers. Pilot is responsible for opening and establishing the lithium jump starter segment through the development of the safety circuitry.

89. Pilot had the manufacturing capabilities, sales team, and connections within Lowes and other retailers, to satisfy its demand for safe lithium jump starters.

90. There is not a commercially acceptable non-infringing substitute to the technology disclosed in the '653 patent.

91. Pilot is entitled to damages for lost profits caused by Baccus, in an amount to be established at trial.

92. Baccus's infringement has been and continues to be willful and intentional and with full knowledge of the existence and validity of the '653 patent and its patent family.

93. The willful and intentional nature of Baccus's infringement entitles Pilot to an award of treble damages pursuant to 35 U.S.C. § 284 and the exceptional nature of the case entitles Pilot to an award of its attorneys' fees pursuant to 35 U.S.C. § 285.

94. Pilot will continue to suffer damages and irreparable harm unless Baccus is restrained and enjoined by this court, pursuant to 35 U.S.C. § 283 from further infringement of the patents.

SECOND CAUSE OF ACTION
Patent Infringement of the '806 Patent

95. Pilot incorporates and re-alleges paragraphs 1 through 80 as set forth above as

though fully set forth herein.

96. The '806 patent is non-anticipated and non-obvious as defined in 35 U.S.C. §§ 102 and 103.

97. The '806 patent is not subject to prosecution history claim disclaimer. *See* Exhibit G, H & I.

98. Baccus has made, used, imported, supplied, distributed, sold, and/or offered for sale the Accused Baccus Jump Starters. By so doing, the Accused Baccus Jump Starters that use MOSFET switches, such as the SS4LS chargers, directly infringe (literally and/or under the doctrine of equivalents, through Baccus' own acts and as joint infringement with users) at least claims 16-19 of the '806 patent. Baccus's infringement in this regard is ongoing.

99. Pilot has been damaged as a result of Baccus's infringing conduct and Baccus is liable to Pilot in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by the Court under 35 U.S.C. § 284.

100. Baccus's infringement has been, and continues to be, willful and intentional and with full knowledge of the existence and validity of the '806 patent and its patent family.

101. The willful and intentional nature of Baccus's infringement entitles Pilot to an award of treble damages pursuant to 35 U.S.C. § 284, and the exceptional nature of the case entitles Pilot to an award of its attorneys' fees pursuant to 35 U.S.C. § 285.

102. Pilot will continue to suffer damages and irreparable harm unless Baccus is restrained and enjoined by this Court pursuant to 35 U.S.C. § 283 from further infringement of the '806 patent.

THIRD CAUSE OF ACTION
Patent Infringement of the '410 Patent

103. Pilot incorporates and re-alleges paragraphs 1 through 80 as set forth above as though fully set forth herein.

104. The '410 patent is non-anticipated and non-obvious as defined in 35 U.S.C. §§ 102 and 103.

105. The '410 patent is not subject to prosecution history claim disclaimer. *See* Exhibit G, H, I, & J.

106. Baccus has made, used, imported, supplied, distributed, sold, and/or offered for sale the Accused Baccus Jump Starters. By so doing, the Accused Baccus Jump Starters that use MOSFET switches, such as the SS4LS chargers, directly infringe (literally and/or under the doctrine of equivalents, through Baccus' own acts and as joint infringement with users) at least claims 16-19 of the '410 patent. Baccus's infringement in this regard is ongoing.

107. Pilot has been damaged as a result of Baccus's infringing conduct and Baccus is liable to Pilot in an amount that adequately compensates it for such infringements, which, by law, cannot be less than a reasonable royalty, together with interest and costs as fixed by the Court under 35 U.S.C. § 284.

108. At least upon service of this Complaint, Baccus's infringement has been, and continues to be, willful and intentional and with full knowledge of the existence and validity of the '410 patent.

109. The willful and intentional nature of Baccus's infringement entitles Pilot to an award of treble damages pursuant to 35 U.S.C. § 284, and the exceptional nature of the case entitles Pilot to an award of its attorneys' fees pursuant to 35 U.S.C. § 285.

110. Pilot will continue to suffer damages and irreparable harm unless Baccus is

6. Venue is proper in this Judicial District pursuant to 28 U.S.C. §§ 1391 and 1400(b). Baccus maintains a principal place of business in this District, transacts business in this District, and committed acts of patent infringement in this District.

GENERAL ALLEGATIONS

7. Formed in 1996, Pilot strives to be first to market with innovations designed to serve the various needs of the growing automotive aftermarket. Through the years, Pilot has formed strong relationships with automotive retailers and large retail establishments as a source for quality and innovative automotive products, performance products, lighting, interior and exterior car and truck accessories, automotive jump starters, replacement parts, ornaments, towing accessories, and a variety of consumer electronics, such as dash cameras, smart phone accessories and ornamental lighting. Pilot sells under the following brand names:



8. In January of 2013, Mr. Calvin Wang (“Mr. Wang”), then President and CEO of Pilot, began exploring the development of a new, safe lithium jump starter for sale through Pilot’s retail channels, including Pep Boys, Auto Zone, Inc., Advance Auto Parts, Inc., Walmart Inc., and Lowes Companies, Inc.. A chemical engineer with a master’s degree from the University of California at Los Angeles, Mr. Wang often led Pilot’s new product initiatives. At the time, retailers were reluctant to stock lithium jump starters due to public concerns regarding combustion and fire associated with the use of rechargeable lithium batteries, particularly in high energy consumption applications such as jump starting an automobile.

9. During the first portion of 2013, Lowes Companies Inc., (“Lowes”) communicated to Pilot that it would be interested in offering a *safe* lithium jump starter, in addition to the

restrained and enjoined by this Court pursuant to 35 U.S.C. § 283 from further infringement of the '410 patent.

PRAYER FOR RELIEF

WHEREFORE, Pilot prays for judgment against Baccus as follows:

- A. Adjudging that the '653, '806, and '410 patents have been infringed by Baccus;
- B. Awarding Pilot damages against Baccus in an amount adequate to compensate Pilot for Baccus's infringement, together with interest and costs;
- C. Awarding Pilot an additional sum on account of the willful, intentional, and deliberate character of Baccus's infringing acts pursuant to 35 U.S.C. § 284;
- D. Adjudging that this case is exceptional pursuant to 35 U.S.C. § 285 and awarding Pilot reasonable attorney fees and costs against Baccus; and
- E. Granting Pilot all other legal and equitable relief for which Pilot is entitled.

DEMAND FOR JURY TRIAL

Pilot hereby requests a trial by jury pursuant to Rule 38 of the Federal Rules of Civil Procedure on all claims triable to a jury.

Dated: June 7, 2021

Respectfully submitted,

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Attorneys For Plaintiff Pilot, Inc.

traditional alkaline-based jump starters it was then exclusively selling. At the time, Baccus dominated the automotive jump starter segment at Lowes, but did not offer a lithium option due to the unresolved safety issues that arise around the timing and passage of substantial power from a lithium battery sufficient to jump start the vehicle.

10. Lowes noted that it was unwilling to place the available lithium jump starters on its shelves as they had many unacceptable safety issues. Based upon its survey of the available products, no manufacturer was offering a lithium jump starter that was considered safe for use by consumers. In fact, none of the major retailers (Walmart, Auto Zone, Advance Auto, Pep Boys, Target, Lowes, Home Depot, etc.) were offering a lithium alternative to the ubiquitous alkaline-based automotive jump starters.

11. Lowes wanted to offer its own lithium jump starter via a private label arrangement with Pilot, provided Pilot could design a safe lithium jump starter that could pass the rigors of the Lowes' quality assurance team. At the time, a standard had not been published by UL or Nationally Recognized Testing Laboratories ("NRTL") for these products.

12. In the years leading up to 2013, Pilot had a relationship with Foxconn, a respected manufacturer of high-quality consumer electronics. Through this relationship, Mr. Wang retained the services of Mr. Chung-Hsin "Jason" Wang ("Mr. Jason Wang"), an electrical engineer working for Foxconn. Mr. Jason Wang was hired to assist Mr. Wang in achieving his conception for a safe lithium jump starter. Together, Messrs. Wang developed a safety circuit that employed a novel combination of a microcontroller unit and electrical circuit modules to govern and safely control transfer of power from a lithium ion battery to a battery to be charged.

13. Through a lengthy and expensive research and development effort, Messrs. Wang designed an electrical architecture, microcontroller unit and scheme that protected the lithium jump

starter, the automotive battery, and the user prior to, during, and following the surge of energy transferred when the jump starter is activated. Through Mr. Wang, Pilot presented the solution to Lowes in the summer of 2013.

14. Lowes demonstrated healthy skepticism regarding the presented solution. Over the coming year, Lowes imposed a demanding quality assurance program upon Pilot and its novel technology. Only after satisfying Lowes rigorous QA was Pilot able to secure the first purchase order for lithium jump starters that feature the now patented safety mechanism.

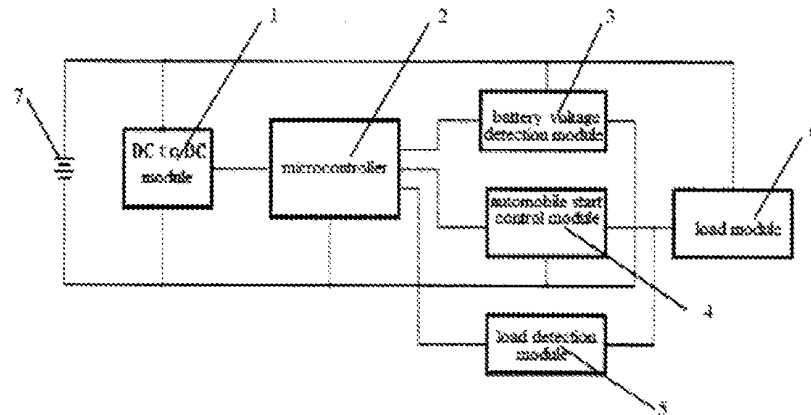
15. Lowes was unwilling to purchase lithium jump starters without the safety mechanisms designed by Pilot. Once satisfied with the technology, Lowes created space in its store for a new product line and ordered \$10,000,000 worth of the product, which Lowes marketed under the INSTABOOST brand name. Pilot marketed technically identical products under the LIGHTNING brand name, a photo of the product being represented below:



PILOT'S PATENTS COVERING THE WANG INVENTIONS

16. On April 28, 2014, Mr. Wang filed Chinese Patent Application Number 2014 2 0212173 ("the '173 application") describing various inventive aspects of the above product. Specifically, the '173 Application disclosed the novel and non-obvious use of a microcontroller

and a series of modules to control the timing and passage of electrical power from the lithium battery to the battery of a car in a safe manner, as shown in the below drawing:



17. Thereafter, Mr. Wang filed U.S. Patent Application 14/569,352, which ultimately matured into U.S. Patent Number 9,525,297 (the “’297 patent”), entitled “Automobile Charger,” on December 20, 2016. A copy of the ‘297 Patent is attached hereto as Exhibit A and incorporated herein. On July 3, 2018, inventorship was amended to note that Mr. Jason Wang was a contributing inventor to the ‘297 patent. A certificate of correction was entered regarding Mr. Jason Wang’s inventorship on March 26, 2019.

18. The ‘297 patent was fully assigned to Pilot on December 20, 2016.

19. Pilot has continuously marked its jump starter products covered by at least one claim of the ‘297 Patent with United States Patent No 9,525,297.

20. On November 18, 2016, Messrs. Wang filed a continuation of patent application No. 14/569,352, now the ‘297 patent. The United States Patent & Trademark Office (“USPTO”) issued the continuation application on August 14, 2018 as U.S. Patent No. 10,046,653 (the “’653 patent”). The continuation patent that ultimately matured into the ‘653 patent was fully assigned to Pilot on January 10, 2018. A copy of the ‘653 Patent is attached hereto as Exhibit B and incorporated herein.

21. On March 16, 2018, the Messrs. Wang filed another continuation application, which issued on June 25, 2019 as U.S. Patent No. 10,328,806 (the “’806 patent”). The continuation patent that ultimately matured into the ’806 patent was fully assigned to Pilot on January 10, 2018. A copy of the ’806 Patent is attached hereto as Exhibit C and is incorporated herein. Pilot has sold no lithium jump starter product covered by claims of the ’806 patent since issuance of that patent.

22. On May 6, 2019, the Messrs. Wang filed another continuation application, which too is owned by Pilot, and which issued on December 29, 2020 as U.S. Patent No. 10,875,410 (the “’410 patent”). The continuation patent that ultimately matured into the ’410 patent was fully assigned to Pilot on January 10, 2018. A copy of the ’410 Patent is attached hereto as Exhibit D and incorporated herein.

23. A further continuation application is currently pending before the United States Patent and Trademark Office (“USPTO”).

24. This family of patents describe and claim, *inter alia*, an automobile charging device with a stable power supply that allows for safe charging. Namely, the patented features ensure that the mobile battery does not discharge unless the cables are properly connected to the battery to be charged and other characteristics are present before a jump start can be initiated. This patented safety mechanism has been critical to the success of Pilot’s commercial embodiment and, not coincidentally, the accused Baccus Jump Starters that followed.

ACCEPTANCE AND COMMERCIAL SUCCESS

25. Lowes was the first major customer for Pilot’s lithium jump starter, accepting delivery of \$10 million in product commencing in September of 2014.

26. In order to draw attention to the existence of the safety mechanism in these products, Pilot directed that the microprocessor and modules described in the Pilot Patents be positioned in a control housing located on the jumper cables.



This allowed easy visual confirmation for the consumer that the jump starter featured the desired safety controls.

27. Subsequent to launching Pilot's INSTABOOST at Lowes, many lithium based automotive jump starter manufacturers obtained and copied the patented design.

28. The patented safety mechanisms were essential to the success of the overall product and presented the reason why consumers (including retail buyers and end consumers) preferred INSTABOOST and LIGHTNING over other lithium jump starters then in the market.

29. To ensure that retailers and end consumers knew that the Baccus Jump Starters had the safety features disclosed in Pilot's patents, Baccus positioned the control housing on its jumper cables for certain models:



30. Ultimately, Baccus has released at least three different models of lithium jump starters that feature Pilot's patented safety technology. The different models allow the products to be sold through various mass market retailers and through many eCommerce channels under brands, on information and belief, licensed by Baccus. The models take at least the following three forms:



31. Baccus incorporated Pilot's safety technology within the body of the battery of the two models on the right. In addition to the P2G7S and SS4LS models deconstructed and analyzed

PETITION TO ACCEPT UNINTENTIONALLY DELAYED PAYMENT OF MAINTENANCE FEE IN AN EXPIRED PATENT (37 CFR 1.378(b))

Patent Number	Issue Date	Application Number	Filing Date	Docket Number (if applicable)
9525297	20-Dec-2016	14569352	12-Dec-2014	

CAUTION: Maintenance fee (and surcharge, if any) payment must correctly identify: (1) the patent number and (2) the application number of the actual U.S. application leading to issuance of that patent to ensure the fee(s) is/are associated with the correct patent. 37 CFR 1.366(c) and (d).

Applicants claims the following fee status:

☒ Small Entity

☐ Micro Entity

☐ Regular Undiscounted

Applicants selects the following :

☒ 3 1/2

☐ 7 1/2

☐ 11 1/2

PETITION FEE

The petition fee required by 37 CFR 1.17(m) (Fee Code 1558/2558) must be paid as a condition of accepting unintentionally delayed payment of the maintenance fee.

MAINTENANCE FEE (37 CFR 1.20(e)-(g))

The appropriate maintenance fee must be submitted with this petition.

STATEMENT

The delay in payment of the maintenance fee for this patent was unintentional.

Petitioner is reminded that a delay resulting from a deliberately chosen course of action or a change in circumstance is not an unintentional delay.

Petitioner is further reminded that a person seeking reinstatement of an expired patent should not make a statement that the delay in payment of the maintenance fee was unintentional unless the entire delay was unintentional, including the period from discovery that the maintenance fee was not timely paid until payment of the maintenance fee. For example, a statement that the delay in payment of the maintenance fee was unintentional would not be proper when the patentee becomes aware of an unintentional failure to timely pay the maintenance fee and then intentionally delays filing a petition for reinstatement of the patent under 37 CFR 1.378. See MPEP 2590.

NOTE: Where the petition under 37 CFR 1.378 is filed more than two years after the date the patent expired for nonpayment of the maintenance fee, the United States Patent and Trademark Office requires an additional explanation of the circumstances surrounding the delay that establishes the entire delay was unintentional. This requirement is in addition to the requirement to provide a statement that the entire delay was unintentional. See *Clarification of the Practice for Requiring Additional Information in Petitions Filed in Patent Applications and Patents Based on Unintentional Delay*, 85 FR 12222 (March 2, 2020). See MPEP 711.03(c)(II)(C)-(F) for additional guidance on the information required to establish that the entire delay was unintentional.

PETITIONER(S) REQUEST THAT THE DELAYED PAYMENT OF THE MAINTENANCE FEE BE ACCEPTED AND THE PATENT REINSTATED

THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES

37 CFR 1.378(c) states: "Any petition under this section must be signed in compliance with 37 CFR 1.33(b) ."

I certify, in accordance with 37 CFR 1.4(d)(4) that I am

- ☒ An attorney or agent registered to practice before the Patent and Trademark Office who has been given power of attorney in this application.
- ☐ An attorney or agent registered to practice before the Patent and Trademark Office
- ☐ A sole patentee
- ☐ A joint patentee; I certify that I am authorized to sign this submission on behalf of all the other patentees as evidenced by the power of attorney in the application
- ☐ A joint patentee; all of whom are signing this e-petition
- ☐ The assignee of record of the entire interest that qualifies as an authorized party under 37 CFR 1.33(b)

Attorney

A signature of the applicant or representative is required in accordance with 37 CFR 1.33 and 10.18. Please see 37 CFR 1.4(d) for the form of the signature

Signature	/David B. Kellis/		
Name	David B. Kellis	Registration Number	59377

Electronic Patent Application Fee Transmittal				
Application Number:		14569352		
Filing Date:		12-Dec-2014		
Title of Invention:		Automobile Charger		
First Named Inventor/Applicant Name:		Calvin Shiening Wang		
Filer:		David B. Kellis/Mandi Lamberson		
Attorney Docket Number:		8523WANG-1		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
MAINTENANCE FEE DUE AT 3.5 YEARS	2551	1	1000	1000
PET. DELAY PYMT MAINTAIN PATENT IN FORCE	2558	1	1050	1050
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				2050



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

In re Patent No. 9525297 :
Issue Date: December 20,2016 :
Application No. 14569352 :DECISION GRANTING PETITION
:UNDER 37 CFR 1.378(b)
Filed: December 12,2014 :
Attorney Docket No. 8523WANG-1 :

This is a decision on the electronic petition, filed February 4,2021 ,under 37 CFR 1.378(b)
to accept the unintentionally delayed payment of the 3.5 year maintenance fee for the above-identified patent.

The petition is **GRANTED**.

The maintenance fee is accepted, and the above-identified patent reinstated as of February 4,2021 .
This decision also constitutes notice that the fee has been accepted. An electronic copy of the petition and
this decision has been created as an entry in the Image File Wrapper. Nevertheless, petitioner should print
and retain an independent copy.

Telephone inquiries related to this electronic decision should be directed to the Electronic Business Center at 1-866-217-9197.

Electronic Acknowledgement Receipt	
EFS ID:	41839955
Application Number:	14569352
Patent Number:	9525297
Confirmation Number:	1207
Petition Issued Date:	February 4,2021
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	22442
Filer:	David B. Kellis/Mandi Lamberson
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523WANG-1
Receipt Date:	04-FEB-2021
Filing Date:	12-DEC-2014
Time Stamp:	16:01:52
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$ 2050
RAM confirmation Number	E202124G02351430
Deposit Account	191970
Authorized User	Mandi Lamberson
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:	

37 CFR 1.16 (National application filing, search, and examination fees)
 37 CFR 1.17 (Patent application and reexamination processing fees)
 37 CFR 1.19 (Document supply fees)
 37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Petition automatically granted by EFS	petition-request.pdf	38679	no	2
			9b559f826817b0db6217f00781138f7949692e18		

Warnings:

Information:

2	Fee Worksheet (SB06)	fee-info.pdf	32178	no	2
			486c81ff651e9885ff0ab94c6fe4d68799626a3f		

Warnings:

Information:

Total Files Size (in bytes):			70857
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

AO 120 (Rev. 08/10)

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been
 filed in the U.S. District Court Northern District of Illinois on the following

☐ Trademarks or ☐ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 19 cv 5982	DATE FILED 9/6/2019	U.S. DISTRICT COURT Northern District of Illinois
PLAINTIFF Pilot		DEFENDANT Schumacher Electric Corporation
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 see attached		
2		
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
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5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK Thomas G. Bruton	(BY) DEPUTY CLERK E. Caswick	DATE 7/15/2020
---------------------------	---------------------------------	-------------------

Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

(12) **United States Patent**
Wang et al.

(10) **Patent No.: US 10,046,653 B2**
 (45) **Date of Patent: *Aug. 14, 2018**

(54) **AUTOMOBILE CHARGER**

(56) **References Cited**

(71) Applicant: **Pilot Inc.**, City of Industry, CA (US)

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(72) Inventors: **Calvin Shiening Wang**, City of Industry, CA (US); **Chung-Hsin Wang**, Shenzhen (CN)

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(73) Assignee: **Pilot Inc.**, City of Industry, CA (US)

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(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

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This patent is subject to a terminal disclaimer.

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(21) Appl. No.: **15/355,409**

(Continued)

(22) Filed: **Nov. 18, 2016**

Primary Examiner — Sun Lin

(65) **Prior Publication Data**

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(74) Attorney, Agent, or Firm — Sheridan Ross, P.C.

Related U.S. Application Data

(63) Continuation of application No. 14/569,352, filed on Dec. 12, 2014, now Pat. No. 9,525,297.

(57) **ABSTRACT**

(30) **Foreign Application Priority Data**

Apr. 28, 2014 (CN) 2014 2 0212173 U

A novel automobile charger comprises a direct current (DC) voltage supply, wherein a positive pole of the DC voltage supply is connected with a first end of a first lead of a DC-to-DC module, a first end of a battery voltage detection module and a first end of a load module simultaneously while a negative pole of the DC voltage supply is connected with a second end of the DC-to-DC module, a first end of a microcontroller, a first end of an automobile start control module and a second end of the battery voltage detection module simultaneously. A third end of the DC-to-DC module is connected with a second end of the microcontroller. Third, fourth, and fifth ends of the microcontroller are connected with a third end of the battery voltage detection module, a second end of the automobile start control module and a first end of a load detection module respectively. A second end of the load detection module is connected with a third end of the automobile start control module and a second end of the load module simultaneously.

(51) **Int. Cl.**

H02J 7/00 (2006.01)
 B60L 11/18 (2006.01)
 H02J 9/00 (2006.01)

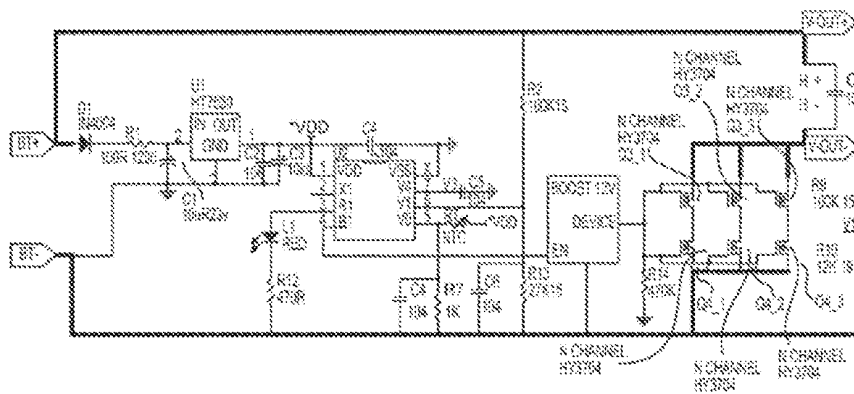
(52) **U.S. Cl.**

CPC B60L 11/1809 (2013.01); H02J 7/0034 (2013.01); H02J 7/0065 (2013.01);
 (Continued)

(58) **Field of Classification Search**

CPC B60L 11/1809; H02J 7/0034; H02J 7/0068
 (Continued)

20 Claims, 2 Drawing Sheets



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Page 2

(52) **U.S. CL**
 CPC *H02J 7/0068* (2013.01); *H02J 7/0029*
 (2013.01); *H02J 9/005* (2013.01)

(58) **Field of Classification Search**
 USPC 320/109
 See application file for complete search history.

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Aug. 14, 2018

Sheet 1 of 2

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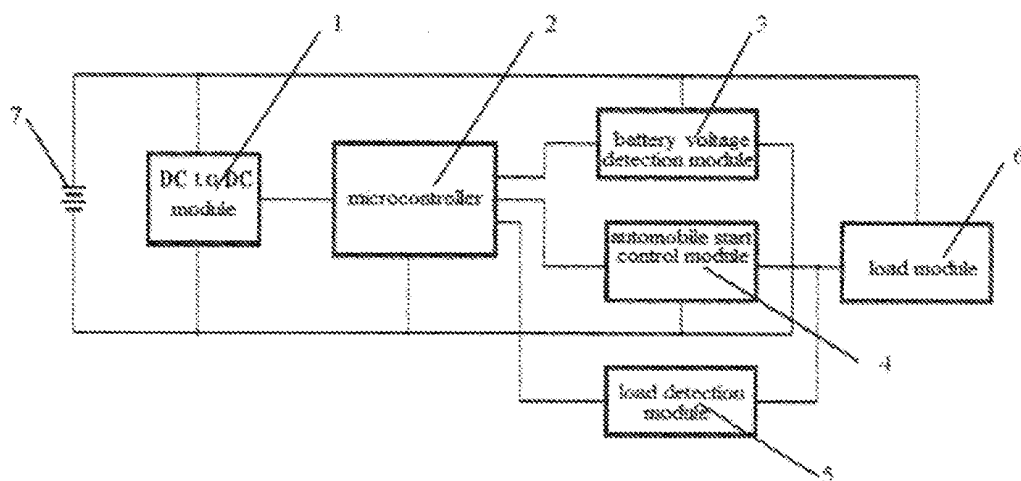
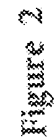


Figure 1



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AUTOMOBILE CHARGER**RELATED APPLICATIONS**

This application claims the benefit of priority of Chinese application no. 201420212173.5 filed Apr. 28, 2014, the entire content of which is incorporated herein by reference.

BACKGROUND

The present disclosure relates to an automobile charging device, in particular relates to a novel automobile charger with a safe power supply charging quickly.

Automobile charging is a big issue of traveling by automobile for those automobile fans and businessmen, the maturity of the technology thereof is one of the critical factors restricting the application of the automobile charger. However, current automobile chargers have common problems of not able to automatically detect whether a load is connected, whether an electrode is connected with an automobile storage battery reversely, whether an automobile engine or the storage battery has a reverse current, whether the battery state is suitable for heavy current power generation and so on. Accordingly, the present disclosure provides a novel automobile charger with the safe power supply charging quickly to solve the problems mentioned above, thus making the automobile charging safe, quick, mature and propagable.

SUMMARY

A purpose of the present disclosure aims to provide a novel automobile charger with the safe power supply charging quickly, in order to solve the problems presented in the above background.

To achieve the purpose described above, the present disclosure provides the following technical solutions: a novel automobile charger comprises a direct current power supply, wherein a positive pole of the direct current power supply is connected with one end of a DC to DC module, one end of a battery voltage detection module and one end of a load module simultaneously, while a negative pole of the direct current voltage is connected with the other end of the DC to DC module, one end of a microcontroller, one end of an automobile start control module and the other end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with the other end of the microcontroller, and the other three ends of the microcontroller are connected with the third end of the battery voltage detection module, the other end of the automobile start control module and one end of the load detection module respectively, wherein the other end of the load detection module is connected with the third end of the automobile start control module and the other end of the load module simultaneously; the load module which comprises the automobile storage battery and the automobile engine is located on the end of the load module.

As a further solution of the present disclosure that: the DC to DC module provides a stable voltage for the microcontroller which collects relevant data to conduct the corresponding control. The battery voltage detection module conducts the measurement of the battery voltage, the automobile start control module conducts the power supply or the power outage for the load module through the microcontroller, and the load detection module which comprises the automobile storage battery or the automobile engine detects whether the load module is correctly connected.

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As a further solution of the present disclosure that: the circuit employs an electronic switch to supply power to the load module, which can offer more protection for the product, or reduce the product size and the material cost.

As a further solution of the present disclosure that: the battery voltage detection module provides protection for the power supply battery to prevent damages caused by the discharging of the direct current power supply.

As a further solution of the present disclosure that: the load detection module prevents improper operations of the user.

As a further solution of the present disclosure that: in the standby mode, the microcontroller closes all outputs when the voltage of the direct current power supply is lower than that of the state being able to supply power and then recovers when it is higher than that of the state being able to supply power.

As a further solution of the present disclosure that: the automobile start control module is the electronic switch.

Compared to the prior art, the present disclosure has the beneficial effects that:

1. The present disclosure employs the electronic switch to control the supply power for the load, this part can offer more protection for the product, and reduce the product size and the material cost.

2. The battery detection of the present disclosure can provide low voltage protection to prevent damages caused by the over discharging of the battery.

3. The load detection of the present disclosure can prevent improper operations by the user, such as reversed polarity, which causes damages to the automobile or the direct current power supply.

4. The present disclosure employs the voltage backflow protection for abnormal load, wherein the automobile start line is closed to protect the battery when the abnormal voltage is detected.

5. The present disclosure has a fast charging function, and can be installed fixedly or moved portably according to the use requirements of people.

6. The automatic detection module of the present disclosure can automatically detects whether the load is connected, whether the electrode is connected with the automobile storage battery reversely, whether the automobile engine or the storage battery has reverse current, whether the battery state is suitable for heavy current power generation, thereby protecting the load and the circuit and thus has complete functions.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a block diagram for the principle of the emergency power supply of the safe intelligent automobile;

FIG. 2 is a circuit diagram for the emergency power supply of the safe intelligent automobile.

In figures: 1—DC to DC module, 2—microcontroller, 3—battery voltage detection module, 4—automobile start control module, 5—load detection module, 6—load module, 7—direct current power supply.

DETAILED EMBODIMENTS

The technical solutions of the present disclosure will be described more clearly and fully in conjunction with drawings in the embodiments of the present disclosure, and obviously, the described embodiments are merely a part of the embodiments of the present disclosure, not all the embodiments. Based on the embodiments of the present

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disclosure, all the other embodiments obtained by the ordinary skilled in the art without creative labors belong to the scope claimed by the present disclosure.

Refer to FIG. 1, a novel automobile charger comprises a direct current power supply, wherein the positive pole of the direct current power supply is connected with one end or lead of the DC to DC module, one end of the battery voltage detection module and one end of the load module simultaneously, while the negative pole of the direct current voltage is connected with the other end of the DC to DC module, one end of the microcontroller, one end of the automobile start control module and the other end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with the other end of the microcontroller, and the other three ends of the microcontroller are connected with the third end of the battery voltage detection module, the other end of the automobile start control module and one end of the load detection module respectively, wherein the other end of the load detection module is connected with the third end of the automobile start control module and the other end of the load module simultaneously; the load module which comprises the automobile storage battery and the automobile engine is located on the end of the load module.

Refer to FIG. 2, the DC to DC module comprises a diode D1, a resistor R1, capacitor C1, a HT7530 voltage stabilizing tube, capacitors C2 and C3, wherein the positive pole of the diode D1 is connected with the positive pole of the battery, the negative pole of the diode D1 is connected with one end of the capacitor C1 and an IN port of the HT7530 voltage stabilizing tube simultaneously through the resistor R1, and an OUT port of the HT7530 voltage stabilizing tube is connected with one end of the capacitor C2, one end of the capacitor C3 and a VDD port of the microcontroller U2, while the other end of the capacitor C1, the other end of the capacitor C2 and the other end of the capacitor C3 as well as a GND port of the HT7530 voltage stabilizing tube are grounded and connected with the negative pole of the battery simultaneously; a RI port of the microcontroller U2 is connected with the negative pole of the battery through a light-emitting diode L1 and a resistor R12 which are in series connection, a BI port of the microcontroller U2 is connected with a EN port of the automobile start control module, a V0 port of the microcontroller U2 is connected with the negative pole of the battery through a capacitor C4 and a resistor R7 which are in parallel connection, the V0 port is also connected with the VDD port through a slide rheostat RE, a V1 port of the microcontroller U2 is also connected with the negative pole of the battery through a resistor R8, a capacitor C6 and a resistor R13 which are in parallel connection, the V1 port is connected with the positive pole of the battery through a resistor R2, and is also connected with the negative pole of the automobile storage battery and the automobile engine simultaneously through a resistor R9, wherein two ends of the automobile storage battery are in parallel connection with the capacitor C7, resistors R9, R8, a capacitor C6 and a resistor R13 to form the load detection module together, a V4 port of the microcontroller U2 is grounded through a capacitor C5, a VSS port of the microcontroller U2 and one end of the capacitor C4 are grounded simultaneously. The other end of the capacitor C4 is connected with the VDD port of the microcontroller U2, the resistors R2, R13 and capacitor C6 form the battery voltage detection module together, and a Drive port of the automobile start control module is connected

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with the automobile engine and one end of a resistor R14 simultaneously, wherein the other end of the resistor R14 is grounded.

The DC to DC module in the present disclosure provides the stable voltage for the microcontroller which collects relevant data to conduct the corresponding control. The battery voltage detection module conducts the measurement of the battery voltage, and the automobile start control module conducts the power supply or the power outage for the load module through the microcontroller, wherein the load detection module detects whether the load module is correctly connected.

The microcontroller in the present disclosure determines whether the automobile storage battery is connected with the automobile engine through the load detection module, wherein the automobile start control model is automatically activated and the battery starts to supply power to the load module when the load is correctly connected; the automobile start control model is automatically deactivated and the battery stops supplying power to the load module when assuming that the load is not connected or the positive and negative polarities are reversely connected. In the standby mode, the microcontroller closes all outputs when the battery voltage is lower than 9V, and recovers the normal operation only when the battery voltage is larger than 10V; the automobile engine will generate the normal voltage to recharge the battery after the automobile starts, whereas the automobile start control module is deactivated immediately once the recharging voltage is larger than the voltage before that battery starts the power supply, to protect the battery from damages caused by charging with the normal voltage; the automobile start control module is the electronic switch, which can prevent the load from being reversely connected and recharging of the normal voltage, thus protecting the battery and prolonging lifespan.

The automobile engine will generate abnormal voltage to recharge the direct current power supply after the automobile starts, and the automobile start control module is deactivated immediately once the recharging voltage is larger than the voltage before the direct current power supply starts the power supply, to protect the direct current power supply from damages caused by charging with normal voltage charge.

It is obvious for the skilled people in the art that the present disclosure is not merely limited to the details of the above exemplary embodiments, and the present disclosure can be implemented in other specific forms without departing from the sprits or the basic features of the present disclosure. Thus, no matter to consider from which point of view, the embodiments should be considered as exemplary and non-limiting. The scope of the present disclosure is defined by the accompanying Claims rather than the above description, therefore it is intended that all the changes fallen within the meanings and scope of the equivalent elements of the Claims are contained in the present disclosure. Any drawing reference in the Claims should not be regarded as limiting the Claims involved.

Furthermore, it should be understood that although the specification is described according to the embodiments, but not every embodiment includes only an independent technical solution, this manner of description for the specification is only for clarity, therefore the skilled people in the art should take the Specification as a whole, and the technical solutions in various embodiments can be combined appropriately to form other implementations understandable for those skilled in the art.

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What is claimed is:

1. An automobile charger, comprising:

a first pole of a first battery connected with a first lead of a power converter, a first lead of a battery level detector, and a first lead of a load;

a second pole of the first battery connected with a second lead of the power converter, a first lead of a microcontroller, a first lead of a switching circuit and a second lead of the battery level detector;

a third lead of the power converter connected with a second lead of the microcontroller; and

three additional leads of the microcontroller connected with a third lead of the battery level detector, a second lead of the switching circuit and a first lead of a load detector, respectively,

wherein a second lead of the load detector is connected with a third lead of the switching circuit and a second lead of the load, and

wherein the load includes a second battery and a motor.

2. The automobile charger according to claim 1, wherein: the power converter includes a one-way current device, a resistance R1, a capacitance C1, a voltage stabilizing device, a capacitance C2 and a capacitance C3;

a first terminal of the one-way current device is connected with the first pole of the first battery;

a second terminal of the one-way current device is connected with a first lead of the capacitance C1 and an IN port of the voltage stabilizing device through the resistance R1;

an OUT port of the voltage stabilizing device is connected with a first lead of the capacitance C2, a first lead of the capacitance C3 and a power port of a microcontroller U2;

a second lead of the capacitance C1, a second lead of the capacitance C2 and a second lead of the capacitance C3 as well as a common port of the voltage stabilizing device are grounded and connected with the second pole of the first battery;

a first port of the microcontroller U2 is connected with the second pole of the first battery through a light source and a resistance R12 in series connection;

a second port of the microcontroller U2 is connected with an input of the switching circuit;

a third port of the microcontroller U2 is connected with the second pole of the first battery through a capacitance C4 and a resistance R7 in parallel connection and is also connected with the power port through a variable resistance R1;

a fourth port of the microcontroller U2 is connected with the second pole of the first battery through a resistance R10, a capacitance C6 and a resistance R13 in parallel connection;

the fourth port of the microcontroller U2 is also connected with the first pole of the first battery through a resistance R2 and is also connected with a first pole of the second battery and the motor through a resistance R9; two leads of the second battery are in parallel connection with the capacitance C7, the resistances R9, R10, the capacitance C6 and the resistance R13 together to form the load detector;

a fifth port of the microcontroller U2 is grounded through a capacitance C5;

a common port of the microcontroller U2 and one end of a capacitance C4 are grounded;

the second lead of the capacitance C4 is connected with the power port of the microcontroller U2;

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the resistance R2, the capacitance C6 and the resistance R13 form the battery level detector; and

an output of the switching circuit is connected with the motor and one end of a resistance R14, wherein the other end of the resistance R14 is grounded.

3. The automobile charger according to claim 1, wherein: the power converter is operably configured to provide a stable voltage for the microcontroller which collects relevant data to conduct a corresponding control;

the battery level detector conducts a measurement of a voltage of the first battery; and

the switching circuit conducts power supply or power outage for the load through the microcontroller, wherein the load detector detects whether the load is correctly connected.

4. The automobile charger according to claim 1, wherein the battery level detector is further configured to provide a protection for the first battery.

5. The automobile charger according to claim 1, wherein the microcontroller, when placed in a standby mode, closes all outputs when a voltage of the first battery is lower than that of a state being able to supply power and then recovers when the voltage of the first battery is higher than that of the state being able to supply power.

6. The automobile charger according to claim 1, wherein the switching circuit is an electronic switch.

7. A charging device, comprising:

a battery level detector to detect a level of a first battery;

a load detector to detect a type of connection of a load;

a microcontroller to generate an output signal based on the level of the first battery and the type of connection of the load; and

switching circuitry to selectively connect the first battery to the load based on the output signal.

8. The charging device of claim 7, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

9. The charging device of claim 8, wherein the load is a second battery and a motor powered by the second battery.

10. The charging device of claim 9, wherein the proper connection of the load is a polarity match between the second battery and the motor, and

wherein the improper connection of the load is a polarity reversal between the second battery and the motor or a disconnection of the second battery from the motor.

11. The charging device of claim 8, wherein the microcontroller is configured to:

generate the output signal to cause the switching circuitry to connect the first battery to the load if the load is properly connected and the level of the first battery is above a threshold; and

generate the output signal to cause the switching circuitry to disconnect the first battery from the load if i) the level of the first battery is below the threshold, or ii) the load is improperly connected.

12. The charging device of claim 7, wherein the battery level detector detects a recharging level of the first battery.

13. The charging device of claim 12, wherein the microcontroller generates the output signal to cause the switching circuitry to disconnect the first battery from the load if the recharging level of the first battery is greater than a threshold.

14. The charging device of claim 7, further comprising: a power converter to convert power received from the first battery into a stable power source that powers the microcontroller.

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15. The charging device of claim 14, wherein the power converter is a direct current to direct current (DC-DC) converter.

16. The charging device of claim 7, wherein the level of the first battery is a voltage level.

17. A method, comprising:

detecting a level of a first power source;

detecting a type of connection of a load;

generating an output signal based on the level of the first power source and the type of connection of the load; and

selectively connecting the first power source to the load based on the output signal.

18. The method of claim 17, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

19. The method of claim 18, wherein the load is a second power source and an electrical component powered by the second power source.

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wherein the proper connection of the load is a correct polarity connection between the second power source and the electrical component, and

wherein the improper connection of the load is an incorrect polarity connection between the second power source and the electrical component or a disconnection of the second power source from the electrical component.

20. The method of claim 18, the generating comprising: generating the output signal to cause the switching circuitry to connect the first power source to the load if the load is properly connected and the level of the first power source is above a threshold; and

generating the output signal to cause the switching circuitry to disconnect the first power source from the load if i) the level of the first power source is below the threshold, or ii) the load is improperly connected.

* * * * *

**UNITED STATES DISTRICT COURT
FOR THE Northern District of Illinois – CM/ECF LIVE, Ver 6.3.3
Eastern Division**

Pilot, Inc

Plaintiff,

v.

Case No.: 1:19-cv-05982

Honorable Edmond E. Chang

Schumacher Electric Corporation

Defendant.

NOTIFICATION OF DOCKET ENTRY

This docket entry was made by the Clerk on Monday, June 8, 2020:

MINUTE entry before the Honorable Edmond E. Chang: Pursuant to the parties' stipulation of dismissal [38], under Federal Rule of Civil Procedure 41(a)(1)(A)(ii), all claims and counterclaims are dismissed. The case is dismissed with prejudice, each side to bear its own fees and costs. Status hearing of 06/25/2020 is vacated. All pending motions are terminated. Civil case terminated Mailed notice (mw,)

ATTENTION: This notice is being sent pursuant to Rule 77(d) of the Federal Rules of Civil Procedure or Rule 49(c) of the Federal Rules of Criminal Procedure. It was generated by CM/ECF, the automated docketing system used to maintain the civil and criminal dockets of this District. If a minute order or other document is enclosed, please refer to it for additional information.

For scheduled events, motion practices, recent opinions and other information, visit our web site at www.ilnd.uscourts.gov.

EXHIBIT A



US009525297B2

(12) **United States Patent**
Wang

(10) **Patent No.:** **US 9,525,297 B2**

(45) **Date of Patent:** **Dec. 20, 2016**

(54) **AUTOMOBILE CHARGER**

(56) **References Cited**

(71) Applicant: **Wang's International, Inc.**, City of Industry, CA (US)

U.S. PATENT DOCUMENTS

(72) Inventor: **Calvin Shiening Wang**, City of Industry, CA (US)

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320/107

(73) Assignee: **Wang's International, Inc.**, City of Industry, CA (US)

8,447,543 B2 * 5/2013 Dickinson et al. . B60L 11/1816

702/58

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 201 days.

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141/192

9,333,865 B2 * 5/2016 Kawasaki et al. . B60L 11/1811

* cited by examiner

(21) Appl. No.: **14/569,352**

Primary Examiner — Sun Lin

(22) Filed: **Dec. 12, 2014**

(74) *Attorney, Agent, or Firm* — Sheridan Ross PC

(65) **Prior Publication Data**

US 2015/0306964 A1 Oct. 29, 2015

(30) **Foreign Application Priority Data**

Apr. 28, 2014 (CN) 2014 2 0212173 U

(57) **ABSTRACT**

(51) **Int. Cl.**

H02J 7/00 (2006.01)

B60L 11/18 (2006.01)

H02J 9/00 (2006.01)

(52) **U.S. Cl.**

CPC **H02J 7/0065** (2013.01); **H02J 7/0029** (2013.01); **H02J 9/005** (2013.01)

(58) **Field of Classification Search**

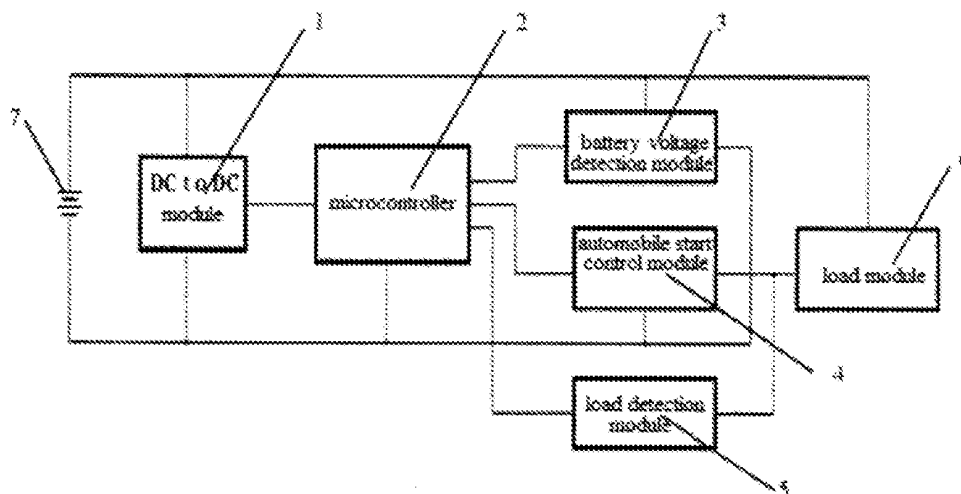
CPC B60L 11/1811; B60L 11/1816; B60L 11/1861; H02J 7/0029

USPC 320/162

See application file for complete search history.

A novel automobile charger which comprise a direct current voltage supply, wherein a positive pole of the direct current voltage supply is connected with one end or lead of a DC to DC module, one end of a battery voltage detection module and one end of a load module simultaneously, while a negative pole of the direct current voltage supply is connected with another end of the DC to DC module, one end of a microcontroller, one end of an automobile start control module and another end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with another end of the microcontroller. Other three ends of the microcontroller are connected with the third end of the battery voltage detection module, another end of the automobile start control module and one end of a load detection module respectively. Another end of the load detection module is connected with a third end of the automobile start control module and another end of the load module simultaneously.

6 Claims, 2 Drawing Sheets



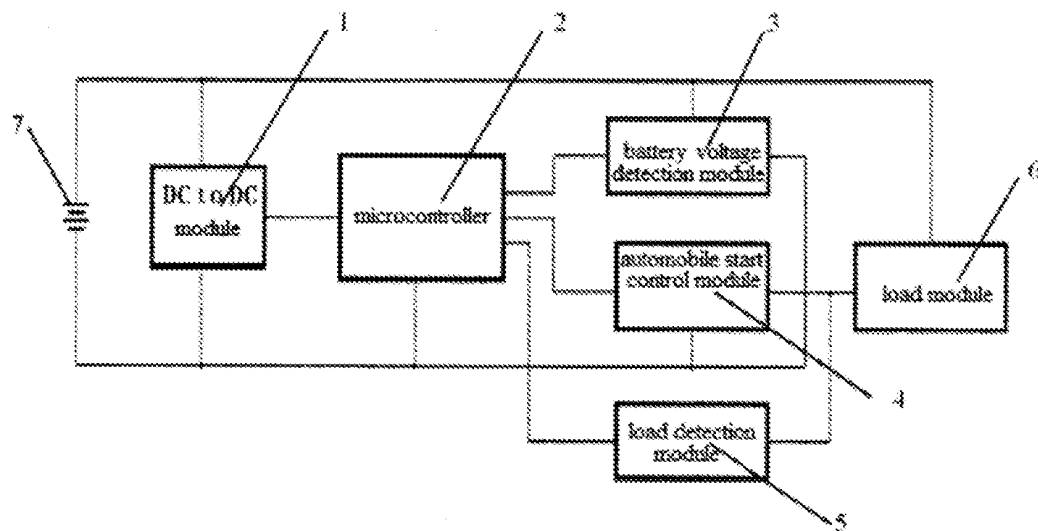


Figure 1

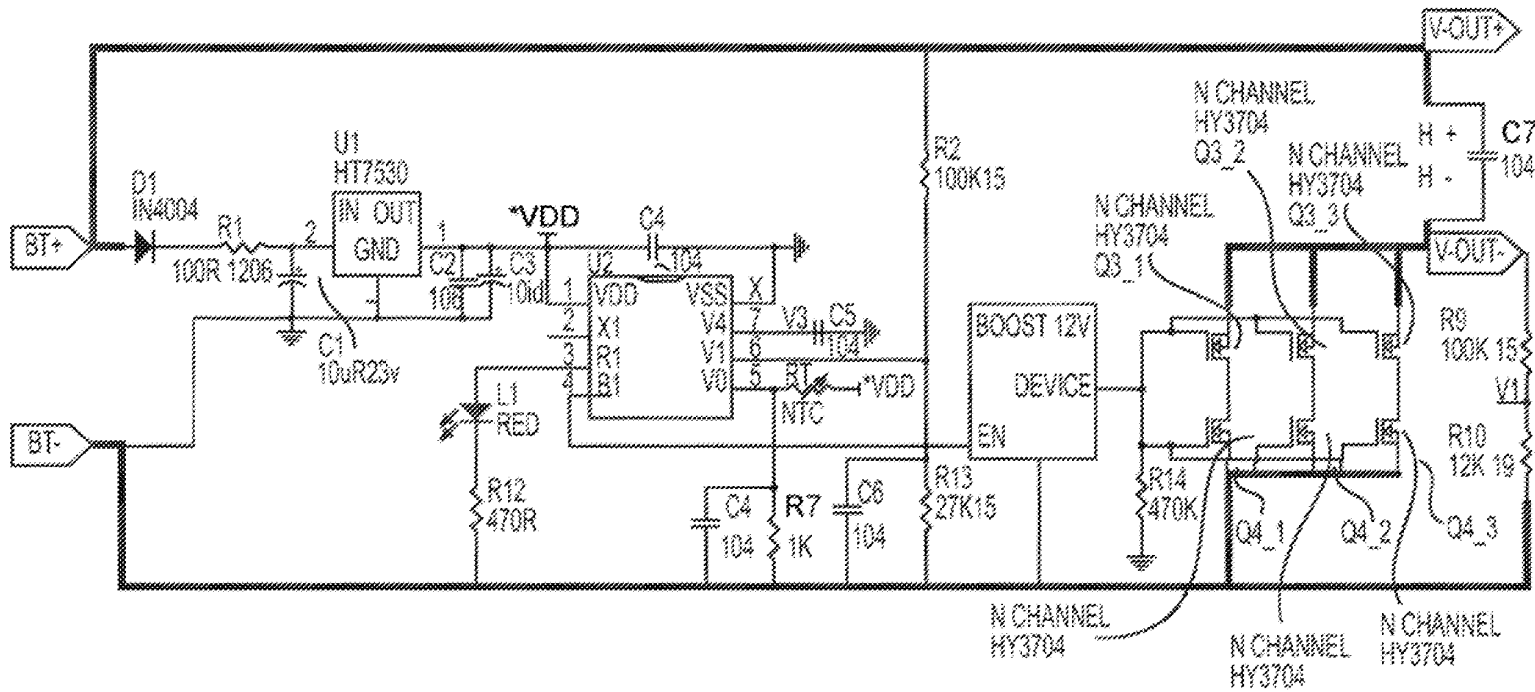


Figure 2

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AUTOMOBILE CHARGER**RELATED APPLICATIONS**

This application claims the benefit of priority of Chinese application no. 201420212173.5 filed Apr. 28, 2014, the entire content of which is incorporated herein by reference.

BACKGROUND

The present disclosure relates to an automobile charging device, in particular relates to a novel automobile charger with a safe power supply charging quickly.

Automobile charging is a big issue of traveling by automobile for those automobile fans and businessmen, the maturity of the technology thereof is one of the critical factors restricting the application of the automobile charger. However, current automobile chargers have common problems of not able to automatically detect whether a load is connected, whether an electrode is connected with an automobile storage battery reversely, whether an automobile engine or the storage battery has a reverse current, whether the battery state is suitable for heavy current power generation and so on. Accordingly, the present disclosure provides a novel automobile charger with the safe power supply charging quickly to solve the problems mentioned above, thus making the automobile charging safe, quick, mature and propagable.

SUMMARY

A purpose of the present disclosure aims to provide a novel automobile charger with the safe power supply charging quickly, in order to solve the problems presented in the above background.

To achieve the purpose described above, the present disclosure provides the following technical solutions: a novel automobile charger comprises a direct current power supply, wherein a positive pole of the direct current power supply is connected with one end of a DC to DC module, one end of a battery voltage detection module and one end of a load module simultaneously, while a negative pole of the direct current voltage is connected with the other end of the DC to DC module, one end of a microcontroller, one end of an automobile start control module and the other end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with the other end of the microcontroller, and the other three ends of the microcontroller are connected with the third end of the battery voltage detection module, the other end of the automobile start control module and one end of the load detection module respectively, wherein the other end of the load detection module is connected with the third end of the automobile start control module and the other end of the load module simultaneously; the load module which comprises the automobile storage battery and the automobile engine is located on the end of the load module.

As a further solution of the present disclosure that: the DC to DC module provides a stable voltage for the microcontroller which collects relevant data to conduct the corresponding control. The battery voltage detection module conducts the measurement of the battery voltage, the automobile start control module conducts the power supply or the power outage for the load module through the microcontroller, and the load detection module which comprises the automobile storage battery or the automobile engine detects whether the load module is correctly connected.

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As a further solution of the present disclosure that: the circuit employs an electronic switch to supply power to the load module, which can offer more protection for the product, or reduce the product size and the material cost.

As a further solution of the present disclosure that: the battery voltage detection module provides protection for the power supply battery to prevent damages caused by the discharging of the direct current power supply.

As a further solution of the present disclosure that: the load detection module prevents improper operations of the user.

As a further solution of the present disclosure that: in the standby mode, the microcontroller closes all outputs when the voltage of the direct current power supply is lower than that of the state being able to supply power and then recovers when it is higher than that of the state being able to supply power.

As a further solution of the present disclosure that: the automobile start control module is the electronic switch.

Compared to the prior art, the present disclosure has the beneficial effects that:

1. The present disclosure employs the electronic switch to control the supply power for the load, this part can offer more protection for the product, and reduce the product size and the material cost.

2. The battery detection of the present disclosure can provide low voltage protection to prevent damages caused by the over discharging of the battery.

3. The load detection of the present disclosure can prevent improper operations by the user, such as reversed polarity, which causes damages to the automobile or the direct current power supply.

4. The present disclosure employs the voltage backflow protection for abnormal load, wherein the automobile start line is closed to protect the battery when the abnormal voltage is detected.

5. The present disclosure has a fast charging function, and can be installed fixedly or moved portably according to the use requirements of people.

6. The automatic detection module of the present disclosure can automatically detects whether the load is connected, whether the electrode is connected with the automobile storage battery reversely, whether the automobile engine or the storage battery has reverse current, whether the battery state is suitable for heavy current power generation, thereby protecting the load and the circuit and thus has complete functions.

BRIEF DESCRIPTION OF DRAWINGS

FIG. 1 is a block diagram for the principle of the emergency power supply of the safe intelligent automobile;

FIG. 2 is a circuit diagram for the emergency power supply of the safe intelligent automobile.

In FIGS.: 1—DC to DC module, 2—microcontroller, 3—battery voltage detection module, 4—automobile start control module, 5—load detection module, 6—load module, 7—direct current power supply.

DETAILED EMBODIMENTS

The technical solutions of the present disclosure will be described more clearly and fully in conjunction with drawings in the embodiments of the present disclosure, and obviously, the described embodiments are merely a part of the embodiments of the present disclosure, not all the embodiments. Based on the embodiments of the present

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disclosure, all the other embodiments obtained by the ordinary skilled in the art without creative labors belong to the scope claimed by the present disclosure.

Refer to FIG. 1, a novel automobile charger comprises a direct current power supply, wherein the positive pole of the direct current power supply is connected with one end or lead of the DC to DC module, one end of the battery voltage detection module and one end of the load module simultaneously, while the negative pole of the direct current voltage is connected with the other end of the DC to DC module, one end of the microcontroller, one end of the automobile start control module and the other end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with the other end of the microcontroller, and the other three ends of the microcontroller are connected with the third end of the battery voltage detection module, the other end of the automobile start control module and one end of the load detection module respectively, wherein the other end of the load detection module is connected with the third end of the automobile start control module and the other end of the load module simultaneously; the load module which comprises the automobile storage battery and the automobile engine is located on the end of the load module.

Refer to FIG. 2, the DC to DC module comprises a diode D1, a resistor R1, capacitor C1, a HT7530 voltage stabilizing tube, capacitors C2 and C3, wherein the positive pole of the diode D1 is connected with the positive pole of the battery, the negative pole of the diode D1 is connected with one end of the capacitor C1 and an IN port of the HT7530 voltage stabilizing tube simultaneously through the resistor R1, and an OUT port of the HT7530 voltage stabilizing tube is connected with one end of the capacitor C2, one end of the capacitor C3 and a VDD port of the microcontroller U2, while the other end of the capacitor C1, the other end of the capacitor C2 and the other end of the capacitor C3 as well as a GND port of the HT7530 voltage stabilizing tube are grounded and connected with the negative pole of the battery simultaneously; a R1 port of the microcontroller U2 is connected with the negative pole of the battery through a light-emitting diode L1 and a resistor R12 which are in series connection, a B1 port of the microcontroller U2 is connected with a EN port of the automobile start control module, a V0 port of the microcontroller U2 is connected with the negative pole of the battery through a capacitor C4 and a resistor R7 which are in parallel connection, the V0 port is also connected with the VDD port through a slide rheostat RT, a V1 port of the microcontroller U2 is also connected with the negative pole of the battery through a resistor R8, a capacitor C6 and a resistor R13 which are in parallel connection, the V1 port is connected with the positive pole of the battery through a resistor R2, and is also connected with the negative pole of the automobile storage battery and the automobile engine simultaneously through a resistor R9, wherein two ends of the automobile storage battery are in parallel connection with the capacitor C7, resistors R9, R10, a capacitor C6 and a resistor R13 to form the load detection module together, a V4 port of the microcontroller U2 is grounded through a capacitor C5, a VSS port of the microcontroller U2 and one end of the capacitor C4 are grounded simultaneously. The other end of the capacitor C4 is connected with the VDD port of the microcontroller U2, the resistors R2, R13 and capacitor C6 form the battery voltage detection module together, and a Drive port of the automobile start control module is connected

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with the automobile engine and one end of a resistor R14 simultaneously, wherein the other end of the resistor R14 is grounded.

The DC to DC module in the present disclosure provides the stable voltage for the microcontroller which collects relevant data to conduct the corresponding control. The battery voltage detection module conducts the measurement of the battery voltage, and the automobile start control module conducts the power supply or the power outage for the load module through the microcontroller, wherein the load detection module detects whether the load module is correctly connected.

The microcontroller in the present disclosure determines whether the automobile storage battery is connected with the automobile engine through the load detection module, wherein the automobile start control model is automatically activated and the battery starts to supply power to the load module when the load is correctly connected; the automobile start control model is automatically deactivated and the battery stops supplying power to the load module when assuming that the load is not connected or the positive and negative polarities are reversely connected. In the standby mode, the microcontroller closes all outputs when the battery voltage is lower than 9V, and recovers the normal operation only when the battery voltage is larger than 10V; the automobile engine will generate the normal voltage to recharge the battery after the automobile starts, whereas the automobile start control module is deactivated immediately once the recharging voltage is larger than the voltage before that battery starts the power supply, to protect the battery from damages caused by charging with the normal voltage; the automobile start control module is the electronic switch, which can prevent the load from being reversely connected and recharging of the normal voltage, thus protecting the battery and prolonging lifespan.

The automobile engine will generate abnormal voltage to recharge the direct current power supply after the automobile starts, and the automobile start control module is deactivated immediately once the recharging voltage is larger than the voltage before the direct current power supply starts the power supply, to protect the direct current power supply from damages caused by charging with normal voltage charge.

It is obvious for the skilled people in the art that the present disclosure is not merely limited to the details of the above exemplary embodiments, and the present disclosure can be implemented in other specific forms without departing from the spirits or the basic features of the present disclosure. Thus, no matter to consider from which point of view, the embodiments should be considered as exemplary and non-limiting. The scope of the present disclosure is defined by the accompanying Claims rather than the above description, therefore it is intended that all the changes fallen within the meanings and scope of the equivalent elements of the Claims are contained in the present disclosure. Any drawing reference in the Claims should not be regarded as limiting the Claims involved.

Furthermore, it should be understood that although the specification is described according to the embodiments, but not every embodiment includes only an independent technical solution, this manner of description for the specification is only for clarity, therefore the skilled people in the art should take the Specification as a whole, and the technical solutions in various embodiments can be combined appropriately to form other implementations understandable for those skilled in the art.

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What is claimed is:

1. A novel automobile charger which comprises a direct current power supply, comprising:

a positive pole of the direct current voltage connected with a first lead of a DC to DC module, a first lead of a battery voltage detection module, and a first lead of a load module simultaneously;

a negative pole of the direct current power supply connected with a second lead of the DC to DC module, a first lead of a microcontroller, a first lead of an automobile start control module and a second lead of the battery voltage detection module simultaneously;

a third lead of the DC to DC module connected with a second lead of the microcontroller, and

three additional leads of the microcontroller connected with a third lead of the battery voltage detection module, a second lead of the automobile start control module and a first lead of a load detection module respectively;

wherein a second lead of the load detection module is connected with a third lead of the automobile start control module and a second lead of the load module simultaneously;

the load module including an automobile storage battery and an automobile engine is located on one end of an automobile.

2. The novel automobile charger according to claim 1, wherein the DC to DC module includes a diode D1, a resistor R1, a capacitor C1, a HT7530 voltage stabilizing tube, a capacitor C2 and a capacitor C3,

a positive pole of the diode D1 is connected with a positive pole of a battery;

a negative pole of the diode D1 is connected with a first lead of the capacitor C1 and

an IN port of the HT7530 voltage stabilizing tube through the resistor R1 simultaneously, and

an OUT port of the HT7530 voltage stabilizing tube is connected with a first lead of the capacitor C2, a first lead of the capacitor C3 and a VDD port of a microcontroller U2 simultaneously;

a second lead of the capacitor C1, a second lead of the capacitor C2 and a second lead of the capacitor C3 as well as a GND port of the HT7530 voltage stabilizing tube are grounded and connected with a negative pole of the battery simultaneously;

a R1 port of the microcontroller U2 is connected with the negative pole of the battery through a luminous diode L1 and a resistor R12 in series connection;

a B1 port of the microcontroller U2 is connected with a EN port of the automobile start control module;

a V0 port of the microcontroller U2 is connected with the negative pole of the battery through a capacitor C4 and

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a resistor R7 in parallel connection and is also connected with the VDD port through a slide rheostat RT, a V1 port of the microcontroller U2 is connected with the negative pole of the battery through a resistor R10, a capacitor C6 and a resistor R13 in parallel connection, the V1 port is also connected with the positive pole of the battery through a resistor R2 and is also connected with a negative pole of the automobile storage battery and the automobile engine simultaneously through a resistor R9;

wherein two leads of the automobile storage battery are in parallel connection with the capacitor C7, the resistors R9, R10, the capacitor C6 and the resistor R13 together to form the load detection module;

a V4 port of the microcontroller U2 is grounded through a capacitor C5;

a VSS port of the microcontroller U2 and one end of a capacitor C4 are grounded;

simultaneously, the second lead of the capacitor C4 is connected with the VDD port of the microcontroller U2;

the resistor R2, the capacitor C6 and the resistor R13 form the battery voltage detection module together; and

a drive port of the automobile start control module is connected with the automobile engine and one end of a resistor R14 simultaneously, wherein the other end of the resistor R14 is grounded.

3. The automobile charger according to claim 1, wherein the DC to DC module is operably configured to provide a stable voltage for the microcontroller which collects relevant data to conduct corresponding control, and

the battery voltage detection module conducts a measurement of the voltage of the battery;

the automobile start control module conducts power supply or power outage for the load module through the microcontroller, wherein the load detection module detects whether the load module is correctly connected.

4. The automobile charger according to claim 1, wherein the battery voltage detection module further being operably configured to provide a protection for a power supply battery of the direct current power supply.

5. The automobile charger according to claim 1, further comprising programmatic instructions such that, when placed in a standby mode, the microcontroller closes all outputs when a voltage of the direct current power supply is lower than that of a state being able to supply power and then recovers when it is higher than that of the state being able to supply power.

6. The automobile charger according to claim 1 wherein the automobile start control module is an electronic switch.

* * * * *

EXHIBIT B

TO: Mail Stop 8 Director of the U.S. Patent and Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
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In Compliance with 35 U.S.C. § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Northern District of Texas-Dallas on the following

☐ Trademarks or ☒ Patents. (☐ the patent action involves 35 U.S.C. § 292.):

DOCKET NO. 3:19-cv-01676-N	DATE FILED 7/12/2019	U.S. DISTRICT COURT Northern District of Texas-Dallas
PLAINTIFF Pilot Inc		DEFENDANT Schumacher Electric Corporation
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1 US 9,525,297 B2	12/20/2016	Wang's International, Inc.
2 US 10,046,653	1/10/2018	See attached
3		
4		
5		

In the above—entitled case, the following patent(s)/ trademark(s) have been included:

DATE INCLUDED	INCLUDED BY ☐ Amendment ☐ Answer ☐ Cross Bill ☐ Other Pleading	
PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1		
2		
3		
4		
5		

In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT Order on Motion to Dismiss case Without Prejudice

CLERK Karen Mitchell	(BY) DEPUTY CLERK /s/ N.Taylor	DATE 9/6/2019
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Copy 1—Upon initiation of action, mail this copy to Director Copy 3—Upon termination of action, mail this copy to Director
 Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

PATENT ASSIGNMENT COVER SHEET

Electronic Version v1.1
 Stylesheet Version v1.2

EPAS ID: PAT6287599

SUBMISSION TYPE:	NEW ASSIGNMENT
NATURE OF CONVEYANCE:	SECURITY INTEREST

CONVEYING PARTY DATA

Name	Execution Date
PILOT INC.	09/08/2020

RECEIVING PARTY DATA

Name:	WINGSPIRE CAPITAL LLC, AS ADMINISTRATIVE AGENT
Street Address:	13010 MORRIS ROAD
Internal Address:	BUILDING ONE, SUITE 175
City:	ALPHARETTA
State/Country:	GEORGIA
Postal Code:	30004

PROPERTY NUMBERS Total: 81

Property Type	Number
Patent Number:	8269405
Patent Number:	D673491
Patent Number:	D631404
Patent Number:	D640176
Patent Number:	D662446
Patent Number:	D658559
Patent Number:	D652358
Patent Number:	D649918
Patent Number:	D682163
Patent Number:	D708114
Patent Number:	D719889
Patent Number:	D708101
Patent Number:	D715717
Patent Number:	D743861
Patent Number:	D743862
Patent Number:	9525297
Patent Number:	D779717
Patent Number:	D773724
Patent Number:	D779718

Property Type	Number
Patent Number:	D789263
Patent Number:	D779400
Patent Number:	D789264
Patent Number:	D779401
Patent Number:	D781191
Patent Number:	D789265
Patent Number:	9744908
Patent Number:	D833176
Patent Number:	10227050
Patent Number:	D789270
Patent Number:	D793218
Patent Number:	D791052
Patent Number:	D793322
Patent Number:	10554878
Application Number:	16725638
Application Number:	15495506
Patent Number:	D848319
Patent Number:	D844495
Patent Number:	D844496
Patent Number:	10235984
Patent Number:	D860568
Patent Number:	D879087
Patent Number:	10046653
Patent Number:	D842793
Patent Number:	D843295
Patent Number:	D843296
Patent Number:	D843913
Patent Number:	D843914
Patent Number:	D843297
Patent Number:	D843298
Patent Number:	D843299
Patent Number:	D843300
Patent Number:	D843301
Application Number:	16172335
Patent Number:	D866447
Patent Number:	D869873
Patent Number:	D866448
Patent Number:	D852715

Property Type	Number
Patent Number:	10328806
Application Number:	16404321
Application Number:	29665449
Application Number:	29665457
Application Number:	29665570
Patent Number:	D871300
Application Number:	29713702
Patent Number:	D870630
Application Number:	29713703
Patent Number:	D870631
Application Number:	29713704
Patent Number:	D870632
Application Number:	29713705
Application Number:	29667002
Patent Number:	D879689
Application Number:	29668106
Application Number:	29668107
Application Number:	29668108
Application Number:	16663108
Application Number:	29693885
Application Number:	16525280
Application Number:	29703973
Patent Number:	D855531
Patent Number:	D856244

CORRESPONDENCE DATA

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ATTORNEY DOCKET NUMBER:	8177.001
NAME OF SUBMITTER:	KRISTEN N. LANGE
SIGNATURE:	/kristenlange/
DATE SIGNED:	09/08/2020

Total Attachments: 9

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source=11. Wingspire Pilot - Patent Security Agreement#page8.tif
source=11. Wingspire Pilot - Patent Security Agreement#page9.tif

PATENT SECURITY AGREEMENT

PATENT SECURITY AGREEMENT, dated as of September 8, 2020 (as the same may be amended, restated, supplemented, or otherwise modified from time to time, this "Agreement"), among Pilot Inc., a California corporation (referred to herein as "Grantor" or "Grantors"), and WINGSPIRE CAPITAL LLC, as Administrative Agent (in such capacity, the "Administrative Agent").

Reference is made to (a) that certain Credit Agreement, dated as of September 8, 2020, by and among PILOT-NGC HOLDING, INC., a Delaware corporation ("Holdings"), PILOT INC., a California corporation (the "Borrower-Pilot"), WANG'S INTERNATIONAL, INCORPORATED, a California corporation (the "Borrower-Wangs"), the other Subsidiaries (if any) of Holdings from time to time party thereto as "Borrowers" (together with Borrower-Pilot and Borrower-Wangs, each, a "Borrower" and individually and collectively, jointly and severally, the "Borrowers"), the Subsidiaries (if any) of Holdings from time to time party thereto as "Guarantors" (together with Holdings, each, a "Guarantor" and collectively, the "Guarantors"), the lenders from time to time party thereto as lenders (each, a "Lender" and, collectively, the "Lenders"), and the Administrative Agent (as the same may be amended, restated, supplemented, or otherwise modified from time to time, the "Credit Agreement"), and (b) that certain Pledge and Security Agreement, dated as of September 8, 2020, by and among Holdings, Borrower-Pilot, Borrower-Wangs, the other Subsidiaries (if any) of Holdings from time to time party thereto as "Grantors" and the Administrative Agent (as the same may be amended, restated, supplemented or otherwise modified from time to time, the "Security Agreement").

The Lenders have agreed to extend credit to the Borrowers subject to the terms and conditions set forth in the Credit Agreement, the Guarantors have guaranteed Obligations and the Grantors have secured their obligations pursuant to the Security Agreement. The obligations of the Lenders to extend such credit are conditioned upon, among other things, the execution and delivery of this Agreement.

Accordingly, the parties hereto agree as follows:

1. Terms. Capitalized terms used in this Agreement and not otherwise defined herein have the meanings specified in the Security Agreement or the Credit Agreement.

2. Grant of Security Interest. As security for the payment or performance, as applicable, in full when due (whether at the stated maturity, by acceleration or otherwise) of the Obligations, each Grantor, pursuant to the Security Agreement, did and hereby does grant to the Administrative Agent (and its successors and assigns), for the ratable benefit of the Secured Parties, a security interest in, all such Grantor's right, title and interest in, to or under any and all of the following assets now owned or at any time hereafter acquired (collectively, the "Patent Collateral"):

(a) all letters patent of the United States of America, all registrations and recordings thereof and all applications for letters patent of the United States of America, including registrations, recordings and pending applications in the United States Patent and Trademark

Office, in each case described on Schedule I and all reissues, renewals, continuations and extensions thereof and amendments thereto (the "Patents");

(b) all inventions and improvements described and claimed therein, including the right to make, use and/or sell the inventions disclosed or claimed therein,

(c) all reissues, continuations, divisions, continuations in part, renewals or extensions thereof and amendments thereto, and the inventions disclosed or claimed therein, and

(d) all income, fees, royalties, damages, claims and payments now or hereafter due and/or payable thereunder and with respect thereto.

3. Security Agreement. The security interests granted to the Administrative Agent herein are granted in furtherance, and not in limitation of, the security interests granted to the Administrative Agent pursuant to the Security Agreement. Each Grantor hereby acknowledges and affirms that the rights and remedies of the Administrative Agent with respect to the Patent Collateral are more fully set forth in the Security Agreement, the terms and provisions of which are hereby incorporated herein by reference as if fully set forth herein. In the event of any conflict between the terms of this Agreement and the Security Agreement, the terms of the Security Agreement shall govern.

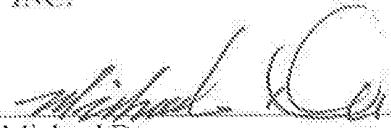
4. Counterparts. This Agreement may be executed in counterparts (and by different parties hereto in different counterparts), each of which shall constitute an original, but all of which when taken together shall constitute a single contract. Delivery of an executed counterpart of a signature page of this Agreement by facsimile or in electronic (e.g., "pdf" or "tif") format shall be effective as delivery of a manually executed counterpart of this Agreement.

5. Governing Law. This Agreement shall be governed by, and construed in accordance with, the laws of the State of New York.

[Continued on the following page.]

IN WITNESS WHEREOF, the parties hereto have duly executed this Patent Security Agreement as of the day and year first above written.

PILOT INC.

By: 
Name: Michael Du
Title: Chief Financial Officer

Signature Page to Patent Security Agreement

WINGSPIRE CAPITAL LLC, as Administrative
Agent

By: 

Name: John R. Smith

Title: President & CEO

Signature Page to Patent Security Agreement

SCHEDULE I

PATENTS

Loan Party	Title	Serial Number	Filing Date	Status
Pilot	NEUTRAL ELECTRODE SPARK PLUG	Patent No. 8,269,405	40723	
Pilot	VEHICLE FLOOR MAT HAVING A LOWER WINTER MAT AND A REMOVABLE UPPER SUMMER MAT	Patent No. D673,491	41120	
Pilot	AUTOMOTIVE GRILLE (Design)	Patent No. D631,404	10/23/2009	
Pilot	AUTOMOTIVE GRILLE (Design)	Patent No. D640,176	12/22/10	
Pilot	AUTOMOTIVE GRILLE (Design)	Patent No. D662,446	01/03/11	
Pilot	AUTOMOTIVE STEP (Design)	Patent No. D658,559	01/05/11	
Pilot	FENDER (Design)	Patent No. D652,358	03/09/11	
Pilot	AUTOMOTIVE GRILLE (Design)	Patent No. D649,918	06/17/11	
Pilot	AUTOMOTIVE GRILLE (Design)	Patent No. D682,163	01/20/12	
Pilot	BEADLOCK (Design)	Patent No. D708,114	10/09/13	
Pilot	WHEEL (Design)	Patent No. D719,889	10/09/13	
Pilot	ROCK BLOCKER (Design)	Patent No. D708,101	11/20/13	
Pilot	WHEEL (Design)	Patent No. D715,717	11/20/13	
Pilot	LED ROCK PROTECTOR (Design)	Patent No. D743,861	04/14/14	
Pilot	LED SIDE MOUNT (Design)	Patent No. D743,862	04/14/14	
Pilot	AUTOMOBILE CHARGER	Patent No. 9,525,297	12/12/2014	

Pilot	CORDLESS LED LAMP (Design #1)	Patent No. D779,717	11/18/2015	
Pilot	CORDLESS LED LAMP (Design #2)	Patent No. D773,724	11/18/2015	
Pilot	CORDLESS LED LAMP (Design #3)	Patent No. D779,718	11/18/2015	
Pilot	SHIFT KNOB COVER (Monkey)	Patent No. D789,263	1/21/2016	
Pilot	SHIFT KNOB COVER (Beard)	Patent No. D779,400	1/21/2016	
Pilot	SHIFT KNOB COVER (cow)	Patent No. D789,264	1/21/2016	
Pilot	SHIFT KNOB COVER (shark)	Patent No. D779,401	1/21/2016	
Pilot	SHIFT KNOB COVER (bandit)	Patent No. D781,191	1/21/2016	
Pilot	SHIFT KNOB COVER (bandit revised)	Patent No. D789,265	4/28/2016	
Pilot	TRUCK STEP (Utility)	Patent No. 9,744,908	5/19/2016	
Pilot	HEATED SEAT Cover Design Patent	Patent No. D833,176	8/3/2016	
Pilot	EXHAUST TIP (Utility)	Patent No. 10,227,050	9/16/2016	
Pilot	WHEEL (Design)	Patent No. D789,270	06/17/16	
Pilot	LUGNUT (Design)	Patent No. D793,218	08/11/16	
Pilot	WHEEL (Design)	Patent No. D791,052	09/02/16	
Pilot	WHEEL (Design)	Patent No. D793,322	09/02/16	
Pilot	SMART SELFIE MIRROR	Patent No. 10,554,878	3/15/2017	
Pilot	SMART SELFIE MIRROR	Application No. 16/725,638	12/23/2019	
Pilot	BLUETOOTH ENABLED SNAKE CAM	Application No. 15/495,506	4/24/2017	
Pilot	Vehicle Grille (Design Patent)	Patent No. D848,319	4/28/2017	
Pilot	Vehicle Grille (Design Patent)	Patent No. D844,495	4/28/2017	

Pilot	Vehicle Grille (Design Patent)	Patent No. D844,496	4/28/2017	
Pilot	Karaoke Device	Patent No. 10,235,984	4/24/2017	
Pilot	BUCKET GRATING SECTION (Design Patent)	Patent No. D860,568	7/13/2017	
Pilot	BUCKET GRATING SECTION (Design Patent)	Application No. 29/610,534	9/6/2019	
Pilot	Mobile Device Mount (Design Patent)	Patent No. D879,087	7/17/2017	
Pilot	AUTOMOBILE CHARGER	Patent No. 10,046,653	11/18/2016	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D842,793	10/27/2017	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D843,295	10/27/2017	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D843,296	10/27/2017	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D843,913	10/27/2017	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D843,914	10/27/2017	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D843,297	10/27/2017	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D843,298	10/27/2017	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D843,299	10/27/2017	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D843,300	10/27/2017	
Pilot	Vehicle Wheel (Design Patent)	Patent No. D843,301	10/27/2017	
Pilot	Lift Kit	Application No. 16/172,335	10/26/2018	
Pilot	Chase Rack (Design Patent)	Patent No. D866,447	10/30/2017	
Pilot	Overhead Rack (Design Patent)	Patent no. D869,873	10/30/2017	
Pilot	Rack (Design Patent)	Patent No. D866,448	10/30/2017	

Pilot	Vehicle Grille (Design Patent)	CA Patent No. 177849	10/30/2017	
Pilot	Vehicle Grille (Design Patent)	CA Patent No. 177851	10/30/2017	
Pilot	Vehicle Grille (Design Patent)	CA Patent No. 177850	10/30/2017	
Pilot	Wheel Cap (Design Patent)	Patent No. D852,715	11/6/2017	
Pilot	AUTOMOBILE CHARGER	Patent No. 10,328,806	3/16/2018	
Pilot	AUTOMOBILE CHARGER	Application No. 16/404,321	5/6/2019	
Pilot	VEHICLE WHEEL (Design)	CA Patent No. 180997	4/26/2018	
Pilot	STEERING WHEEL GRIP (Design)	Application No. 29/665,449	10/3/2018	
Pilot	SEAT PONCHO (Design Patent)	Application No. 29/665,457	10/3/2018	
Pilot	BURRITO HOLDER (Design Patent)	Application No. 29/665,570	10/4/2018	
Pilot	VEHICLE WHEEL (Design)	Patent No. D871,300	10/17/2018	
Pilot	VEHICLE WHEEL SPOKE (Design)	Application No. 29/713,702	11/18/2019	
Pilot	VEHICLE WHEEL (Design)	Patent No. D870,630	10/17/2018	
Pilot	VEHICLE WHEEL SPOKE (Design)	Application No. 29/713,703	11/18/2019	
Pilot	VEHICLE WHEEL (Design)	Patent No. D870,631	10/17/2018	
Pilot	VEHICLE WHEEL SPOKE (Design)	Application No. 29/713,704	11/18/2019	
Pilot	VEHICLE WHEEL (Design)	Patent No. D870,632	10/17/2018	
Pilot	VEHICLE WHEEL SPOKE (Design)	Application No. 29/713,705	11/18/2019	
Pilot	VEHICLE WHEEL (Design)	Application No. 29/667,002	10/17/2018	
Pilot	SUNSHADE (Design)	Patent No. D879,689	10/26/2018	
Pilot	GEMSTONE BUCKLE (Design)	Application No. 29/668,106	10/26/2018	

Pilot	SUNSHADE (Design)	Application No. 29/668,107	10/26/2018	
Pilot	SUNSHADE (Design)	Application No. 29/668,108	10/26/2018	
Pilot	BEADLOCK WITH FILLER RING	Application No. 16/663,108	10/24/2019	
Pilot	CUP HOLDER (Design)	Application No. 29/693,885	6/5/2019	
Pilot	Automotive Accessories	Application No. 16/525,280	7/29/2019	
Pilot	Threaded Insert (Design)	Application No. 29/703,973	8/30/2019	
Pilot	Truck Step (Design)	Patent No. D855,531	5/13/2015	
Pilot	Truck Step (Design)	Patent No. D856,244	5/13/2015	
Pilot	Chair Cover (Design)	Application No. 29/912,636	8/2/2017	

Patent Licenses

None.

TO: Mail Stop 8
Director of the U.S. Patent & Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

**REPORT ON THE
FILING OR DETERMINATION OF AN
ACTION REGARDING A PATENT OR
TRADEMARK**

In Compliance with 35 § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Northern District of California on the following:

(X) Patents or () Trademarks

DOCKET NO:
17-cv-04918-DMR

DATE FILED:
August 25, 2017

UNITED STATES DISTRICT COURT
Ronald Dellums Federal Building
1301 Clay Street
Oakland, CA 94612

PLAINTIFF:
Pilot, Inc.

DEFENDANT:
Anker Technology Corporation

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1. 9525297		
2.		
3.		
4.		
5.		

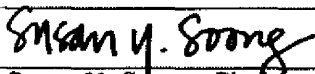
In the above-entitled case, the following patent(s) have been included.

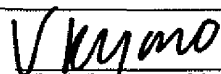
DATE INCLUDED INCLUDED BY:
() Amendment () Answer () Cross Bill () Other Pleading

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1.		
2.		
3.		
4.		
5.		

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGEMENT:


Susan Y. Soong, Clerk


(by) Deputy Clerk, Valerie Kyono

Copy 1 – Upon initiation of action, mail this copy to Commissioner
Copy 2 – Upon filing document adding patent(s) mail this copy to Commissioner
Copy 3 – Upon termination of action, mail this copy to the Commissioner
Copy 4 – Case file copy

UNITED STATES PATENT AND TRADEMARK OFFICE
CERTIFICATE OF CORRECTION

PATENT NO. : 9,525,297 B2
APPLICATION NO. : 14/569352
DATED : December 20, 2016
INVENTOR(S) : Wang et al.

Page 1 of 1

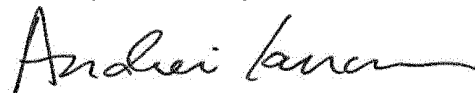
It is certified that error appears in the above-identified patent and that said Letters Patent is hereby corrected as shown below:

On the Title Page

Item (12) "Wang" should read -- Wang, et al. --.

Item (72) Inventor is corrected to read:
-- Calvin Shiening Wang, City of Industry (CA);
Chung-Hsin Wang, Shenzhen (CN) --.

Signed and Sealed this
Twenty-sixth Day of March, 2019



Andrei Iancu
Director of the United States Patent and Trademark Office



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office

Address: COMMISSIONER FOR PATENTS

P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/569,352	12/12/2014	Calvin Shiening Wang	8523WANG-1	1207
22442	7590	03/11/2019	EXAMINER	
Sheridan Ross PC			LIN, SUN J	
1560 Broadway				
Suite 1200			ART UNIT	
Denver, CO 80202			PAPER NUMBER	
			2851	
			NOTIFICATION DATE	
			DELIVERY MODE	
			03/11/2019	
			ELECTRONIC	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

e-docket@sheridanross.com



UNITED STATES PATENT AND TRADEMARK OFFICE

Commissioner for Patents
United States Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450
www.uspto.gov

Patent No.: 9525297
Issue Date: 20 December 2016
Appl. No.: 14/569,352
Filed: 12 December 2014

PART (A) RESPONSE FOR CERTIFICATES OF CORRECTION

This is a decision on the Certificate of Correction request filed ____.

The request for issuance of Certificate of Correction for the above-identified correction(s) under the provisions of 37 CFR 1.322 and/or 1.323 is hereby:

(Check one)

☐ Approved ☐ Approved in Part ☐ Denied

Comments: ____

PART (B) PETITION UNDER 37 CFR 1.324 OR 37 CFR 1.48

☒ This is a decision on the petition filed 03 July 2018 to correct inventorship under 37 CFR 1.324.

☐ This is a decision on the request under 37 CFR 1.48, petition filed _____. In view of the fact that the patent has already issued, the request under 37 CFR 1.48 has been treated as a petition to correct inventorship under 37 CFR 1.324.

The petition is hereby: ☒ Granted ☐ Dismissed

Comment: ____

The patented filed is being forwarded to Certificate of Corrections Branch for issuance of a certificate naming only the actual inventor or inventors.

/JACK CHIANG/
Supervisory Patent Examiner, Art Unit 2851
Technology Center 2800
Phone: (571)272-7483

Certificates of Correction Branch email: CustomerServiceCoC@uspto.gov CoC Central Phone Number: (703) 756-1814

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Calvin Shiening Wang	)	Examiner Name: Sun J. Lin
	)	
Patent No.: 9,525,297	)	Group Art Unit: 2851
	)	
Issue Date: 12/20/2016	)	Confirmation No.: 1207
	)	
Application No.: 14/569,352	)	
	)	
Filing Date: 12/12/2014	)	PETITION FOR CERTIFICATE OF
	)	CORRECTION OF PATENT
Attorney Docket No.: 8523WANG-1	)	CORRECTING INVENTORSHIP
	)	(37 C.F.R. 1.324)
Title: AUTOMOBILE CHARGER	)	
	)	

Commissioner for Patents
 ATN: Certificate of Correction Branch
 P.O. Box 1450
 Alexandria, VA 22313-1450

Dear Commissioner:

All inventors and assignee in the above-identified U.S. Patent hereby submit this Petition for a Certificate of Correction of Patent Correcting Inventorship under 37 C.F.R. 1.324, by adding the following person as a named inventor:

Chung-Hsin Wang
 5F, Building 2, HuaFeng First Technology Park
 San Wei Village, XiXiang Town
 Bao'an, Shenzhen, Guangdong 518100
 China

The following documents accompany this request:

- Statement by added inventor, Chung-Hsin Wang, establishing agreement to the change of inventorship;
- Statement by current inventor, Calvin Shiening Wang, establishing agreement to the change of inventorship;
- Declaration executed by: Chung-Hsin Wang;
- Assignment executed by Chung-Hsin Wang to Pilot Inc.;
- Statement Under 37 C.F.R. 3.73(c) showing Assignee's ownership of Patent; and

- Statement by Assignee, Pilot Inc., establishing agreement to the change of inventorship.

At the time of filing this Request, the amount of \$150.00 will be paid through a Deposit Account constituting payment of the processing fee required by 37 C.F.R. 1.20(b). No other fees are believed to be due with respect to the submission of this Request. However, if any fees are due relating to the entry hereof, please debit those fees from Deposit Account No. 19-1970.

Respectfully submitted,

SHERIDAN ROSS P.C.

Date: July 3, 2018

By: /David B. Kellis/
David B. Kellis
Registration No. 59,377
1560 Broadway, Suite 1200
Denver, CO 80202
Telephone: 720-376-6904
Facsimile: 303-863-0223

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Calvin Shiening Wang	)	Examiner Name: Sun J. Lin
	)	
Patent No.: 9,525,297	)	Group Art Unit: 2851
	)	
Issue Date: 12/20/2016	)	Confirmation No.: 1207
	)	
Application No.: 14/569,352	)	
	)	
Filing Date: 12/12/2014	)	
	)	
Attorney Docket No.: 8523WANG-1	)	
	)	
Title: AUTOMOBILE CHARGER	)	
	)	

STATEMENT OF
ADDED INVENTOR
(37 C.F.R. 1.324)

Commissioner for Patents
 ATN: Certificate of Correction Branch
 P.O. Box 1450
 Alexandria, VA 22313-1450

Dear Commissioner:

I, Chung-Hsin Wang, as the added inventor in the above-identified U.S. Patent, hereby state:

My omission from the above-identified U.S. Patent as a named inventor was an error; and

I agree to the change of inventorship to include me as a named inventor in the above-identified U.S. Patent.

Date: 2018/5/29

By: Chung-Hsin Wang
 CHUNG-HSIN WANG

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Calvin Shiening Wang	)	Examiner Name: Sun J. Lin
	)	
Patent No.: 9,525,297	)	Group Art Unit: 2851
	)	
Issue Date: 12/20/2016	)	Confirmation No.: 1207
	)	
Application No.: 14/569,352	)	
	)	
Filing Date: 12/12/2014	)	
	)	
Attorney Docket No.: 8523WANG-1	)	
	)	
Title: AUTOMOBILE CHARGER	)	
	)	

**STATEMENT OF
CURRENT INVENTOR
(37 C.F.R. 1.324)**

Commissioner for Patents
 ATN: Certificate of Correction Branch
 P.O. Box 1450
 Alexandria, VA 22313-1450

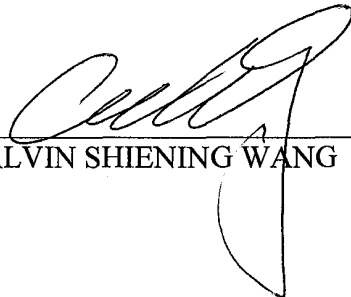
Dear Commissioner:

I, Calvin Shiening Wang, the currently named inventor of the above-identified U.S. Patent, hereby state:

The omission from the above-identified U.S. Patent of Chung-Hsin Wang as a named inventor was an error; and

I agree to the change of inventorship with the inclusion of Chung-Hsin Wang as a named inventor in the above-identified U.S. Patent.

Date: 5/18/18

By: 
 CALVIN SHIENING WANG

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor: Calvin Shiening Wang	)	Examiner Name: Sun J. Lin
	)	
Patent No.: 9,525,297	)	Group Art Unit: 2851
	)	
Issue Date: 12/20/2016	)	Confirmation No.: 1207
	)	
Application No.: 14/569,352	)	
	)	
Filing Date: 12/12/2014	)	
	)	STATEMENT OF ASSIGNEE
Attorney Docket No.: 8523WANG-1	)	(37 C.F.R. 1.324)
	)	
Title: AUTOMOBILE CHARGER	)	
	)	

Commissioner for Patents
 ATN: Certificate of Correction Branch
 P.O. Box 1450
 Alexandria, VA 22313-1450

Dear Commissioner:

I, Chief Executive Officer of Pilot Inc., a corporation having a principal place of business at 13000 Temple Boulevard, City of Industry, California 91746, hereby declare that Pilot Inc. is the Assignee of the above-identified U.S. Patent, with a Statement Under 37 CFR 3.73(c) showing a chain-of-title of ownership being filed herewith.

Assignee hereby states that the omission from the above-identified U.S. Patent of Chung-Hsin Wang as a named inventor was an error.

Assignee hereby agrees to the correction of inventorship with the inclusion of Chung-Hsin Wang as a named inventor in the above-identified U.S. Patent. The following are the correct and actual joint inventors of the subject matter claimed in the Patent:

- Calvin Shiening Wang; and
- Chung-Hsin Wang.

PILOT, INC.

Date: _____

5/18/18

By: _____

Name: Calvin Shiening Wang

Title: Chief Executive Officer

Chairman of the Board.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Title of Invention	AUTOMOBILE CHARGER		
	Attorney Docket No. 8523WANG-1		
As the below named inventor, I hereby declare that:			
This declaration is directed to:	☐	The attached application, or	
	☒	United States application or PCT international application number <u>14/569,352</u> filed on <u>December 12, 2014</u>	
The above-identified application was made or authorized to be made by me.			
I believe that I am the original inventor or an original joint inventor of a claimed invention in the application.			
I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.			
WARNING:			
Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available.			
LEGAL NAME OF INVENTOR			
Inventor:	<u>Chung-Hsin Wang</u>		Date (Optional) <u>2018/5/29</u>
Signature:	<u>Chung-Hsin Wang</u>		
Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.			

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(c)Applicant/Patent Owner: Pilot Inc.Application No./Patent No.: 9,525,297Filed/Issue Date: 12/20/2016Titled: AUTOMOBILE CHARGERPilot Inc., a corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is ____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A. ☐ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel _____, Frame _____, or for which a copy thereof is attached.
- B. ☒ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: Calvin Shiening Wang To: Wang's International, Inc.The document was recorded in the United States Patent and Trademark Office at
Reel 035701, Frame 0343, or for which a copy thereof is attached.2. From: Wang's International, Inc. To: Pilot Inc.The document was recorded in the United States Patent and Trademark Office at
Reel 040692, Frame 0968, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(c)3. From: Chung-Hsin Wang To: Pilot Inc.

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☒ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/David B. Kellis/

07/03/2018

Signature

Date

David B. Kellis

59,377

Printed or Typed Name

Title or Registration Number

[Page 2 of 2]

Worldwide Assignment

WHEREAS, I, **Chung-Hsin Wang**, have made an invention entitled **AUTOMOBILE CHARGER** for which the following applications have been prepared and filed with the United States Patent and Trademark Office

Application No. **14/569,352**, filed on **December 12, 2014**, issued as U.S. Patent No. **9,525,297** on **December 20, 2016**;

Application No. **15/355,409**, filed on **November 18, 2016**; and,

Application No. **15/923,219**, filed on **March 16, 2018**.

WHEREAS, **Pilot Inc.** ("ASSIGNEE"), a corporation or other business entity duly registered in the State of California, whose postal address is 13000 Temple Boulevard, City of Industry, CA 91746, desires to acquire the entire right, title, and interest in and to the invention, the application, and any patents to be granted for the invention in the United States and in all foreign countries;

NOW, THEREFORE, for good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, I have sold, assigned, transferred, and conveyed, and do hereby sell, assign, transfer, and convey unto ASSIGNEE, its successors, legal representatives, and assigns: (a) the entire right, title, and interest in and to the inventions covered by the application, the application, all applications claiming benefit of the application, including, but not limited to, all provisionals, divisions and continuations of the application, and all patents that may be granted thereon in and throughout the United States and in all foreign countries, including without limitation utility models, design patents, certificates of invention and equivalent rights worldwide, and all reissues and reexaminations thereof; (b) all rights arising under or pursuant to any and all international agreements, treaties or laws, including the right to file applications for patents, design patents, utility models, certificates of invention or other governmental grants and equivalent rights worldwide, and to claim the same priority rights, under the patent laws of the United States, the applicable laws of the country in which any such application is filed, the International Convention for the Protection of Industrial Property and any other international union, convention, agreement and treaty; (c) all rights in and to causes of action and enforcement rights for the inventions and any resulting patents, including all rights to pursue damages, injunctive relief and other remedies for past, present and future infringement of the inventions and resulting patents, and to hold for ASSIGNEE'S sole use and benefit all recoveries, rights, and benefits arising from all such suits;

AND I authorize and request the Director of Patents of the United States, and any Official of any country or countries foreign to the United States, whose duty is to issue patents or other evidence or forms of industrial property to issue the same for the inventions to ASSIGNEE, its successors, legal representatives, and assigns in accordance with the terms of this Assignment;

AND I covenant and agree that I have the full right to convey the entire right, title, and interest herein assigned and that I have not executed and will not execute any assignment or other instrument in conflict with this Assignment;

AND I further covenant and agree that upon request by ASSIGNEE, its successors, legal representatives, and assigns, and without further consideration, I (or my executors or administrators) will do all lawful acts that may be necessary or desirable to assist ASSIGNEE, its successors, legal representatives, and assigns to obtain and enforce patent protection for the inventions in the United States and in all foreign countries, including, but not limited to, communicate with ASSIGNEE, its successors, legal representatives, and assigns any facts known to me regarding the inventions, testify in any legal proceeding, sign all lawful papers, make all rightful oaths, and execute and deliver all papers that may be necessary or desirable to record and perfect the interest and title to the inventions in ASSIGNEE, its successors, legal representatives, and assigns, it being understood that any expense incident to the rendering of such assistance will be borne by ASSIGNEE, its successors, legal representatives, and assigns;

IN WITNESS WHEREOF, I have executed this Assignment on the date indicated below.

Signature: Chung-Hsin Wang

Date: 2018/5/29

Full Name: Chung-Hsin Wang

Address: _____

Electronic Patent Application Fee Transmittal				
Application Number:		14569352		
Filing Date:		12-Dec-2014		
Title of Invention:		Automobile Charger		
First Named Inventor/Applicant Name:		Calvin Shiening Wang		
Filer:		David B. Kellis/Mandi Lamberson		
Attorney Docket Number:		8523WANG-1		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
PROCESSING FEE CORRECTING INVENTORSHIP	2816	1	150	150

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				150

Electronic Acknowledgement Receipt

EFS ID:	33082246
Application Number:	14569352
International Application Number:	
Confirmation Number:	1207
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	22442
Filer:	David B. Kellis/Mandi Lamberson
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523WANG-1
Receipt Date:	03-JUL-2018
Filing Date:	12-DEC-2014
Time Stamp:	14:53:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$150
RAM confirmation Number	070518INTEFSW00003599191970
Deposit Account	191970
Authorized User	Mandi Lamberson
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.16 (National application filing, search, and examination fees) 37 CFR 1.17 (Patent application and reexamination processing fees)	

37 CFR 1.19 (Document supply fees)

37 CFR 1.20 (Post Issuance fees)

37 CFR 1.21 (Miscellaneous fees and charges)

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		20180703_Petition-COC-Inventorship.pdf	1163917	yes	9
			0fd0dbdc24a2066cf6c50153f159c6ab5bac362b		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Request for Certificate of Correction		1	5	
	Oath or Declaration filed		6	6	
	Assignee showing of ownership per 37 CFR 3.73		7	9	
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30604	no	2
			02bd50801d5702c7cc57a109dd8b152813cb2f68		
Warnings:					
Information:					
Total Files Size (in bytes):			1194521		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

TO: Mail Stop 8 Director of the U.S. Patent & Trademark Office P.O. Box 1450 Alexandria, VA 22313-1450	REPORT ON THE FILING OR DETERMINATION OF AN ACTION REGARDING A PATENT OR TRADEMARK
---	---

In Compliance with 35 § 290 and/or 15 U.S.C. § 1116 you are hereby advised that a court action has been filed in the U.S. District Court Northern District of California on the following:

(X) Patents or () Trademarks

DOCKET NO:
17-cv-04918-DMR

DATE FILED:
August 25, 2017

UNITED STATES DISTRICT COURT
Ronald Dellums Federal Building
1301 Clay Street
Oakland, CA 94612

PLAINTIFF:
Pilot, Inc.

DEFENDANT:
Anker Technology Corporation

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1. 9525297		
2.		
3.		
4.		
5.		

In the above-entitled case, the following patent(s) have been included.

DATE INCLUDED INCLUDED BY:
☒ Amendment () Answer () Cross Bill () Other Pleading

PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1.		
2.		"Pls. see attached copy of the First Amended
3.		Complaint"
4.		
5.		

In the above-entitled case, the following decision has been rendered or judgment issued:

DECISION/JUDGEMENT:
--

Susan Y. Soong
Susan Y. Soong, Clerk

V Kyono
(by) Deputy Clerk, Valerie Kyono

- Copy 1 – Upon initiation of action, mail this copy to Commissioner
- Copy 2 – Upon filing document adding patent(s) mail this copy to Commissioner
- Copy 3 – Upon termination of action, mail this copy to the Commissioner
- Copy 4 – Case file copy



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/569,352	12/20/2016	9525297	8523WANG-1	1207

22442 7590 11/30/2016
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

ISSUE NOTIFICATION

The projected patent number and issue date are specified above.

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment is 201 day(s). Any patent to issue from the above-identified application will include an indication of the adjustment on the front page.

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Application Assistance Unit (AAU) of the Office of Data Management (ODM) at (571)-272-4200.

APPLICANT(s) (Please see PAIR WEB site <http://pair.uspto.gov> for additional applicants):

Calvin Shiening Wang, City of Industry, CA;
Wang's International, Inc., City of Industry, CA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The USA offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to encourage and facilitate business investment. To learn more about why the USA is the best country in the world to develop technology, manufacture products, and grow your business, visit SelectUSA.gov.

Document Description: Issue Fee Payment (PTO-85B)

Issue Fee Transmittal Form

Application Number	Filing Date	First Named Inventor	Atty. Docket No.	Confirmation No.
14569352	12-Dec-2014	Calvin Wang	8523WANG-1	1207

TITLE OF INVENTION :

Automobile Charger

Entity Status	Application Type	Art Unit	Class - Subclass	EXAMINER
Small	Utility under 35 USC 111(a)	2851	162000	SUN LIN
Issue Fee Due	Publication Due	Total Fee(s) Due	Date Due	Prev. Paid Fee
\$480	\$0	\$480	13-Jan-2017	\$0

1.Change of Correspondence Address and/or Indication Of Fee Address (37 CFR 1.33 & 1.363)

Current Correspondence Address:	Current Indicated Fee Address :
22442 Sheridan Ross PC 1560 Broadway Suite 1200 Denver CO 80202 UNITED STATES 303-863-9700 e-docket@sheridanross.com	
☐ Change of correspondence address requested, system generated AIA/122-EFS form attached	☐ Fee Address indication requested, system generated SB/47-EFS form attached

2.Entity Status**Change in Entity Status**

Applicant certifying micro entity status; system generated Micro Entity certification form attached. See 37 CFR 1.29.

Note: Absent a valid certification of micro entity status, issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment. If this box is checked, you will be prompted to choose a micro entity status on the gross income basis (37 CFR 1.29(a)) or the institution of higher education basis (37 CFR 1.29(d)), and make the applicable certification online.



Applicant asserting small entity status. See 37 CFR 1.27.

Note: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.



Applicant changing to regular undiscounted fee status.

Note: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.



Document Description: Issue Fee Payment (PTO-85B)

3.The Following Fee(s) Are Submitted:☒ Issue Fee☐ I authorize USPTO to apply my previously paid issue fee to the current fees due☐ Publication Fee☐ The Director is hereby authorized to apply my previously paid issue fee to the current fee due and to charge deficient fees to Deposit Account Number _____☐ Advance Order - # of copies _____

☐ If in **addition to** the payment of the issue fee amount submitted with this form, there are any discrepancies in any amount(s) due, the Director is authorized to charge any deficiency, or credit any overpayment, to Deposit Account Number _____.

☐ The **issue fee must be submitted** with this form. **If payment of the issue fee does not accompany this form, checking this box and providing a deposit account number will NOT be effective to satisfy full payment of the fee(s) due.**

4.Firm and/or Attorney Names To Be Printed**NOTE: If no name is listed, no name will be printed**

For printing on the patent front page, list to be displayed as entered

1. Sheridan Ross PC

2.

3.

5.Assignee Name(s) and Residence Data To Be Printed

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

Name	City	State	Country	Category
Wang's International, Inc.	City of Industry	CALIFORNIA	united states	corporation

6.Signature

I certify, in accordance with 37 CFR 1.4(d)(4) that I am an attorney or agent registered to practice before the Patent and Trademark Office who has filed and has been granted power of attorney in this application. I also certify that this Fee(s) Transmittal form is being transmitted to the USPTO via EFS-WEB on the date indicated below.

Signature	/David B. Kellis/	Date	11-11-2016
Name	David B. Kellis	Registration Number	59377

Electronic Patent Application Fee Transmittal				
Application Number:		14569352		
Filing Date:		12-Dec-2014		
Title of Invention:		Automobile Charger		
First Named Inventor/Applicant Name:		Calvin Shiening Wang		
Filer:		David B. Kellis/Kathy Johnston		
Attorney Docket Number:		8523WANG-1		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
UTILITY APPL ISSUE FEE	2501	1	480	480
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				480

Electronic Acknowledgement Receipt

EFS ID:	27484134
Application Number:	14569352
International Application Number:	
Confirmation Number:	1207
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	22442
Filer:	David B. Kellis/Kathy Johnston
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523WANG-1
Receipt Date:	11-NOV-2016
Filing Date:	12-DEC-2014
Time Stamp:	12:08:03
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	\$480
RAM confirmation Number	111416INTEFSW00008730191970
Deposit Account	191970
Authorized User	Kathy Johnston
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: 37 CFR 1.20 (Post Issuance fees) 37 CFR 1.21 (Miscellaneous fees and charges)	

File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Issue Fee Payment (PTO-85B)	Web85b.pdf	45818	no	2
			4625c917ea204a2ee46a37a1679a7da86064f9ef		
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	32446	no	2
			e0ba8f486fde906c44d3f09732f9fc49a7ba9a1c		
Warnings:					
Information:					
Total Files Size (in bytes):			78264		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:

Calvin Shiening Wang

Serial No.: 14/569,352

Filed: December 12, 2014

Atty. File No.: 8523WANG-1

Entitled: "AUTOMOBILE CHARGER"

Group Art Unit: 2851

Confirmation No.: 1207

Examiner: LIN, SUN J

Submitted via EFS-Web

Mail Stop Issue Fee

Commissioner for Patents

P.O. Box 1450

Alexandria, VA 22313-1450

COMMENTS ON STATEMENT OF REASONS FOR ALLOWANCE

Dear Commissioner:

Applicant submits these Comments on Statement of Reasons for Allowance to address further the Office Action having a mailing date of August 31, 2016.

In the Office Action, the Examiner's stated reasons for allowance were that:

Claim 1 - 6 are allowed because the prior or record does not teach or fairly suggest the following subject matter:

- A novel automobile charger which comprises a direct current power supply, comprising: a DC to DC module, a microcontroller, a battery voltage detection module, an automobile start control module and a load detection module, and interconnections between the direct current power supply and those modules in combination with other limitations as recited in independent **Claim 1**.

Based on the above, the patentability of all independent and dependent claims is assumed to be based upon the elements as set forth in such claims and that such claims meet all criteria for patentability under §101, §102, §103 and §112.

As is clear from MPEP 1302.14:

The statement [of reasons for allowance] is not intended to necessarily state all the reasons for allowance or all the details why claims are allowed

and should not be written to specifically or impliedly state that all the reasons for allowance are set forth.

While the above-stated may be a stated reason for allowing some claims, Applicant submits that some other claims may have a different reason for allowance and/or that some claims may have other additional reasons for allowance.

Specifically, the prior art fails to teach the following features of Claim 1:

1. A novel automobile charger which comprises a direct current power supply, comprising:
 - a positive pole of the direct current power supply connected with a first lead of a DC to DC module, a first lead of a battery voltage detection module, and a first lead of a load module simultaneously,
 - a negative pole of the direct current power supply connected with a second lead of the DC to DC module, a first lead of a microcontroller, a first lead of an automobile start control module and a second lead of the battery voltage detection module simultaneously;
 - a third lead of the DC to DC module connected with a second lead of the microcontroller, and
 - three additional leads of the microcontroller connected with a third lead of the battery voltage detection module, a second lead of the automobile start control module and a first lead of a load detection module respectively,
 - wherein a second lead of the load detection module is connected with a third lead of the automobile start control module and a second lead of the load module simultaneously; and
 - the load module including an automobile storage battery and an automobile engine is located on one end of an automobile.

Although the Applicant believes that no fees are due for filing these Comments on Statement of Reasons for Allowance, please charge any fees deemed necessary to Deposit Account No. 19-1970.

Respectfully submitted,

SHERIDAN ROSS P.C.

Date: November 11, 2016

By: /David B. Kellis/
David B. Kellis
Registration No. 59,377
390 Interlocken Crescent
Suite 890
Broomfield, CO 80021
(720) 376-6904

Electronic Acknowledgement Receipt

EFS ID:	27484047
Application Number:	14569352
International Application Number:	
Confirmation Number:	1207
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	22442
Filer:	David B. Kellis/Kathy Johnston
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523WANG-1
Receipt Date:	11-NOV-2016
Filing Date:	12-DEC-2014
Time Stamp:	11:58:39
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Post Allowance Communication - Incoming	Comments_on_Reasons_for_Al lowance.pdf	136219 267348cb75fcef90a2fe24aa87a000cf6c570558	no	2

Warnings:

Information:	
Total Files Size (in bytes):	136219
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

NOTICE OF ALLOWANCE AND FEE(S) DUE

22442 7590 10/13/2016
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

EXAMINER	
LIN, SUN J	
ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 10/13/2016

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/569,352	12/12/2014	Calvin Shiening Wang	8523-1	1207
TITLE OF INVENTION: Automobile Charger				

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	01/13/2017

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the ENTITY STATUS shown above. If the ENTITY STATUS is shown as SMALL or MICRO, verify whether entitlement to that entity status still applies.

If the ENTITY STATUS is the same as shown above, pay the TOTAL FEE(S) DUE shown above.

If the ENTITY STATUS is changed from that shown above, on PART B - FEE(S) TRANSMITTAL, complete section number 5 titled "Change in Entity Status (from status indicated above)".

For purposes of this notice, small entity fees are 1/2 the amount of undiscounted fees, and micro entity fees are 1/2 the amount of small entity fees.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax **(571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

22442 7590 10/13/2016
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/569,352	12/12/2014	Calvin Shiening Wang	8523-1	1207

TITLE OF INVENTION: Automobile Charger

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	\$480	\$0	\$0	\$480	01/13/2017

EXAMINER	ART UNIT	CLASS-SUBCLASS
LIN, SUN J	2851	320-162000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).
☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list
 (1) The names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
 (2) The name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE

(B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
☐ Publication Fee (No small entity discount permitted)
☐ Advance Order - # of Copies _____

4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
☐ Payment by credit card. Form PTO-2038 is attached.
☐ The director is hereby authorized to charge the required fee(s), any deficiency, or credits any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ Applicant certifying micro entity status. See 37 CFR 1.29
☐ Applicant asserting small entity status. See 37 CFR 1.27
☐ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.

NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.

NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

NOTE: This form must be signed in accordance with 37 CFR 1.31 and 1.33. See 37 CFR 1.4 for signature requirements and certifications.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/569,352	12/12/2014	Calvin Shiening Wang	8523-1	1207
22442	7590	10/13/2016	EXAMINER	
Sheridan Ross PC 1560 Broadway Suite 1200 Denver, CO 80202			LIN, SUN J	
			ART UNIT	PAPER NUMBER
			2851	

DATE MAILED: 10/13/2016

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (Applications filed on or after May 29, 2000)

The Office has discontinued providing a Patent Term Adjustment (PTA) calculation with the Notice of Allowance.

Section 1(h)(2) of the AIA Technical Corrections Act amended 35 U.S.C. 154(b)(3)(B)(i) to eliminate the requirement that the Office provide a patent term adjustment determination with the notice of allowance. See Revisions to Patent Term Adjustment, 78 Fed. Reg. 19416, 19417 (Apr. 1, 2013). Therefore, the Office is no longer providing an initial patent term adjustment determination with the notice of allowance. The Office will continue to provide a patent term adjustment determination with the Issue Notification Letter that is mailed to applicant approximately three weeks prior to the issue date of the patent, and will include the patent term adjustment on the patent. Any request for reconsideration of the patent term adjustment determination (or reinstatement of patent term adjustment) should follow the process outlined in 37 CFR 1.705.

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

OMB Clearance and PRA Burden Statement for PTOL-85 Part B

The Paperwork Reduction Act (PRA) of 1995 requires Federal agencies to obtain Office of Management and Budget approval before requesting most types of information from the public. When OMB approves an agency request to collect information from the public, OMB (i) provides a valid OMB Control Number and expiration date for the agency to display on the instrument that will be used to collect the information and (ii) requires the agency to inform the public about the OMB Control Number's legal significance in accordance with 5 CFR 1320.5(b).

The information collected by PTOL-85 Part B is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Notice of Allowability	Application No. 14/569,352	Applicant(s) WANG, CALVIN SHIENING	
	Examiner SUN LIN	Art Unit 2851	AIA (First Inventor to File) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Amendment & Remarks filed on 09/19/2016.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.
2. ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
3. ☒ The allowed claim(s) is/are 1-6. As a result of the allowed claim(s), you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.
4. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☒ All b) ☐ Some *c) ☐ None of the:

1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. ☐ Notice of References Cited (PTO-892) | 5. ☒ Examiner's Amendment/Comment |
| 2. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 6. ☐ Examiner's Statement of Reasons for Allowance |
| 3. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 7. ☐ Other _____. |
| 4. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____. | |

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The present application, filed on or after March 16, 2013, is being examined under the first inventor to file (FITF) provisions of the AIA.

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

DETAILED ACTION

1. This office action is in response to *Amendment & Remarks* filed on 09/19/2016 regarding patent application 14/569,352 filed on 12/12/2014. Replacement Sheet of Fig. 2 has been reviewed, approved and recorded. Claims 1 – 6 were originally filed. No claim has been cancelled or added. Claims 1 – 6 remain pending in the application.

Examiner's Amendment

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

The application has been amended, based on the *Amendment* filed on 09/19/2016, to correct the following informality:

Abstract, line 8, change "Another three ends" to **—Other three ends—**.

Conclusion

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sun J. Lin whose telephone number is (571) 272-1899. The examiner can normally be reached on Monday to Friday from 9:00am to 6:00pm.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (in USA or CANADA) or 571-272-1000.

/Sun J. Lin/
Primary Examiner, Art Unit 2851

Search Notes 	Application/Control No. 14569352	Applicant(s)/Patent Under Reexamination WANG, CALVIN SHIENING
	Examiner SUN LIN	Art Unit 2851

CPC- SEARCHED		
Symbol	Date	Examiner
B60L11/1811; B60L11/1816; B60L11/1861; H02J7/0029	8/25/2016	/JSL/

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
320	162	8/25/2016	/JSL/

SEARCH NOTES		
Search Notes	Date	Examiner
EAST [US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB]	8/25/2016	/JSL/
GOOGLE	8/25/2016	/JSL/

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
320	162	9/22/2016	/JSL/

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Index of Claims 	Application/Control No. 14569352	Applicant(s)/Patent Under Reexamination WANG, CALVIN SHIENING
	Examiner SUN LIN	Art Unit 2851

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☒ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47										
CLAIM		DATE								
Final	Original	08/25/2016	09/22/2016							
	1	=	=							
	2	=	=							
	3	=	=							
	4	=	=							
	5	=	=							
	6	=	=							

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 14/569,352	Filing Date 12/12/2014	☐ To be Mailed
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ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	NUMBER FILED	NUMBER EXTRA	RATE (\$)	FEE (\$)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*	X \$ =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*	X \$ =	
☐ APPLICATION SIZE FEE (37 CFR 1.16(s))			If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).	
☐ MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	

APPLICATION AS AMENDED – PART II

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
	09/19/2016	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR		
	Total (37 CFR 1.16(i))	* 6 Minus	** 20 = 0	X \$40 =	0
	Independent (37 CFR 1.16(h))	* 1 Minus	***3 = 0	X \$210 =	0
	☐ Application Size Fee (37 CFR 1.16(s))				
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				
				TOTAL ADD'L FEE	0

AMENDMENT	(Column 1)	(Column 2)	(Column 3)	RATE (\$)	ADDITIONAL FEE (\$)
		CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR		
	Total (37 CFR 1.16(i))	* Minus	** =	X \$ =	
	Independent (37 CFR 1.16(h))	* Minus	*** =	X \$ =	
	☐ Application Size Fee (37 CFR 1.16(s))				
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))				
				TOTAL ADD'L FEE	

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.

** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".

*** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3".

The "Highest Number Previously Paid For" (Total or Independent) is the highest number found in the appropriate box in column 1.

LIE
/DAVID SASFAI/

This collection of information is required by 37 CFR 1.16. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:	)	Group Art Unit: 2851
Calvin Shiening Wang	)	
Application No.: 14/569,352	)	Examiner: LIN, SUN J
Filed: December 12, 2014	)	Confirmation No.: 1207
Atty. File No.: 8523-1	)	
(formerly 144236.00012)	)	
For: "AUTOMOBILE CHARGER"		

AMENDMENT AND RESPONSE
TO EX PARTE QUAYLE ACTION

Mail Stop Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Commissioner:

Applicant submits this Amendment and Response to address the Office Action having a mailing date of August 31, 2016. Please credit any overpayment or charge any underpayment to Deposit Account No. 19-1970.

Amendments to the Specification:

Please amend the Abstract as follows:

A novel automobile charger which comprise a direct current voltage supply, wherein a positive pole of the direct current voltage supply is connected with one end or lead of a DC to DC module, one end of a battery voltage detection module and one end of a load module simultaneously, while a negative pole of the ~~battery-direct current voltage supply~~ is connected with ~~the~~ an other end of the DC to DC module, one end of a microcontroller, one end of ~~the~~ an automobile start control module and ~~the~~ an other end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with ~~the~~ an other end of the microcontroller, ~~the~~ an other three ends of ~~which the microcontroller~~ are connected with the third end of the battery voltage detection module, ~~the~~ an other end of the automobile start control module and one end of ~~the~~ a load detection module respectively. ~~The~~ An other end of the load detection module is connected with ~~the~~ a third end of the automobile start control module and ~~the~~ an other end of the load module simultaneously.

Amendment to the Drawings:

Please see the attached Replacement Sheet containing the following amendments to Fig. 2:

- "*VDO" has been changed to -*VDD-;
- "R2" next to C6 has been changed to -R7-; and
- "C3" between H+ and H- has been changed to -C7-.

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A novel automobile charger which comprises a direct current power supply, comprising:

a positive pole of the direct current voltage connected with a first lead of a DC to DC module, a first lead of a battery voltage detection module, and a first lead of a load module simultaneously,

a negative pole of the direct current ~~voltage power supply~~ connected with a second lead of the DC to DC module, a first lead of a microcontroller, a first lead of an automobile start control module and a second lead of the battery voltage detection module simultaneously;

a third lead of the DC to DC module connected with a second lead of the microcontroller, and

three additional leads of the microcontroller connected with a third lead of the battery voltage detection module, a second lead of the automobile start control module and ~~the a first lead of the a~~ load detection module respectively,

wherein a second lead of the load detection module is connected with ~~the third end a third lead~~ of the automobile start control module and a second lead of the load module simultaneously;

the load module including an automobile storage battery and an automobile engine is located on one end of ~~an~~ the automobile.

2. (Currently Amended) The novel automobile charger according to Claim 1, wherein the DC to DC module includes a diode D1, a resistor R1, a capacitor C1, a HT7530 voltage stabilizing tube, a capacitor C2 and ~~a capacitors C2 and C3~~,

a positive pole of the diode D1 is connected with a positive pole of ~~the a~~ battery, a negative pole of the diode D1 is connected with a first lead of the capacitor C1 and an IN port of the HT7530 voltage stabilizing tube through the resistor R1 simultaneously, and

an OUT port of the HT7530 voltage stabilizing tube is connected with a first lead of the capacitor C2, a first lead of the capacitor C3 and a VDD port of a microcontroller U2 simultaneously,

a second lead of the capacitor C1, a second lead of the capacitor C2 and a second lead of the capacitor C3 as well as a GND port of the HT7530 voltage stabilizing tube are grounded and connected with ~~the a~~ negative pole of the battery simultaneously;

a R1 port of the microcontroller U2 is connected with ~~a the~~ negative pole of the battery through a luminous diode L1 and a resistor R12 in series connection,

a B1 port of the microcontroller U2 is connected with a EN port of the automobile start control module,

a V0 port of the microcontroller U2 is connected with the negative pole of the battery through a capacitor C4 and a resistor R7 in parallel connection and is also connected with the VDD port through a slide rheostat RT,

a V1 port of the microcontroller U2 is ~~also~~ connected with the negative pole of the battery through a resistor R10, a capacitor C6 and a resistor R13 in parallel connection,

the V1 port is also connected with the positive pole of the battery through a resistor R2 and is also connected with ~~the a~~ negative pole of the automobile storage battery and the automobile engine simultaneously through a resistor R9,

wherein two leads of the automobile storage battery are in parallel connection with the capacitor C7, the resistors R9, R10, the capacitor C6 and the resistor R13 together to form the load detection module,

a V4 port of the microcontroller U2 is grounded through a capacitor C5,

a VSS port of the microcontroller U2 and one end of ~~the a~~ capacitor C4 are grounded; simultaneously,

the second lead of the capacitor C4 is connected with the VDD port of the microcontroller U2,

the resistor R2, the capacitor C6 and the resistor R13 form the battery voltage detection module together, and

a ~~Drive-drive~~ port of the automobile start control module is connected with the automobile engine and one end of a resistor R14 simultaneously, wherein the other end of the resistor R14 is grounded.

3. (Currently Amended) The automobile charger according to Claim 1, wherein the DC to DC module is operably configured to provide a stable voltage for the microcontroller which collects relevant data to conduct corresponding control, and

the battery voltage detection module conducts ~~the a~~ measurement of the ~~batter~~ voltage of the battery.

the automobile start control module conducts power supply or power outage for the load module through the microcontroller, wherein the load detection module detects whether the load module is correctly connected.

4. (Currently Amended) The automobile charger according to Claim 1, ~~further comprising wherein~~ the battery voltage detection module further being operably configured to provide a protection for ~~the a~~ power supply battery of the direct current power supply.

5. (Currently Amended) The automobile charger according to Claim 1, further comprising programmatic instructions such that, when placed in a standby mode, the microcontroller closes all outputs when ~~the a~~ voltage of the direct current power supply is lower than that of a state being able to supply power and then recovers when it is higher than that of the state being able to supply power.

6. (Original) The automobile charger according to Claim 1 wherein the automobile start control module is an electronic switch.

REMARKS/ARGUMENTS

Status of the Claims

The present amendments are made in response to the Office Action having a mailing date of August 31, 2016, which indicates that the claims are allowed subject to the correction of formal matters. Claims 1-5 are amended, as are the Specification and Fig. 2. No new matter has been added by these amendments, which are not intended to abandon or dedicate to the public any patentable subject matter. Applicant respectfully submits that the amendments presented herewith satisfy the requirements of the Office Action.

Drawing Objections

A replacement sheet with Fig. 2 is submitted herewith, containing each of the required amendments to Fig. 2.

Specification Objections

Applicant has amended the Abstract as required by the Office Action. With respect to the requirement stating “ABSTRACT, line 5 – 6, change ‘the automobile start control module’ to —the automobile start control module—,” Applicant believes that the Office Action intended to require changing “the automobile start control module” to “*an* automobile start control module,” and has amended the Abstract accordingly.

In addition to the amendments required by the Office Action, Applicant has made additional non-substantive amendments to the Abstract along the lines of those required by the Office Action. The following paragraph includes the changes required by the Office Action, but shows in underline or strikeout only the *additional* changes made to the Abstract to facilitate the Examiner’s review of these additional changes:

A novel automobile charger which comprise a direct current voltage supply, wherein a positive pole of the direct current voltage supply is connected with one end or lead of a DC to DC module, one end of a battery voltage detection module and one end of a load module simultaneously, while a negative pole of the direct current voltage supply is connected with ~~the~~ an other end of

the DC to DC module, one end of a microcontroller, one end of an automobile start control module and ~~the another~~ end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with another end of the microcontroller. ~~the Another~~ three ends of the microcontroller are connected with the third end of the battery voltage detection module, another end of the automobile start control module and one end of a load detection module respectively. Another end of the load detection module is connected with a third end of the automobile start control module and another end of the load module simultaneously.

Claim Objections

Applicant has amended the claims as required by the Office Action. In addition to the amendments required by the Office Action, Applicant has made two additional non-substantive amendments to Claim 1 to correct a typographical error and to correct an antecedent basis issue. The following paragraph includes the changes required by the Office Action, but shows in underline or strikeout only the *additional* changes made to Claim 1 to facilitate the Examiner's review of these additional changes:

1. (Currently Amended) A novel automobile charger which comprises a direct current power supply, comprising:

a positive pole of the direct current voltage connected with a first lead of a DC to DC module, a first lead of a battery voltage detection module, and a first lead of a load module simultaneously,

a negative pole of the direct current power supply connected with a second lead of the DC to DC module, a first lead of a microcontroller, a first lead of an automobile start control module and a second lead of the battery voltage detection module simultaneously;

a third lead of the DC to DC module connected with a second lead of the microcontroller, and

three additional leads of the microcontroller connected with a third lead of the battery voltage detection module, a second lead of the automobile start control module and ~~the~~ a first lead of a load detection module respectively,

wherein a second lead of the load detection module is connected with a third lead of the automobile start control module and a second lead of the load module simultaneously;

the load module including an automobile storage battery and an automobile engine is located on one end of an automobile.

CONCLUSION

In view of the foregoing, Applicant believes that the objections set forth in the Office Action have been fully addressed, and that there are no further impediments to issuance of a patent containing the allowed claims.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at (720) 376-6904.

The Commissioner is hereby authorized to charge to deposit account number 19-1970 any fees under 37 CFR § 1.16 and 1.17 that may be required by this paper and to credit any overpayment to that Account. If any extension of time is required in connection with the filing of this paper and has not been separately requested, such extension is hereby petitioned.

Respectfully submitted,

SHERIDAN ROSS P.C.

Date: September 19, 2016

By: /David B. Kellis/
David B. Kellis
Reg. No. 59,377
Telephone: 720-376-6904

Electronic Acknowledgement Receipt

EFS ID:	26970252
Application Number:	14569352
International Application Number:	
Confirmation Number:	1207
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	22442
Filer:	David B. Kellis/Kathy Johnston
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523-1
Receipt Date:	19-SEP-2016
Filing Date:	12-DEC-2014
Time Stamp:	18:11:00
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		AMEND_01_8523-1.pdf	153878 09cef67c3b379da45de5d90f7245113b6328fee0	yes	9

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Response after Ex Parte Quayle Action	1	1
	Specification	2	2
	Drawings-only black and white line drawings	3	3
	Claims	4	6
	Applicant Arguments/Remarks Made in an Amendment	7	9

Warnings:

Information:

2	Drawings-only black and white line drawings	Replacement_Fig_2.pdf	59077	no	1
			2f81c765aa607f5946be31807179a708e7485ca9		

Warnings:

Information:

Total Files Size (in bytes):	212955
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This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Calvin Shiening Wang	8523-1

22442
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

CONFIRMATION NO. 1207
POA ACCEPTANCE LETTER



Date Mailed: 09/08/2016

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/30/2016.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/tgebrel



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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Calvin Shiening Wang	144236.00012

54975
HOLLAND & KNIGHT LLP
10 ST. JAMES AVENUE
BOSTON, MA 02116-3889

CONFIRMATION NO. 1207 POWER OF ATTORNEY NOTICE



OC000000085637176

Date Mailed: 09/08/2016

NOTICE REGARDING CHANGE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 08/30/2016.

- The Power of Attorney to you in this application has been revoked by the applicant. Future correspondence will be mailed to the new address of record(37 CFR 1.33).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/tgebre/



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
14/569,352	12/12/2014	Calvin Shiening Wang	144236.00012	1207
54975 7590 08/31/2016 HOLLAND & KNIGHT LLP 10 ST. JAMES AVENUE BOSTON, MA 02116-3889			EXAMINER LIN, SUN J	
			ART UNIT 2851	PAPER NUMBER
			NOTIFICATION DATE 08/31/2016	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocketing@hklaw.com
toni.sousa@hklaw.com

Office Action Summary	Application No. 14/569,352	Applicant(s) WANG, CALVIN SHIENING	
	Examiner SUN LIN	Art Unit 2851	AIA (First Inventor to File) Status Yes

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 2 MONTHS FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on 12/12/2014.
☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on ____.

2a) ☐ This action is **FINAL**. 2b) ☐ This action is non-final.

3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on ____; the restriction requirement and election have been incorporated into this action.

4) ☒ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims*

5) ☒ Claim(s) 1-6 is/are pending in the application.
5a) Of the above claim(s) ____ is/are withdrawn from consideration.

6) ☒ Claim(s) 1-6 is/are allowed.

7) ☐ Claim(s) ____ is/are rejected.

8) ☐ Claim(s) ____ is/are objected to.

9) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

* If any claims have been determined allowable, you may be eligible to benefit from the **Patent Prosecution Highway** program at a participating intellectual property office for the corresponding application. For more information, please see http://www.uspto.gov/patents/init_events/pph/index.jsp or send an inquiry to PPHfeedback@uspto.gov.

Application Papers

10) ☒ The specification is objected to by the Examiner.

11) ☒ The drawing(s) filed on See Continuation Sheet is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

Certified copies:

a) ☒ All b) ☐ Some** c) ☐ None of the:

1. ☒ Certified copies of the priority documents have been received.

2. ☐ Certified copies of the priority documents have been received in Application No. ____.

3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

** See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Information Disclosure Statement(s) (PTO/SB/08a and/or PTO/SB/08b)
Paper No(s)/Mail Date ____.

3) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.

4) ☐ Other: ____.

Continuation of Application Papers 11).The drawing(s) filed on: 12/12/2014 and 05/22/2015.

Art Unit: 2851

The present application, filed on or after March 16, 2013, is being examined under the first inventor to file (FITF) provisions of the AIA.

In the event the determination of the status of the application as subject to AIA 35 U.S.C. 102 and 103 (or as subject to pre-AIA 35 U.S.C. 102 and 103) is incorrect, any correction of the statutory basis for the rejection will not be considered a new ground of rejection if the prior art relied upon, and the rationale supporting the rejection, would be the same under either status.

DETAILED ACTION

1. This office action is in response to application 14/569,352 filed on 12/12/2014. Claims 1 – 6 were originally filed. Claims 1 – 6 remain pending in the application.

QUAYLE ACTION

2. This application is in condition for allowance except for the following formal matters:

Drawing Objections

Fig. 2, change “*VDO” to —*VDD—

Fig. 2, next to C6, change “R2” to —R7—.

Fig. 2, between H+ and H-, change “C3” to —C7—.

Specification Objections

ABSTRACT, line 1, change “a direct current voltage” insert —**supply**—.

ABSTRACT, line 2, change “the direct current voltage” insert —**supply**—.

ABSTRACT, line 4, change “battery” to —**direct current voltage supply**—.

ABSTRACT, line 5 – 6, change “the automobile start control module” to —**the automobile start control module**—.

ABSTRACT, line 7, change “the other end” to —**another end**—.

ABSTRACT, line 7 – 8, change “the other three ends of which” to —**other three ends of the microcontroller**—.

ABSTRACT, line 9, change “the other end” to —**another end**—.

ABSTRACT, line 9 – 10, change “the load detection module” to —**a load detection module**—.

ABSTRACT, line 10, change “The other end” to —**Another end**—.

ABSTRACT, line 11, change “the third end” to —**a third end**—.

ABSTRACT, line 11, change “the other end” to —**another end**—.

Claim Objections

Claim 1, line 6, change “the direct current voltage” to —**the direct current power supply**—.

Claim 1, line 13, change “the load detection module” to —**a load detection module**—.

Claim 1, line 14, change “the third end” to —**a third lead**—.

Claim 1, line 15, before “second lead” insert —**a**—.

Claim 1, line 18, change “the automobile” to —**an automobile**—.

Claim 2, line 3, change “capacitors C2 and C3” to —**a capacitor C2 and a capacitor C3**—.

Claim 2, line 4, change “the battery” to —**a battery**—.

Claim 2, line 13, change “the negative pole” to —**a negative pole**—.

Claim 2, line 14, change “a negative pole” to —**the negative pole**—.

Claim 2, line 19, change “also with” to —**is also connected with**—.

Claim 2, line 21, change “is also connected with” to —**is connected with**—.

Claim 2, line 22, change “a resistor 10” to —**a resistor R10**—.

Claim 2, line 23, change “is connected with” to —**is also connected with**—.

Claim 2, line 24, change “the negative pole” to —**a negative pole**—.

Claim 2, line 27, change “resistors R9, 10” to —**resistors R9, R10**—.

Claim 2, line 30, change “the capacitor C4” to —**a capacitor C4**—.

Claim 2, line 34, before “capacitor C6” insert —**the**—.

Claim 2, line 34, before “resistor R13” insert —**the**—.

Claim 2, line 36, change “Drive port” to —**drive port**—.

Claim 3, line 4, change “the measurement” to —**a measurement**—.

Claim 3, line 4, change “the batter voltage” to —**voltage of the battery**—.

Claim 4, line 1, change “further comprising” to —**wherein**—.

Claim 4, line 2, before “being” insert —**further**—.

Claim 4, line 2, before “protection” insert —**a**—.

Claim 4, line 2 – 3, change “the power supply battery” to —**a power supply battery of the direct current power supply**—.

Claim 5, line 3, change “the voltage” to —**a voltage**—.

Claim 5, line 4, change “than the state” to **—than that of the state—**.

Appropriate corrections are required.

Prosecution on the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

A shortened statutory period for reply to this action is set to expire **TWO MONTHS** from the mailing date of this letter.

Reasons for Allowance

3. The following is an examiner's statement of reasons for allowance:

Claim 1 – 6 are allowed because the prior or record does not teach or fairly suggest the following subject matter:

- A novel automobile charger which comprises a direct current power supply, comprising: a DC to DC module, a microcontroller, a battery voltage detection module, an automobile start control module and a load detection module, and interconnections between the direct current power supply and those modules in combination with other limitations as recited in independent **Claim 1**.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Conclusion

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to *Sun James Lin* whose telephone number is (571) 272 - 1899. The examiner can normally be reached on Monday-Friday 9:30AM - 6:30PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, *Jack Chiang* can be reached on (571) 272 - 7483. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2851

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free) If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (in USA or CANADA) or 571-272-1000.

All responses to this Office Action should be mailed to ***Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450*** or faxed to ***571-273-8300***.

/Sun J. Lin/
Primary Examiner, Art Unit 2851

Notice of References Cited	Application/Control No. 14/569,352		Applicant(s)/Patent Under Reexamination WANG, CALVIN SHIENING	
	Examiner SUN LIN		Art Unit 2851	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-5,487,002 A	01-1996	Diller et al.	B60L11/1861	320/128
*	B	US-8,183,821 B2	05-2012	Sakurai	B60L11/1803	320/104
*	C	US-8,253,376 B2	08-2012	Gale et al.	H02J7/02	320/107
*	D	US-8,447,543 B2	05-2013	Dickinson et al.	B60L11/1816	702/58
*	E	US-8,565,930 B2	10-2013	Miwa	B60K6/445	141/192
*	F	US-9,333,865 B2	05-2016	Kawasaki et al.	B60L11/1811	1/1
	G	US-				
	H	US-				
	I	US-				
	J	US-				
	K	US-				
	L	US-				
	M	US-				

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes 	Application/Control No. 14569352	Applicant(s)/Patent Under Reexamination WANG, CALVIN SHIENING
	Examiner SUN LIN	Art Unit 2851

CPC- SEARCHED		
Symbol	Date	Examiner
B60L11/1811; B60L11/1816; B60L11/1861; H02J7/0029	8/25/2016	/JSL/

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
320	162	8/25/2016	/JSL/

SEARCH NOTES		
Search Notes	Date	Examiner
EAST [US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB]	8/25/2016	/JSL/
GOOGLE	8/25/2016	/JSL/

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

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Yes, show me

Chic Electrics, Exhibit 1003
Shenzhen Chic Electrics v. Pilot

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
S1	2501	320/162	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 07:55
S2	0	(320/162).ccls. and ((automobile or vehicle) adj charger) and (((DC-DC) or (DC-to-DC)) adj (module or converter)) and (microcontroller) and (voltage adj (detector or detection)) and (start adj control) and (load adj detection) and (load adj module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 08:00
S3	1	(320/162).ccls. and ((automobile or vehicle) adj charger) and (((DC-DC) or (DC to DC)) adj (module or converter)) and (microcontroller) and (voltage adj (detector or detection)) and (start adj control) and (load adj detection) and (load adj module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 08:01
S4	1	(320/\$).ccls. and ((automobile or vehicle) adj charger) and (((DC-DC) or (DC to DC)) adj (module or converter)) and (microcontroller) and (voltage adj (detector or detection)) and (start adj control) and (load adj detection) and (load adj module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 08:01
S5	1	((automobile or vehicle) adj charger) and (((DC-DC) or (DC to DC)) adj (module or converter)) and (microcontroller) and (voltage adj (detector or detection)) and (start adj control) and (load adj detection) and (load adj module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 08:02
S6	2	((automobile or vehicle) adj charger) and (microcontroller) and (voltage adj (detector or detection)) and (start adj control) and (load adj detection) and (load adj module)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 08:03
S7	2	((automobile or vehicle) adj charger) and (microcontroller) and (voltage adj (detector or detection)) and (start adj control) and (load adj detection)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 08:03
S8	2	S7 AND ((H02J7/0029).CPC.)	US-PGPUB;	OR	OFF	2016/08/25

			USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			08:04
S9	240	((automobile or vehicle) adj charger) and (microcontroller)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 08:05
S10	49	S9 AND ((H02J7/0029 OR B60L11/1816 OR B60L11/1811 OR B60L11/1861).CPC.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 08:09
S11	5	((automobile or vehicle) adj charger) same ((direct adj current) adj (power adj supply))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 14:17
S12	20	((automobile or vehicle) adj charger) and ((direct adj current) adj (power adj supply))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2016/08/25 14:21

8/ 25/ 2016 3:06:40 PM
C:\ Users\ slin1\ Documents\ EAST\ Workspaces\ CASE1093.wsp



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BIB DATA SHEET

CONFIRMATION NO. 1207

SERIAL NUMBER	FILING or 371(c) DATE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.		
14/569,352	12/12/2014	320	2851	144236.00012		
APPLICANTS Wang's International, Inc., City of Industry, CA INVENTORS Calvin Shiening Wang, City of Industry, CA; ** CONTINUING DATA ***** ** FOREIGN APPLICATIONS ***** CHINA 201420212173.5 04/28/2014 ** IF REQUIRED, FOREIGN FILING LICENSE GRANTED *** SMALL ENTITY ** 12/29/2014						
Foreign Priority claimed ☒ Yes ☐ No 35 USC 119(a-d) conditions met ☒ Yes ☐ No Verified and Acknowledged <u>/SUN J LIN/</u> Examiner's Signature		☐ Met after Allowance Initials	STATE OR COUNTRY CA	SHEETS DRAWINGS 2	TOTAL CLAIMS 6	INDEPENDENT CLAIMS 1
ADDRESS HOLLAND & KNIGHT LLP 10 ST. JAMES AVENUE BOSTON, MA 02116-3889 UNITED STATES						
TITLE Automobile Charger						
FILING FEE RECEIVED 800	FEES: Authority has been given in Paper No. _____ to charge/credit DEPOSIT ACCOUNT No. _____ for following:			☐ All Fees ☐ 1.16 Fees (Filing) ☐ 1.17 Fees (Processing Ext. of time) ☐ 1.18 Fees (Issue) ☐ Other _____ ☐ Credit		

Index of Claims 	Application/Control No. 14569352	Applicant(s)/Patent Under Reexamination WANG, CALVIN SHIENING
	Examiner SUN LIN	Art Unit 2851

✓	Rejected	-	Cancelled	N	Non-Elected	A	Appeal
=	Allowed	÷	Restricted	I	Interference	O	Objected

☐ Claims renumbered in the same order as presented by applicant ☐ CPA ☐ T.D. ☐ R.1.47										
CLAIM		DATE								
Final	Original	08/25/2016								
	1	=								
	2	=								
	3	=								
	4	=								
	5	=								
	6	=								

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	14/569,352
Filing Date	2014-12-12
First Named Inventor	Calvin Shiening Wang
Title	Automobile Charger
Art Unit	2836
Examiner Name	TBD
Attorney Docket Number	8523-1

SIGNATURE of Applicant or Patent Practitioner

Signature	/David B. Kellis/	Date (Optional)	2016-08-30
Name	David B. Kellis	Registration Number	59377
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐

*Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

22442

OR

☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

☒ The address associated with the above-mentioned Customer Number

OR

☐ The address associated with Customer Number:

OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone		Email			

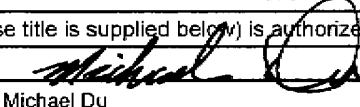
I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Wang's International, Inc.

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	<u>8/30/16</u>
Name	Michael Du		
Title	Chief Financial Officer		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Electronic Acknowledgement Receipt	
EFS ID:	26792313
Application Number:	14569352
International Application Number:	
Confirmation Number:	1207
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	54975
Filer:	David B. Kellis/Melissa Reno
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	144236.00012
Receipt Date:	30-AUG-2016
Filing Date:	12-DEC-2014
Time Stamp:	18:06:28
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	POA.pdf	389130	no	2
			977639ab62efec6e3acc27651196b804290a5725		

Warnings:

Information:	
Total Files Size (in bytes):	389130
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	



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United States Patent and Trademark Office
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Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Calvin Shiening Wang	144236.00012

54975
HOLLAND & KNIGHT LLP
10 ST. JAMES AVENUE
BOSTON, MA 02116-3889

CONFIRMATION NO. 1207
MISCELLANEOUS NOTICE



Date Mailed: 08/08/2016

A communication which cannot be delivered in electronic form has been mailed to the applicant.



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 Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Calvin Shiening Wang	144236.00012

CONFIRMATION NO. 1207



OC000000084892558

54975
 HOLLAND & KNIGHT LLP
 10 ST. JAMES AVENUE
 BOSTON, MA 02116-3889

Cc: SHERIDAN ROSS PC
 1560 BROADWAY
 SUITE 1200
 DENVER, CO 80202

Date Mailed: 08/05/2016**DENIAL OF REQUEST FOR POWER OF ATTORNEY**

The request for Power of Attorney filed 07/26/2016 is acknowledged. However, the request cannot be granted at this time for the reason stated below.

- ☐ The Power of Attorney you provided did not comply with the new Power of Attorney rules that became effective on June 25, 2004. See 37 CFR 1.32.
- ☐ The revocation is not signed by the applicant, the assignee of the entire interest, or one particular principal attorney having the authority to revoke.
- ☐ The Power of Attorney is from an assignee and the Certificate required by 37 CFR 3.73(c) has not been received.
- ☐ The person signing for the assignee has omitted their empowerment to sign on behalf of the assignee.
- ☐ The inventor(s) is without authority to appoint attorneys since the assignee has intervened as provided by 37 CFR 3.71.
- ☐ The signature(s) of _____, a co-inventor in this application, has been omitted. The Power of Attorney will be entered upon receipt of confirmation signed by said co-inventor(s).
- ☐ The person(s) appointed in the Power of Attorney is not registered to practice before the U.S. Patent and Trademark Office.
- ☐ Only one Customer Number can be designated for the Power of Attorney in an application. The Customer Number that was captured is the first Customer Number provided on the Power of Attorney document.



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

- ☐ A request under 37 CFR 1.48 to add an inventor was granted in this application, however, no power of attorney consistent with the power of attorney granted by the originally named inventive entity has been received. Thus, the addition of the inventor has resulted in the loss of power of attorney in the application. See 37 CFR 1.32(e).
- ☒ The power of attorney has not been accepted because the party who is giving power of attorney has not been identified. Power of attorney may only be signed by the applicant for patent (37 CFR 1.42) or the patent owner. A patent owner who was not the applicant must appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. See 37 CFR 1.32(b)(4).
- ☐ The power of attorney from the inventors has not been accepted because it is a copy from a prior national application for which benefit is claimed and the continuing application names an inventor who was not named as an inventor in the prior application.
- ☐ The power of attorney from the inventors has not been accepted because the power of attorney must be signed by the applicant for patent. See 37 CFR 1.32(b)(4).
- ☒ Any request to correct or update the name of the applicant must include an application data sheet (ADS) in compliance with 37 CFR 1.76 specifying the correct or updated name of the applicant in the applicant information section. Any request to change the applicant after an original applicant has been specified under 37 CFR 1.46(b) must include a new ADS in compliance with 37 CFR 1.76 specifying the applicant in the applicant information section and comply with 37 CFR 3.71 and 3.73. See 37 CFR 1.46(c).

Any inquiries regarding this notice should be directed to the Application Assistance Unit at 571-272-4200.

Application Assistance Unit
571-272-4200

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	14/569,352
Filing Date	2014-12-12
First Named Inventor	Calvin Shiening Wang
Title	Automobile Charger
Art Unit	2836
Examiner Name	TBD
Attorney Docket Number	8523-1

SIGNATURE of Applicant or Patent Practitioner

Signature	/David B. Kellis/		Date (Optional)	
Name	David B. Kellis	Registration Number	59377	
Title (if Applicant is a juristic entity)	Attorney			
Applicant Name (if Applicant is a juristic entity)				

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.

☐

*Total of _____ forms are submitted.

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POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number

Filing Date

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)



I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above:

22442

OR



I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:



The address associated with the above-mentioned Customer Number

OR



The address associated with Customer Number:

OR

Firm or
Individual Name

Address

City

State

Zip

Country

Telephone

Email

I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):



Inventor or Joint Inventor (title not required below)



Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)



Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)



Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature

Date (Optional) 7/12/2016

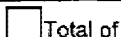
Name

Michael Du

Title

Chief Financial Officer

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.



Total of forms are submitted.

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Electronic Acknowledgement Receipt	
EFS ID:	26461368
Application Number:	14569352
International Application Number:	
Confirmation Number:	1207
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	54975
Filer:	David B. Kellis/Kathy Johnston
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	144236.00012
Receipt Date:	26-JUL-2016
Filing Date:	12-DEC-2014
Time Stamp:	16:52:20
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
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File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	Executed_POA.pdf	372612	no	2
			f7e8017acbf4eb326366c8161f2a77909bb5c561		

Warnings:

Information:	
Total Files Size (in bytes):	372612
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.	



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United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Calvin Shiening Wang	145976.00001

CONFIRMATION NO. 1207

PUBLICATION NOTICE



OC000000078352009

54975
HOLLAND & KNIGHT LLP
10 ST. JAMES AVENUE
BOSTON, MA 02116-3889

Title:Automobile Charger

Publication No.US-2015-0306964-A1

Publication Date:10/29/2015

NOTICE OF PUBLICATION OF APPLICATION

The above-identified application will be electronically published as a patent application publication pursuant to 37 CFR 1.211, et seq. The patent application publication number and publication date are set forth above.

The publication may be accessed through the USPTO's publically available Searchable Databases via the Internet at www.uspto.gov. The direct link to access the publication is currently <http://www.uspto.gov/patft/>.

The publication process established by the Office does not provide for mailing a copy of the publication to applicant. A copy of the publication may be obtained from the Office upon payment of the appropriate fee set forth in 37 CFR 1.19(a)(1). Orders for copies of patent application publications are handled by the USPTO's Office of Public Records. The Office of Public Records can be reached by telephone at (703) 308-9726 or (800) 972-6382, by facsimile at (703) 305-8759, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently <http://pair.uspto.gov/>. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101



证 明

本证明之附件是向本局提交的下列专利申请文件副本。

申 请 号：201420212173.5
申 请 类 型：实用新型专利
发 明 创 造 名 称：一种新型汽车充电器
申 请 日：2014 年 04 月 28 日
申 请 人：王熙宁
发明人或设计人：王熙宁

局长
申长雨

2015 年 06 月 24 日



权 利 要 求 书

1. 一种新型汽车充电器，包括直流电源，其特征在于，直流电源正极同时连接为 DC to DC 模块的一端、电池电压侦测模块的一端和负载模块的一端，直流电压负极同时连接 DC to DC 模块的另一端、微控制器的一端、汽车启动控制模块的一端和电池电压侦测模块的另一端，所述 DC to DC 模块的第三端连接微控制器的另一端，所述微控制器的其他三端分别连接电池电压侦测模块的第三端、汽车启动控制模块的另一端和负载侦测模块的一端，所述负载侦测模块的另一端同时连接汽车启动控制模块的第三端和负载模块的另一端；所述负载模块位于汽车的一端，所述负载模块包括汽车电瓶和汽车发动机。
2. 根据权利要求 1 所述的一种新型汽车充电器，其特征在于，所述 DC to DC 模块包括二极管 D1、电阻 R1、电容 C1、HT7530 稳压管、电容 C2 和电容 C3，所述二极管 D1 的正极与电池的正极连接，二极管 D1 的负极通过电阻 R1 同时连接电容 C1 的一端和 HT7530 稳压管 IN 端口，所述 HT7530 稳压管的 OUT 端口同时连接电容 C2 的一端、电容 C3 的一端和微控制器 U2 的 VDD 端口，所述电容 C1 的另一端、电容 C2 的另一端、电容 C3 的另一端和 HT7530 稳压管的 GND 端口同时接地和电池负极；所述微控制器 U2 的 R1 端口通过串联的发光二极管 L1 和电阻 R12 连接电池负极，微控制器 U2 的 B1 端口连接汽车启动控制模块的 EN 端口，微控制器 U2 的 VO 端通过并联的电容 C4 和电阻 R7 连接电池负极，VO 端还通过滑动变阻器 RT 连接 VDD 端口，微控制器 U2 的 V1 端口通过并联电阻 10、电容 C6 和电阻 R13 也连接电池负极，V1 端口通过电阻 R2 连接电池正极，V1 端口还通过电阻 R9 同时连接汽车电瓶负极和汽车发动机，所述汽车电瓶两端还并联有电容 C7，电阻 R9、电阻 10、电容 C6 和电阻 R13 一起组成负载侦测模块，微控制器 U2 的 V4 端口通过电容 C5 接地，微控制器 U2 的 VSS 端口与电容 C4 的一端同时接地，所述电容 C4 的另一端连接微控制器 U2 的 VDD 端口，所述电阻 R2、电容 C6 和电阻 R13 一起组成电池电压侦测模块，所述汽车启动控制模块的 Drive 端口同时连接汽车发动机和电阻 R14 的一端，电阻 R14 的另一端接地。
3. 根据权利要求 1 所述的一种新型汽车充电器，其特征在于，所述 DC to DC 模块为微控制器提供稳定电压，所述微控制器采集相关数据进行对应控制，所述电池电压侦测模块进行电池电压的量测，所述汽车启动控制模块经由微控制器对负载模块进行供电或断电，所述负载侦测模块检测负载模块是否正确接上。
4. 根据权利要求 1 所述的一种新型汽车充电器，其特征在于，所述电池电压侦测模块为供电电池提供保护。
5. 根据权利要求 1 所述的一种新型汽车充电器，其特征在于，在待机状态下，直流电源的



权 利 要 求 书

电压低于可供电状态时，微控制器关闭所有输出，直流电源的电压高于可供电状态时恢复工作。

6. 根据权利要求 1 所述的一种新型汽车充电器，其特征在于，所述汽车启动控制模块为电子开关。



说明书

一种新型汽车充电器

技术领域

[0001] 本实用新型汽车充电装置，具体是一种新型安全电源快速充电的汽车充电器。

背景技术

[0002] 汽车充电给是驾车出行爱车人士和商务人士一项大事，其技术的成熟度是制约汽车充电器推广应用的关键因素之一，但现在的汽车充电器普遍存在无法自动侦测是否已接负载，侦测电极与汽车电瓶是否接反，侦测汽车发电机或电瓶是否有逆电流，侦测电池状态是否适合做大电流发电等问题，因此，本实用新型提供了一种新型安全电源快速充电的汽车充电器以解决上述问题，使汽车充电安全快速成熟且可推广。

发明内容

[0003] 本实用新型的目的在于提供一种新型安全电源快速充电的汽车充电器，以解决上述背景技术中提出的问题。

[0004] 为实现上述目的，本实用新型提供如下技术方案：一种新型汽车充电器，包括直流电源，直流电源正极同时连接为 DC to DC 模块的一端、电池电压侦测模块的一端和负载模块的一端，直流电压负极同时连接 DC to DC 模块的另一端、微控制器的一端、汽车启动控制模块的一端和电池电压侦测模块的另一端，所述 DC to DC 模块的第三端连接微控制器的另一端，所述微控制器的其他三端分别连接电池电压侦测模块的第三端、汽车启动控制模块的另一端和负载侦测模块的一端，所述负载侦测模块的另一端同时连接汽车启动控制模块的第三端和负载模块的另一端；所述负载模块位于汽车的一端，所述负载模块包括汽车电瓶和汽车发动机。

[0005] 作为本实用新型进一步的方案：所述 DC to DC 模块为微控制器提供稳定电压，所述微控制器采集相关数据进行对应控制，所述电池电压侦测模块进行电池电压的量测，所述汽车启动控制模块经由微控制器对负载模块进行供电或断电，所述负载侦测模块检测负载模块是否正确接上，所述负载模块包括汽车电瓶或是汽车发电机。

[0006] 作为本实用新型进一步的方案：电路对负载模块供电采用电子开关，可以对产品做更多的保护或缩小产品尺寸和降低材料成本。

[0007] 作为本实用新型进一步的方案：所述电池电压侦测模块为供电电池提供保护，防止直流电源放电造成毁损。

[0008] 作为本实用新型进一步的方案：所述负载侦测模块防止使用者不当操作。



说明书

[0009] 作为本实用新型进一步的方案：在待机状态下，直流电源的电压低于可供电状态时，微控制器关闭所有输出，直流电源的电压高于可供电状态时恢复工作。

[0010] 作为本实用新型进一步的方案：汽车启动控制模块为电子开关。

[0011] 与现有技术相比，本实用新型的有益效果是：

1. 本实用新型的负载供电采用电子开关控制，这部分可以对产品做更多的保护以及缩小产品尺寸跟降低材料成本。

[0012] 2. 本实用新型的电池侦测可做低电压保护，防止电池过放电造成损坏。

[0013] 3. 本实用新型的负载侦测，可以防止使用者不正当操作，如极性接反，造成汽车或直流电源损坏。

[0014] 4. 本实用新型采用负载异常电压回流保护，当侦测异常电压时，关闭汽车启动线路，以保护电池。

[0015] 5. 本实用新型具有快速充电功能，且可根据人们使用需要进行固定安装或便携式移动。

[0016] 6. 本实用新型的自动侦测模块可自动检测是否已经接上负载，侦测电极与汽车电瓶是否接反，侦测汽车发电机是否有逆充电流，侦测电池状态是否适合做大电流放电，保护负载和电路，功能齐全。

附图说明

[0017] 图 1 为安全智能汽车应急电源的原理框图；

图 2 为安全智能汽车应急电源的电路图。

[0018] 图中：1-DC to DC 模块、2-微控制器、3-电池电压侦测模块、4-汽车启动控制模块、5-负载侦测模块、6-负载模块、7-直流电源。

具体实施方式

[0019] 下面将结合本实用新型实施例中的附图，对本实用新型实施例中的技术方案进行清楚、完整地描述，显然，所描述的实施例仅仅是本实用新型一部分实施例，而不是全部的实施例。基于本实用新型中的实施例，本领域普通技术人员在没有做出创造性劳动前提下所获得的所有其他实施例，都属于本实用新型保护的范围。

[0020] 请参阅图 1，一种新型汽车充电器，包括直流电源，直流电源正极同时连接为 DC to DC 模块的一端、电池电压侦测模块的一端和负载模块的一端，直流电压负极同时连接 DC to DC 模块的另一端、微控制器的一端、汽车启动控制模块的一端和电池电压侦测模块的另一端，所述 DC to DC 模块的第三端连接微控制器的另一端，所述微控制器的其他三端分别



说明书

连接电池电压侦测模块的第三端、汽车启动控制模块的另一端和负载侦测模块的一端，所述负载侦测模块的另一端同时连接汽车启动控制模块的第三端和负载模块的另一端；所述负载模块位于汽车的一端，所述负载模块包括汽车电瓶和汽车发动机。

[0021] 请参阅图 2，所述 DC to DC 模块包括二极管 D1、电阻 R1、电容 C1、HT7530 稳压管、电容 C2 和电容 C3，所述二极管 D1 的正极与电池的正极连接，二极管 D1 的负极通过电阻 R1 同时连接电容 C1 的一端和 HT7530 稳压管 IN 端口，所述 HT7530 稳压管的 OUT 端口同时连接电容 C2 的一端、电容 C3 的一端和微控制器 U2 的 VDD 端口，所述电容 C1 的另一端、电容 C2 的另一端、电容 C3 的另一端和 HT7530 稳压管的 GND 端口同时接地和电池负极；所述微控制器 U2 的 R1 端口通过串联的发光二极管 L1 和电阻 R12 连接电池负极，微控制器 U2 的 B1 端口连接汽车启动控制模块的 EN 端口，微控制器 U2 的 VO 端通过并联的电容 C4 和电阻 R7 连接电池负极，VO 端还通过滑动变阻器 RT 连接 VDD 端口，微控制器 U2 的 V1 端口通过并联电阻 10、电容 C6 和电阻 R13 也连接电池负极，V1 端口通过电阻 R2 连接电池正极，V1 端口还通过电阻 R9 同时连接汽车电瓶负极和汽车发动机，所述汽车电瓶两端还并联有电容 C7，电阻 R9、电阻 10、电容 C6 和电阻 R13 一起组成负载侦测模块，微控制器 U2 的 V4 端口通过电容 C5 接地，微控制器 U2 的 VSS 端口与电容 C4 的一端同时接地，所述电容 C4 的另一端连接微控制器 U2 的 VDD 端口，所述电阻 R2、电容 C6 和电阻 R13 一起组成电池电压侦测模块，所述汽车启动控制模块的 Drive 端口同时连接汽车发动机和电阻 R14 的一端，电阻 R14 的另一端接地。

[0022] 本实用新型中所述 DC to DC 模块为微控制器提供稳定电压，所述微控制器采集相关数据进行对应控制，所述电池电压侦测模块进行电池电压的量测，所述汽车启动控制模块经由微控制器对负载模块进行供电或断电，所述负载侦测模块检测负载模块是否正确接上。

[0023] 本实用新型中微控制器经负载侦测模块判断汽车电瓶和汽车发动机是否接上，当负载接对后，汽车启动控制模块会自动开启，电池开始对负载模块供电；假设负载没接上或是正负极性接反，汽车启动控制模块会自动关闭，电池停止对负载模块供电。在待机状态，当电池电压低于 9V 时，微控制器关闭所有输出，只有电池电压高于 10V 才会恢复正常工作；汽车启动后，汽车发动机会产生正常电压对电池进行回充，当回充电压大于电池启动供电前的电压，立即关闭汽车启动控制模块，以免电池受到正常电压充电造成损害；汽车启动控制模块为电子开关，可以防止负载接反和正常电压回充，进而对电池进行保护以及延长寿命。

[0024] 汽车启动后，汽车发动机会产生异常电压对直流电源进行回充，当回充电压大于直流电源启动供电前的电压，立即关闭汽车启动控制模块，以避免直流电源受到异常电压充电



说明书

造成损坏。

[0025] 对于本领域技术人员而言，显然本实用新型不限于上述示范性实施例的细节，而且在不背离本实用新型的精神或基本特征的情况下，能够以其他的具体形式实现本实用新型。因此，无论从哪一点来看，均应将实施例看作是示范性的，而且是非限制性的，本实用新型的范围由所附权利要求而不是上述说明限定，因此旨在将落在权利要求的等同要件的含义和范围内的所有变化囊括在本实用新型内。不应将权利要求中的任何附图标记视为限制所涉及的权利要求。

[0026] 此外，应当理解，虽然本说明书按照实施方式加以描述，但并非每个实施方式仅包含一个独立的技术方案，说明书的这种叙述方式仅仅是为清楚起见，本领域技术人员应当将说明书作为一个整体，各实施例中的技术方案也可以经适当组合，形成本领域技术人员可以理解的其他实施方式。



说明书附图

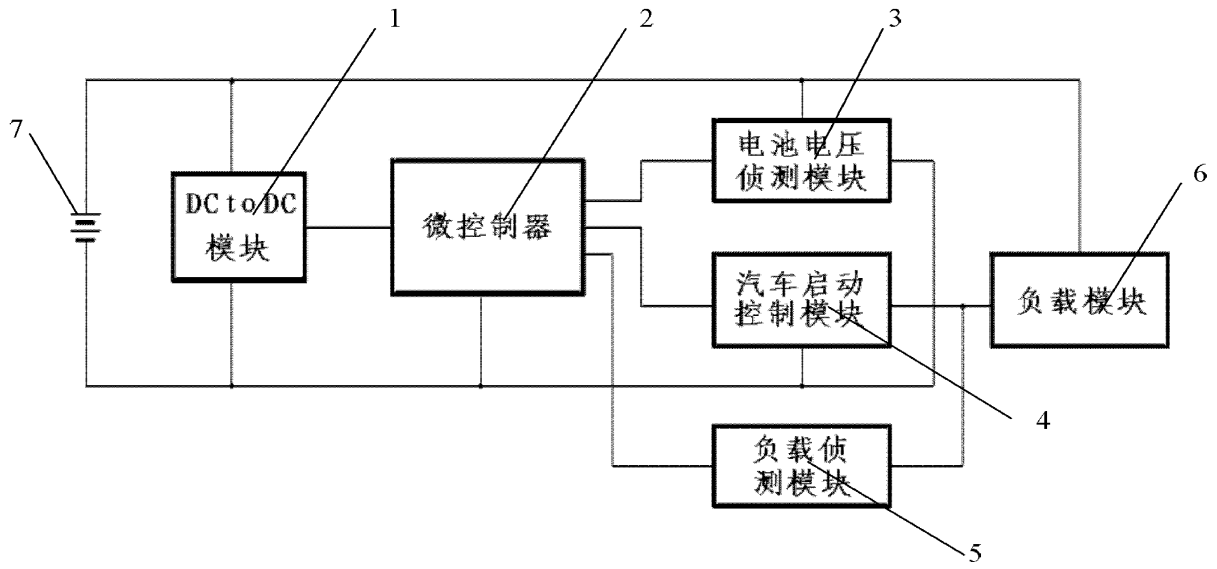


图 1

说 明 书 附 图

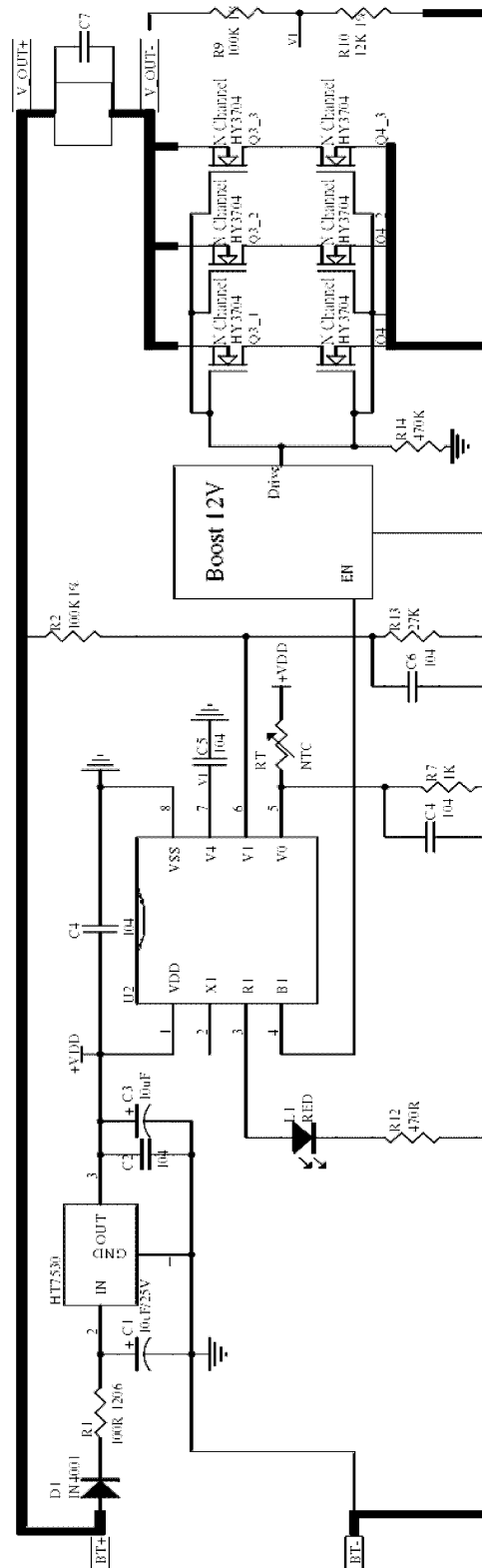


图 2



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Calvin Shiening Wang	145976.00001

54975
HOLLAND & KNIGHT LLP
10 ST. JAMES AVENUE
BOSTON, MA 02116-3889

CONFIRMATION NO. 1207
POA ACCEPTANCE LETTER



Date Mailed: 06/10/2015

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 06/04/2015.

The Power of Attorney in this application is accepted. Correspondence in this application will be mailed to the above address as provided by 37 CFR 1.33.

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/mabebe/



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www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
14/569,352	12/12/2014	2859	800	145976.00001	6	1

54975
HOLLAND & KNIGHT LLP
10 ST. JAMES AVENUE
BOSTON, MA 02116-3889

CONFIRMATION NO. 1207 CORRECTED FILING RECEIPT



Date Mailed: 06/10/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Calvin Shiening Wang, City of Industry, CA;

Applicant(s)

Wang's International, Inc., City of Industry, CA

Power of Attorney: The patent practitioners associated with Customer Number 54975

Domestic Applications for which benefit is claimed - None.

A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

CHINA 201420212173.5 04/28/2014

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 12/29/2014

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/569,352**

Projected Publication Date: 10/29/2015

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

Automobile Charger

Preliminary Class

320

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA/82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	14/569,352
Filing Date	December 12, 2014
First Named Inventor	Xining Wang
Title	AUTOMOBILE CHARGER
Art Unit	2836
Examiner Name	Not Yet Assigned
Attorney Docket Number	145976.00001

SIGNATURE of Applicant or Patent Practitioner

Signature	/Mark H. Whittenberger/	Date (Optional)	2015-06-04
Name	Mark H. Whittenberger	Registration Number	52356
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.



*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
14/569,352	2014-12-12

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

- ☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 54975
- OR
- ☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

- ☒ The address associated with the above-mentioned Customer Number

OR

- ☐ The address associated with Customer Number:

OR

Firm or Individual Name					
Address					
City		State		Zip	
Country					
Telephone			Email		

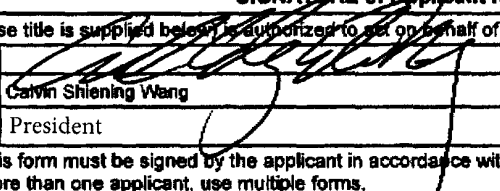
I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Wang's International, Inc.

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	9/13/15
Name	Calvin Shiening Wang		
Title	President		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL/NEW		Attorney Docket Number	563761- 145976.00001
Application Data Sheet 37 CFR 1.76		Application Number	
Title of Invention	Automobile Charger		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

Secrecy Order 37 CFR 5.2

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor 1					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	-Xining- Calvin	Shiening	Wang		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	City of Industry	State/Province	CA	Country of Residence i	US
Mailing Address of Inventor:					
Address 1	13000 Temple Avenue				
Address 2					
City	City of Industry	State/Province	CA		
Postal Code	91746	Country i	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence information of this application.			
Customer Number	30955		
Email Address	patent@lathropgpage.com	Add Email	Remove Email

Application Information:

Title of the Invention	Automobile Charger		
Attorney Docket Number	563761	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	
Filing By Reference :			

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL/NEW		Attorney Docket Number	563764	145976.00001
Application Data Sheet 37 CFR 1.76		Application Number		
Title of Invention	Automobile Charger			

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐	Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐	Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.			
Please Select One:			
☒	Customer Number	☐	US Patent Practitioner
☐	Limited Recognition (37 CFR 11.9)		
Customer Number	30955		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the application number blank.

Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL/NEW Application Data Sheet 37 CFR 1.76		Attorney Docket Number	-563761- 145976.00001
		Application Number	
Title of Invention	Automobile Charger		

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

Remove

Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ^j (if applicable)
201420212173.5	CN	2014-04-28	

Additional Foreign Priority Data may be generated within this form by selecting the Add button.

Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013.



NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL/NEW		Attorney Docket Number	~~563761~~	<u>145976.00001</u>
Application Data Sheet 37 CFR 1.76		Application Number		
Title of Invention	Automobile Charger			

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.				
Applicant 1				Remove
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.				
Clear				
☒ Assignee	☐ Legal Representative under 35 U.S.C. 117		☐ Joint Inventor	
☐ Person to whom the inventor is obligated to assign.		☐ Person who shows sufficient proprietary interest		
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:				
Name of the Deceased or Legally Incapacitated Inventor :				
If the Applicant is an Organization check here. ☒ <u>Wang's International, Inc.</u>				
Prefix	Given Name	Middle Name	Family Name	Suffix

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL/NEW		Attorney Docket Number	563761	145976.00001
Application Data Sheet 37 CFR 1.76		Application Number		
Title of Invention	Automobile Charger			

Mailing Address Information:				
Address 1		13000 Temple Avenue		
Address 2				
City	City of Industry	State/Province	CA	
Country i	US	Postal Code	91746	
Phone Number		Fax Number		
Email Address				
Additional Applicant Data may be generated within this form by selecting the Add button.				Add

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.				
Assignee 1				
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
				Remove
If the Assignee or Non-Applicant Assignee is an Organization check here.				☐
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country i		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button.				Add

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL/NEW		Attorney Docket Number	-563761	145976.00001
Application Data Sheet 37 CFR 1.76		Application Number		
Title of Invention	Automobile Charger			

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications				
Signature	/Dan Cleveland Jr./		Date (YYYY-MM-DD)	2014-12-12
First Name	Dan Jr.	Last Name	Cleveland	Registration Number
				36106
Additional Signature may be generated within this form by selecting the Add button.				Add

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Signature: /Mark H. Whittenberger/

Date: 2015-06-04

First Name: Mark H. Whittenberger

Reg. #: 52356

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

STATEMENT UNDER 37 CFR 3.73(c)Applicant/Patent Owner: Wang's International, Inc.Application No./Patent No.: 14/569,352Filed/Issue Date: 2014-12-12Titled: AUTOMOBILE CHARGERWang's International, Inc., a Corporation

(Name of Assignee)

(Type of Assignee, e.g., corporation, partnership, university, government agency, etc.)

states that, for the patent application/patent identified above, it is (choose **one** of options 1, 2, 3 or 4 below):

1. ☒ The assignee of the entire right, title, and interest.
2. ☐ An assignee of less than the entire right, title, and interest (check applicable box):
- ☐ The extent (by percentage) of its ownership interest is _____%. Additional Statement(s) by the owners holding the balance of the interest must be submitted to account for 100% of the ownership interest.
- ☐ There are unspecified percentages of ownership. The other parties, including inventors, who together own the entire right, title and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

3. ☐ The assignee of an undivided interest in the entirety (a complete assignment from one of the joint inventors was made). The other parties, including inventors, who together own the entire right, title, and interest are:

Additional Statement(s) by the owner(s) holding the balance of the interest must be submitted to account for the entire right, title, and interest.

4. ☐ The recipient, via a court proceeding or the like (e.g., bankruptcy, probate), of an undivided interest in the entirety (a complete transfer of ownership interest was made). The certified document(s) showing the transfer is attached.

The interest identified in option 1, 2 or 3 above (not option 4) is evidenced by either (choose **one** of options A or B below):

- A. ☒ An assignment from the inventor(s) of the patent application/patent identified above. The assignment was recorded in the United States Patent and Trademark Office at Reel 035701, Frame 0343, or for which a copy thereof is attached.

- B. ☐ A chain of title from the inventor(s), of the patent application/patent identified above, to the current assignee as follows:

1. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

2. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at

Reel _____, Frame _____, or for which a copy thereof is attached.

[Page 1 of 2]

This collection of information is required by 37 CFR 3.73(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

STATEMENT UNDER 37 CFR 3.73(c)

3. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

4. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

5. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

6. From: _____ To: _____

The document was recorded in the United States Patent and Trademark Office at
 Reel _____, Frame _____, or for which a copy thereof is attached.

☐ Additional documents in the chain of title are listed on a supplemental sheet(s).

☐ As required by 37 CFR 3.73(c)(1)(i), the documentary evidence of the chain of title from the original owner to the assignee was, or concurrently is being, submitted for recordation pursuant to 37 CFR 3.11.

[NOTE: A separate copy (i.e., a true copy of the original assignment document(s)) must be submitted to Assignment Division in accordance with 37 CFR Part 3, to record the assignment in the records of the USPTO. See MPEP 302.08]

The undersigned (whose title is supplied below) is authorized to act on behalf of the assignee.

/Mark H. Whittenberger/

2015-06-04

Signature

Date

Mark H. Whittenberger

52356

Printed or Typed Name

Title or Registration Number

[Page 2 of 2]

Privacy Act Statement

The **Privacy Act of 1974 (P.L. 93-579)** requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (*i.e.*, GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	22540634
Application Number:	14569352
International Application Number:	
Confirmation Number:	1207
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	30955
Filer:	Mark H. Whittenberger/Catherine Langlais
Filer Authorized By:	Mark H. Whittenberger
Attorney Docket Number:	145976.00001
Receipt Date:	04-JUN-2015
Filing Date:	12-DEC-2014
Time Stamp:	16:24:40
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	no
------------------------	----

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Power of Attorney	14597600001PowerofAttorney.pdf	142776 0dce8e7189c1c1a7e31aa2c1903f7410eabfd6e8	no	2

Warnings:

Information:

2	Application Data Sheet	14597600001SupplementalAp plicationDataSheet.pdf	392745 30482601f9bb699afab723d371ec529f0e1b 166c	no	7
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
3	Assignee showing of ownership per 37 CFR 3.73	14597600001StatementUnder3 73c.pdf	74397 ba8f83a8eef2923232f0458c1954fa0582b6 f76	no	3
Warnings:					
Information:					
Total Files Size (in bytes):			609918		
This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503. <u>New Applications Under 35 U.S.C. 111</u> If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application. <u>National Stage of an International Application under 35 U.S.C. 371</u> If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course. <u>New International Application Filed with the USPTO as a Receiving Office</u> If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.					



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Calvin Shiening Wang	145976.00001

30955
LATHROP & GAGE LLP
4845 PEARL EAST CIRCLE
SUITE 201
BOULDER, CO 80301

CONFIRMATION NO. 1207
IMPROPER CFR REQUEST



Date Mailed: 06/03/2015

RESPONSE TO REQUEST FOR CORRECTED FILING RECEIPT

Power of Attorney, Claims, Fees, System Limitations, and Miscellaneous

In response to your request for a corrected Filing Receipt, the Office is unable to comply with your request because:

- The ADS submitted on 05/22/15 attempts to change the applicant but cannot be entered. Any request to change the applicant once the applicant has been specified must include (1) an application data sheet specifying the new applicant in the Applicant Information section, and (2) a statement under 37 CFR 3.73(c) (USPTO Form PTO/AIA/96 or an equivalent) to show chain of title to the new applicant. The application data sheet must contain markings to show the information that is being changed, with underlining for additions and strike-through or brackets for deletions. See 37 CFR 1.76(c)(2).

Questions about the contents of this notice and the requirements it sets forth should be directed to the Office of Data Management, Application Assistance Unit, at (571) 272-4000 or (571) 272-4200 or 1-888-786-0101.

/sstephanos/



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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Calvin Shiening Wang	145976.00001

30955
LATHROP & GAGE LLP
4845 PEARL EAST CIRCLE
SUITE 201
BOULDER, CO 80301

CONFIRMATION NO. 1207
MISCELLANEOUS NOTICE



Date Mailed: 06/03/2015

A communication which cannot be delivered in electronic form has been mailed to the applicant.



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P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO	TOT CLAIMS	IND CLAIMS
14/569,352	12/12/2014	2836	800	145976.00001	6	1

CONFIRMATION NO. 1207
UPDATED FILING RECEIPT



30955
LATHROP & GAGE LLP
4845 PEARL EAST CIRCLE
SUITE 201
BOULDER, CO 80301

Date Mailed: 06/03/2015

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Calvin Shiening Wang, City of Industry, CA;

Applicant(s)

Calvin Shiening Wang, City of Industry, CA;

Power of Attorney: None

Domestic Applications for which benefit is claimed - None.

A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

CHINA 201420212173.5 04/28/2014

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 12/29/2014

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/569,352**

Projected Publication Date: 10/29/2015

Non-Publication Request: No

Early Publication Request: No

page 1 of 3

**** SMALL ENTITY ****

Title

Automobile Charger

Preliminary Class

307

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 14/569,352	
APPLICATION AS FILED - PART I							
(Column 1)		(Column 2)		SMALL ENTITY		OTHER THAN SMALL ENTITY	
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	300		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	6	minus 20 = *	x 40 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 = *	x 210 =	0.00	OR		
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00			
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00			
			TOTAL	730		TOTAL	
* If the difference in column 1 is less than zero, enter "0" in column 2.							
APPLICATION AS AMENDED - PART II							
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT A	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =
	Application Size Fee (37 CFR 1.16(s))					OR	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR	
			TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY	
AMENDMENT B	CLAIMS REMAINING AFTER AMENDMENT	HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)
	Total (37 CFR 1.16(i))	*	Minus **	=	x =	OR	x =
	Independent (37 CFR 1.16(h))	*	Minus ***	=	x =	OR	x =
	Application Size Fee (37 CFR 1.16(s))					OR	
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))					OR	
			TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.							



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APPLICATION NUMBER	FILING DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Calvin Shiening Wang	145976.00001

CONFIRMATION NO. 1207



OC000000075503060

30955
 LATHROP & GAGE LLP
 4845 PEARL EAST CIRCLE
 SUITE 201
 BOULDER, CO 80301

Cc: HOLLAND & KNIGHT LLP
 10 ST. JAMES AVENUE
 BOSTON, MA 02116-3889

Date Mailed: 06/02/2015**DENIAL OF REQUEST FOR POWER OF ATTORNEY**

The request for Power of Attorney filed 05/22/2015 is acknowledged. However, the request cannot be granted at this time for the reason stated below.

- ☐ The Power of Attorney you provided did not comply with the new Power of Attorney rules that became effective on June 25, 2004. See 37 CFR 1.32.
- ☐ The revocation is not signed by the applicant, the assignee of the entire interest, or one particular principal attorney having the authority to revoke.
- ☐ The Power of Attorney is from an assignee and the Certificate required by 37 CFR 3.73(c) has not been received.
- ☐ The person signing for the assignee has omitted their empowerment to sign on behalf of the assignee.
- ☐ The inventor(s) is without authority to appoint attorneys since the assignee has intervened as provided by 37 CFR 3.71.
- ☐ The signature(s) of _____, a co-inventor in this application, has been omitted. The Power of Attorney will be entered upon receipt of confirmation signed by said co-inventor(s).
- ☐ The person(s) appointed in the Power of Attorney is not registered to practice before the U.S. Patent and Trademark Office.
- ☐ Only one Customer Number can be designated for the Power of Attorney in an application. The Customer Number that was captured is the first Customer Number provided on the Power of Attorney document.
- ☐ A request under 37 CFR 1.48 to add an inventor was granted in this application, however, no power of attorney consistent with the power of attorney granted by the originally named inventive entity has been



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received. Thus, the addition of the inventor has resulted in the loss of power of attorney in the application. See 37 CFR 1.32(e).

- ☒ The power of attorney has not been accepted because the party who is giving power of attorney has not been identified. Power of attorney may only be signed by the applicant for patent (37 CFR 1.42) or the patent owner. A patent owner who was not the applicant must appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. See 37 CFR 1.32(b)(4).
- ☐ The power of attorney from the inventors has not been accepted because it is a copy from a prior national application for which benefit is claimed and the continuing application names an inventor who was not named as an inventor in the prior application.
- ☐ The power of attorney from the inventors has not been accepted because the power of attorney must be signed by the applicant for patent. See 37 CFR 1.32(b)(4).
- ☒ Any request to correct or update the name of the applicant must include an application data sheet (ADS) in compliance with 37 CFR 1.76 specifying the correct or updated name of the applicant in the applicant information section. Any request to change the applicant after an original applicant has been specified under 37 CFR 1.46(b) must include a new ADS in compliance with 37 CFR 1.76 specifying the applicant in the applicant information section and comply with 37 CFR 3.71 and 3.73. See 37 CFR 1.46(c).

Any inquiries regarding this notice should be directed to the Application Assistance Unit at 571-272-4200.



Application Assistance Unit
571-272-4200

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Xining Wang
Serial No. : 14/569,352
Filing Date: December 12, 2014
Title : AUTOMOBILE CHARGER

Art Unit : 2836
Examiner : Unknown
Conf. No.: 1207

MAIL STOP MISSING PARTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

RESPONSE TO NOTICE TO FILE CORRECTED APPLICATION PAPERS

In response to the Notice to File Corrected Application Papers, mailed December 31, 2014, applicant as small entity submits herewith the following:

- ☒ Replacement Drawing – Figure 2;
- ☒ Executed Inventor Declaration;
- ☒ Power of Attorney; and
- ☒ Petition for Three-Month Extension of Time (fee payment only).

It is understood that these documents perfect the application and no additional papers or filing fees are required. However, please charge any required fee, and any additional fees that may be due, and credit any overpayments to Deposit Account No. 50-2324, referencing Attorney Docket No. 145976.00001.

Respectfully submitted,

Date: May 22, 2015

/Mark H. Whittenberger/
Mark H. Whittenberger
Reg. No. 52,356

Holland & Knight LLP
10 St. James Avenue
Boston, MA 02116
Telephone: (617) 854-1460
Facsimile: (617) 523-6850

**DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN
APPLICATION DATA SHEET (37 CFR 1.76)**

Title of Invention	AUTOMOBILE CHARGER
As the below named inventor, I hereby declare that: This declaration is directed to: ☐ The attached application, or ☒ United States application or PCT international application number <u>14/569,352</u> filed on <u>December 12, 2014</u> The above-identified application was made or authorized to be made by me. I believe that I am the original inventor or an original joint inventor of a claimed invention in the application. I hereby acknowledge that any willful false statement made in this declaration is punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both. WARNING: Petitioner/applicant is cautioned to avoid submitting personal information in documents filed in a patent application that may contribute to identity theft. Personal information such as social security numbers, bank account numbers, or credit card numbers (other than a check or credit card authorization form PTO-2038 submitted for payment purposes) is never required by the USPTO to support a petition or an application. If this type of personal information is included in documents submitted to the USPTO, petitioners/applicants should consider redacting such personal information from the documents before submitting them to the USPTO. Petitioner/applicant is advised that the record of a patent application is available to the public after publication of the application (unless a non-publication request in compliance with 37 CFR 1.213(a) is made in the application) or issuance of a patent. Furthermore, the record from an abandoned application may also be available to the public if the application is referenced in a published application or an issued patent (see 37 CFR 1.14). Checks and credit card authorization forms PTO-2038 submitted for payment purposes are not retained in the application file and therefore are not publicly available. LEGAL NAME OF INVENTOR Inventor: <u>Calvin Shiening Wang</u> Date (Optional): <u>9/18/15</u> Signature:  Note: An application data sheet (PTO/SB/14 or equivalent), including naming the entire inventive entity, must accompany this form or must have been previously filed. Use an additional PTO/AIA/01 form for each additional inventor.	

This collection of information is required by 35 U.S.C. 115 and 37 CFR 1.63. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 1 minute to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether disclosure of these records is required by the Freedom of Information Act.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspection or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant : Xining Wang
Serial No. : 14/569,352
Filing Date: December 12, 2014
Title : AUTOMOBILE CHARGER

Art Unit : 2836
Examiner : Unknown
Conf. No.: 1207

MAIL STOP MISSING PARTS

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

REQUEST FOR CORRECTED FILING RECEIPT

Applicants respectfully request that the name of Inventor, Xining Wang, and Applicant be updated on the Filing Receipt as follows:

Inventor: ~~Xining~~ Calvin Shiening Wang, City of Industry, CA

Applicant: ~~Xining Wang, City of Industry, CA~~ Wang's International, Inc., City of Industry, CA

Submitted with this request for your convenience is a marked-up copy of the filing receipt with the requested change. Applicants also submit a corrected Application Data Sheet (ADS). Applicants therefore request that a corrected Filing Receipt be issued to reflect this change.

Applicants believe no fees are due in connection with this filing. However, should any fees be due, please charge any fees or credit any overpayments to Deposit Account No. 50-2324, referencing attorney docket number 145976.00001.

Respectfully submitted,

Date: May 22, 2015

/Mark H. Whittenberger/
Mark H. Whittenberger
Reg. No. 52,356

Holland & Knight LLP
10 St. James Avenue
Boston, MA 02116
Telephone: (617) 854-1460
Facsimile: (617) 523-6850

#35699260_v1



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
14/569,352	12/12/2014	2836	800	563761	6	1

CONFIRMATION NO. 1207

FILING RECEIPT



OC000000072600171

30955

LATHROP & GAGE LLP
4845 PEARL EAST CIRCLE
SUITE 201
BOULDER, CO 80301

Date Mailed: 12/31/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

~~Xining Wang, City of Industry, CA;~~ Calvin Shiening Wang, City of Industry, CA

Applicant(s)

~~Xining Wang, City of Industry, CA;~~ Wang's International, Inc., City of Industry, CA

Power of Attorney: None

Domestic Applications for which benefit is claimed - None.

A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

CHINA 201420212173.5 04/28/2014

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 12/29/2014

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/569,352**

Projected Publication Date: To Be Determined - pending completion of Corrected Papers

Non-Publication Request: No

Early Publication Request: No

page 1 of 3

**** SMALL ENTITY ****

Title

Automobile Charger

Preliminary Class

307

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

SelectUSA

The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL/NEW		Attorney Docket Number	~~563761~~	<u>145976.00001</u>
Application Data Sheet 37 CFR 1.76		Application Number		
Title of Invention	Automobile Charger			
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.				

Secrecy Order 37 CFR 5.2

☐	Portions or all of the application associated with this Application Data Sheet may fall under a Secrecy Order pursuant to 37 CFR 5.2 (Paper filers only. Applications that fall under Secrecy Order may not be filed electronically.)
--------------------------	---

Inventor Information:

Inventor 1					Remove
Legal Name					
Prefix	Given Name	Middle Name	Family Name	Suffix	
	~~Xining~~ Calvin	Shiening	Wang		
Residence Information (Select One) ☒ US Residency ☐ Non US Residency ☐ Active US Military Service					
City	City of Industry	State/Province	CA	Country of Residence i	US
Mailing Address of Inventor:					
Address 1	13000 Temple Avenue				
Address 2					
City	City of Industry	State/Province	CA		
Postal Code	91746	Country i	US		
All Inventors Must Be Listed - Additional Inventor Information blocks may be generated within this form by selecting the Add button.					Add

Correspondence Information:

Enter either Customer Number or complete the Correspondence Information section below. For further information see 37 CFR 1.33(a).			
☐ An Address is being provided for the correspondence Information of this application.			
Customer Number	30955		
Email Address	patent@lathropgage.com	Add Email	Remove Email

Application Information:

Title of the Invention	Automobile Charger		
Attorney Docket Number	563761	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	
Filing By Reference :			

SUPPLEMENTAL/NEW Application Data Sheet 37 CFR 1.76		Attorney Docket Number	563761	145976.00001
		Application Number		
Title of Invention	Automobile Charger			

Only complete this section when filing an application by reference under 35 U.S.C. 111(c) and 37 CFR 1.57(a). Do not complete this section if application papers including a specification and any drawings are being filed. Any domestic benefit or foreign priority information must be provided in the appropriate section(s) below (i.e., "Domestic Benefit/National Stage Information" and "Foreign Priority Information").

For the purposes of a filing date under 37 CFR 1.53(b), the description and any drawings of the present application are replaced by this reference to the previously filed application, subject to conditions and requirements of 37 CFR 1.57(a).

Application number of the previously filed application	Filing date (YYYY-MM-DD)	Intellectual Property Authority or Country

Publication Information:

☐ Request Early Publication (Fee required at time of Request 37 CFR 1.219)
☐ Request Not to Publish. I hereby request that the attached application not be published under 35 U.S.C. 122(b) and certify that the invention disclosed in the attached application has not and will not be the subject of an application filed in another country, or under a multilateral international agreement, that requires publication at eighteen months after filing.

Representative Information:

Representative information should be provided for all practitioners having a power of attorney in the application. Providing this information in the Application Data Sheet does not constitute a power of attorney in the application (see 37 CFR 1.32). Either enter Customer Number or complete the Representative Name section below. If both sections are completed the customer Number will be used for the Representative Information during processing.			
Please Select One:	☒ Customer Number	☐ US Patent Practitioner	☐ Limited Recognition (37 CFR 11.9)
Customer Number	30955		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, or 365(c) or indicate National Stage entry from a PCT application. Providing this information in the application data sheet constitutes the specific reference required by 35 U.S.C. 119(e) or 120, and 37 CFR 1.78.

When referring to the current application, please leave the application number blank.

Prior Application Status		Remove	
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)
Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the Add button.			Add

Foreign Priority Information:

SUPPLEMENTAL/NEW Application Data Sheet 37 CFR 1.76		Attorney Docket Number	~~563761~~ 145976.00001
		Application Number	
Title of Invention	Automobile Charger		

This section allows for the applicant to claim priority to a foreign application. Providing this information in the application data sheet constitutes the claim for priority as required by 35 U.S.C. 119(b) and 37 CFR 1.55(d). When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX) the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(h)(1) and (2). Under the PDX program, applicant bears the ultimate responsibility for ensuring that a copy of the foreign application is received by the Office from the participating foreign intellectual property office, or a certified copy of the foreign priority application is filed, within the time period specified in 37 CFR 1.55(g)(1).

			Remove
Application Number	Country ⁱ	Filing Date (YYYY-MM-DD)	Access Code ¹ (if applicable)
201420212173.5	CN	2014-04-28	
Additional Foreign Priority Data may be generated within this form by selecting the Add button.			Add

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications

This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013. ☐ NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.
--

Authorization to Permit Access:

☐ Authorization to Permit Access to the Instant Application by the Participating Offices

SUPPLEMENTAL/NEW		Attorney Docket Number	~~563761~~	<u>145976.00001</u>
Application Data Sheet 37 CFR 1.76		Application Number		
Title of Invention	Automobile Charger			

If checked, the undersigned hereby grants the USPTO authority to provide the European Patent Office (EPO), the Japan Patent Office (JPO), the Korean Intellectual Property Office (KIPO), the World Intellectual Property Office (WIPO), and any other intellectual property offices in which a foreign application claiming priority to the instant patent application is filed access to the instant patent application. See 37 CFR 1.14(c) and (h). This box should not be checked if the applicant does not wish the EPO, JPO, KIPO, WIPO, or other intellectual property office in which a foreign application claiming priority to the instant patent application is filed to have access to the instant patent application.

In accordance with 37 CFR 1.14(h)(3), access will be provided to a copy of the instant patent application with respect to: 1) the instant patent application-as-filed; 2) any foreign application to which the instant patent application claims priority under 35 U.S.C. 119(a)-(d) if a copy of the foreign application that satisfies the certified copy requirement of 37 CFR 1.55 has been filed in the instant patent application; and 3) any U.S. application-as-filed from which benefit is sought in the instant patent application.

In accordance with 37 CFR 1.14(c), access may be provided to information concerning the date of filing this Authorization.

Applicant Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.				
Applicant 1				Remove
If the applicant is the inventor (or the remaining joint inventor or inventors under 37 CFR 1.45), this section should not be completed. The information to be provided in this section is the name and address of the legal representative who is the applicant under 37 CFR 1.43; or the name and address of the assignee, person to whom the inventor is under an obligation to assign the invention, or person who otherwise shows sufficient proprietary interest in the matter who is the applicant under 37 CFR 1.46. If the applicant is an applicant under 37 CFR 1.46 (assignee, person to whom the inventor is obligated to assign, or person who otherwise shows sufficient proprietary interest) together with one or more joint inventors, then the joint inventor or inventors who are also the applicant should be identified in this section.				
Clear				
☐ Assignee	☐ Legal Representative under 35 U.S.C. 117	☐ Joint Inventor		
☐ Person to whom the inventor is obligated to assign.		☐ Person who shows sufficient proprietary interest		
If applicant is the legal representative, indicate the authority to file the patent application, the inventor is:				
Name of the Deceased or Legally Incapacitated Inventor :				
If the Applicant is an Organization check here. ☒ <u>Wang's International, Inc.</u>				
Prefix	Given Name	Middle Name	Family Name	Suffix

Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it contains a valid OMB control number.

SUPPLEMENTAL/NEW		Attorney Docket Number	563761	145976.00001
Application Data Sheet 37 CFR 1.76		Application Number		
Title of Invention	Automobile Charger			

Mailing Address Information:			
Address 1	13000 Temple Avenue		
Address 2			
City	City of Industry	State/Province	CA
Country i	USA	Postal Code	91746
Phone Number		Fax Number	
Email Address			
Additional Applicant Data may be generated within this form by selecting the Add button. Add			

Assignee Information including Non-Applicant Assignee Information:

Providing assignment information in this section does not substitute for compliance with any requirement of part 3 of Title 37 of CFR to have an assignment recorded by the Office.

Assignee 1				
Complete this section if assignee information, including non-applicant assignee information, is desired to be included on the patent application publication. An assignee-applicant identified in the "Applicant Information" section will appear on the patent application publication as an applicant. For an assignee-applicant, complete this section only if identification as an assignee is also desired on the patent application publication.				
Remove				
If the Assignee or Non-Applicant Assignee is an Organization check here. ☐				
Prefix	Given Name	Middle Name	Family Name	Suffix
Mailing Address Information For Assignee including Non-Applicant Assignee:				
Address 1				
Address 2				
City		State/Province		
Country i		Postal Code		
Phone Number		Fax Number		
Email Address				
Additional Assignee or Non-Applicant Assignee Data may be generated within this form by selecting the Add button. Add				

<u>SUPPLEMENTAL/NEW</u> Application Data Sheet 37 CFR 1.76		Attorney Docket Number	~~563761~~ 145976.00001
		Application Number	
Title of Invention	Automobile Charger		

Signature:

Remove

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications

Signature	/Dan Cleveland Jr./		Date (YYYY-MM-DD)	2014-12-12
First Name	Dan Jr.	Last Name	Cleveland	Registration Number 36106

Additional Signature may be generated within this form by selecting the Add button.

Add

This collection of information is required by 37 CFR 1.76. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 23 minutes to complete, including gathering, preparing, and submitting the completed application data sheet form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

Signature: /Mark H. Whittenberger/

Date: 2015-05-22

First Name: Mark H. Whittenberger

Reg. #: 52356

Privacy Act Statement

The Privacy Act of 1974 (P.L. 93-579) requires that you be given certain information in connection with your submission of the attached form related to a patent application or patent. Accordingly, pursuant to the requirements of the Act, please be advised that: (1) the general authority for the collection of this information is 35 U.S.C. 2(b)(2); (2) furnishing of the information solicited is voluntary; and (3) the principal purpose for which the information is used by the U.S. Patent and Trademark Office is to process and/or examine your submission related to a patent application or patent. If you do not furnish the requested information, the U.S. Patent and Trademark Office may not be able to process and/or examine your submission, which may result in termination of proceedings or abandonment of the application or expiration of the patent.

The information provided by you in this form will be subject to the following routine uses:

1. The information on this form will be treated confidentially to the extent allowed under the Freedom of Information Act (5 U.S.C. 552) and the Privacy Act (5 U.S.C. 552a). Records from this system of records may be disclosed to the Department of Justice to determine whether the Freedom of Information Act requires disclosure of these records.
2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.
3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.
4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).
5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.
6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).
7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.
8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.
9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Patent Application Fee Transmittal				
Application Number:		14569352		
Filing Date:		12-Dec-2014		
Title of Invention:		Automobile Charger		
First Named Inventor/Applicant Name:		Xining Wang		
Filer:		Mark H. Whittenberger/Catherine Langlais		
Attorney Docket Number:		563761		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Extension - 3 months with \$0 paid	2253	1	700	700
Miscellaneous:				
Total in USD (\$)				700

Electronic Acknowledgement Receipt	
EFS ID:	22429994
Application Number:	14569352
International Application Number:	
Confirmation Number:	1207
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Xining Wang
Customer Number:	30955
Filer:	Mark H. Whittenberger/Catherine Langlais
Filer Authorized By:	Mark H. Whittenberger
Attorney Docket Number:	563761
Receipt Date:	22-MAY-2015
Filing Date:	12-DEC-2014
Time Stamp:	16:17:14
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	Credit Card
Payment was successfully received in RAM	\$700
RAM confirmation Number	3823
Deposit Account	502324
Authorized User	LANGLAIS, CATHERINE
The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows: Charge any Additional Fees required under 37 C.F.R. Section 1.16 (National application filing, search, and examination fees) Charge any Additional Fees required under 37 C.F.R. Section 1.17 (Patent application and reexamination processing fees)	

Charge any Additional Fees required under 37 C.F.R. Section 1.19 (Document supply fees)					
Charge any Additional Fees required under 37 C.F.R. Section 1.20 (Post Issuance fees)					
Charge any Additional Fees required under 37 C.F.R. Section 1.21 (Miscellaneous fees and charges)					
File Listing:					
Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Applicant Response to Pre-Exam Formalities Notice	14597600001ResponsetoNoticeofCorrectedApplicationPapers.pdf	63840 aeb425a299d1181dc2b4e0f9d67319fc6321b519	no	1
Warnings:					
Information:					
2	Oath or Declaration filed	14597600001Declaration.pdf	197436 4b3f14877635ae8f044b0839dccc014dfa5d2e42d	no	2
Warnings:					
Information:					
3	Power of Attorney	14597600001PowerofAttorney.pdf	229874 8db69cd6309408c5ea190890fbac64286f8ffc21	no	2
Warnings:					
Information:					
4	Drawings-only black and white line drawings	14597600001_ReplacementSheet.pdf	30684 a549ff0be209f9aaef25d53c5e3a1ac18442f2af	no	1
Warnings:					
Information:					
5	Request for Corrected Filing Receipt	14597600001RequestforCorrectedFilingReceipt.pdf	222481 2c131a0680ac158482e19fe704652b4d705ff626	no	4
Warnings:					
Information:					
6	Application Data Sheet	14597600001SupplementalApplicationDataSheet.pdf	392297 01808cbd6bf0edda0499a8115ebf1b0d5d23bfcfb	no	7
Warnings:					
Information:					
This is not an USPTO supplied ADS fillable form					
7	Fee Worksheet (SB06)	fee-info.pdf	30376 ed83b51379a594eb3d56730406505a778c367ba1	no	2
Warnings:					
Information:					
Total Files Size (in bytes):			1166988		

This Acknowledgement Receipt evidences receipt on the noted date by the USPTO of the indicated documents, characterized by the applicant, and including page counts, where applicable. It serves as evidence of receipt similar to a Post Card, as described in MPEP 503.

New Applications Under 35 U.S.C. 111

If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.

National Stage of an International Application under 35 U.S.C. 371

If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.

New International Application Filed with the USPTO as a Receiving Office

If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

TRANSMITTAL FOR POWER OF ATTORNEY TO ONE OR MORE REGISTERED PRACTITIONERS

NOTE: This form is to be submitted with the Power of Attorney by Applicant form (PTO/AIA/82B) to identify the application to which the Power of Attorney is directed, in accordance with 37 CFR 1.5, unless the application number and filing date are identified in the Power of Attorney by Applicant form. If neither form PTO/AIA/82A nor form PTO/AIA82B identifies the application to which the Power of Attorney is directed, the Power of Attorney will not be recognized in the application.

Application Number	14/569,352
Filing Date	December 12, 2014
First Named Inventor	Xining Wang
Title	AUTOMOBILE CHARGER
Art Unit	2836
Examiner Name	Not Yet Assigned
Attorney Docket Number	145976.00001

SIGNATURE of Applicant or Patent Practitioner

Signature	/Mark H. Whittenberger/	Date (Optional)	2015-05-22
Name	Mark H. Whittenberger	Registration Number	52356
Title (if Applicant is a juristic entity)			
Applicant Name (if Applicant is a juristic entity)			

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. If more than one applicant, use multiple forms.



*Total of 1 forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

POWER OF ATTORNEY BY APPLICANT

I hereby revoke all previous powers of attorney given in the application identified in either the attached transmittal letter or the boxes below.

Application Number	Filing Date
14/569,352	2014-12-12

(Note: The boxes above may be left blank if information is provided on form PTO/AIA/82A.)

- ☒ I hereby appoint the Patent Practitioner(s) associated with the following Customer Number as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above: 54975
- OR
- ☐ I hereby appoint Practitioner(s) named in the attached list (form PTO/AIA/82C) as my/our attorney(s) or agent(s), and to transact all business in the United States Patent and Trademark Office connected therewith for the patent application referenced in the attached transmittal letter (form PTO/AIA/82A) or identified above. (Note: Complete form PTO/AIA/82C.)

Please recognize or change the correspondence address for the application identified in the attached transmittal letter or the boxes above to:

- ☒ The address associated with the above-mentioned Customer Number
- OR
- ☐ The address associated with Customer Number:
- OR

Firm or Individual Name				
Address				
City		State		Zip
Country				
Telephone		Email		

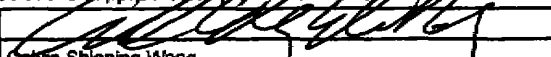
I am the Applicant (if the Applicant is a juristic entity, list the Applicant name in the box):

Wang's International, Inc.

- ☐ Inventor or Joint Inventor (title not required below)
- ☐ Legal Representative of a Deceased or Legally Incapacitated Inventor (title not required below)
- ☒ Assignee or Person to Whom the Inventor is Under an Obligation to Assign (provide signer's title if applicant is a juristic entity)
- ☐ Person Who Otherwise Shows Sufficient Proprietary Interest (e.g., a petition under 37 CFR 1.46(b)(2) was granted in the application or is concurrently being filed with this document) (provide signer's title if applicant is a juristic entity)

SIGNATURE of Applicant for Patent

The undersigned (whose title is supplied below) is authorized to act on behalf of the applicant (e.g., where the applicant is a juristic entity).

Signature		Date (Optional)	9/18/15
Name	Calvin Shiening Wang		
Title	President		

NOTE: Signature - This form must be signed by the applicant in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. If more than one applicant, use multiple forms.

☐ Total of _____ forms are submitted.

This collection of information is required by 37 CFR 1.131, 1.32, and 1.33. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 3 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.

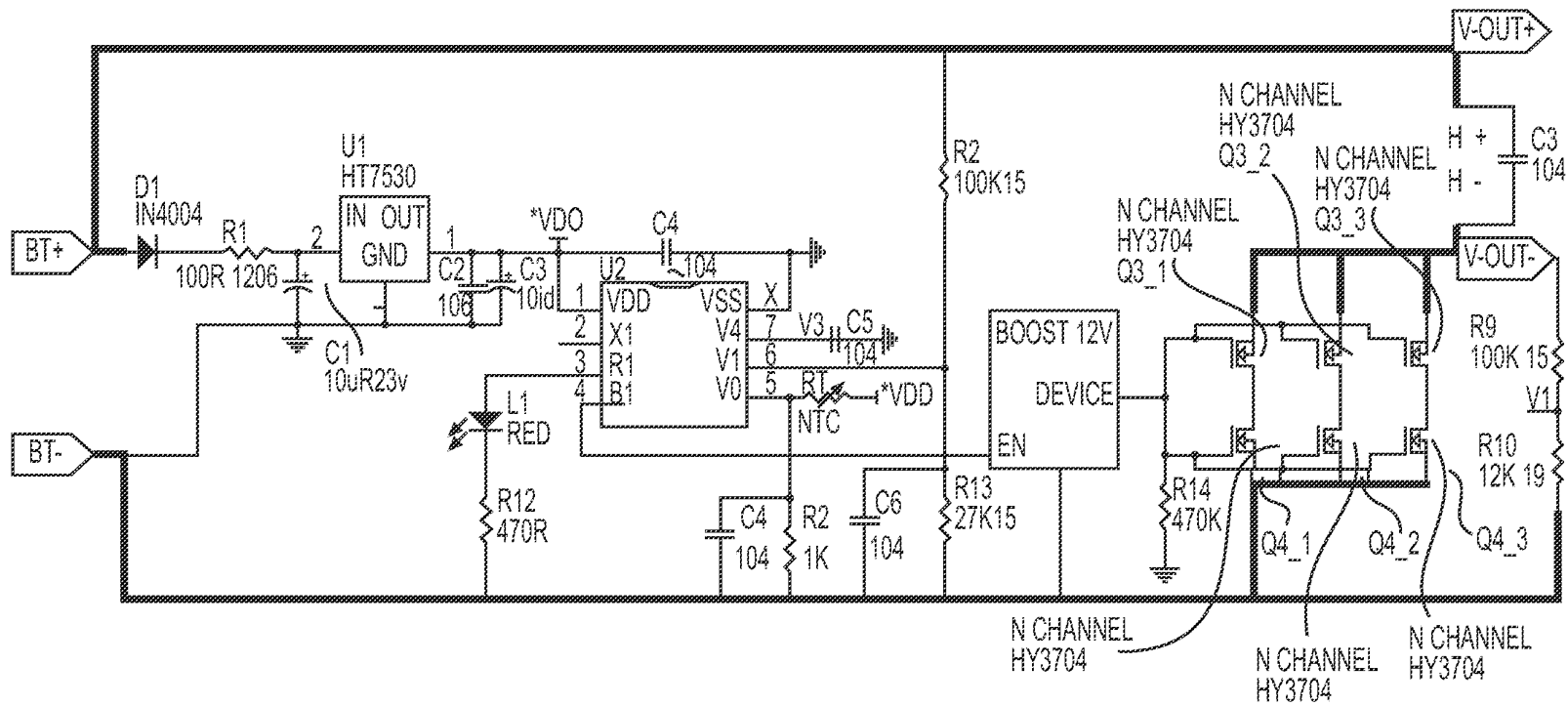


Figure 2

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 05/28/2015

MTEKLEMI	SALE	#00000003	Mailroom Dt:	05/22/2015	502324	14569352
		01	FC : 2051	70.00	DA	
		02	FC : 2830	70.00	DA	

PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875						Application or Docket Number 14/569,352				
APPLICATION AS FILED - PART I										
(Column 1)		(Column 2)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY				
FOR	NUMBER FILED	NUMBER EXTRA	RATE(\$)	FEE(\$)		RATE(\$)	FEE(\$)			
BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	70		N/A				
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	300		N/A				
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	360		N/A				
TOTAL CLAIMS (37 CFR 1.16(i))	6	minus 20 = *	x 40	= 0.00	OR					
INDEPENDENT CLAIMS (37 CFR 1.16(h))	1	minus 3 = *	x 210	= 0.00						
APPLICATION SIZE FEE (37 CFR 1.16(s))	If the specification and drawings exceed 100 sheets of paper, the application size fee due is \$310 (\$155 for small entity) for each additional 50 sheets or fraction thereof. See 35 U.S.C. 41(a)(1)(G) and 37 CFR 1.16(s).			0.00						
MULTIPLE DEPENDENT CLAIM PRESENT (37 CFR 1.16(j))				0.00						
			TOTAL	730		TOTAL				
* If the difference in column 1 is less than zero, enter "0" in column 2.										
APPLICATION AS AMENDED - PART II										
(Column 1)		(Column 2)		(Column 3)		SMALL ENTITY		OR OTHER THAN SMALL ENTITY		
AMENDMENT A		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
AMENDMENT B		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA	RATE(\$)	ADDITIONAL FEE(\$)		RATE(\$)	ADDITIONAL FEE(\$)
	Total (37 CFR 1.16(i))	*	Minus	**	=	x	=	OR	x	=
	Independent (37 CFR 1.16(h))	*	Minus	***	=	x	=	OR	x	=
	Application Size Fee (37 CFR 1.16(s))							OR		
	FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
						TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	
* If the entry in column 1 is less than the entry in column 2, write "0" in column 3. ** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20". *** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, enter "3". The "Highest Number Previously Paid For" (Total or Independent) is the highest found in the appropriate box in column 1.										



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY. DOCKET NO.	TOT CLAIMS	IND CLAIMS
14/569,352	12/12/2014	2836	800	563761	6	1

CONFIRMATION NO. 1207

FILING RECEIPT



OC000000072600171

30955
LATHROP & GAGE LLP
4845 PEARL EAST CIRCLE
SUITE 201
BOULDER, CO 80301

Date Mailed: 12/31/2014

Receipt is acknowledged of this non-provisional patent application. The application will be taken up for examination in due course. Applicant will be notified as to the results of the examination. Any correspondence concerning the application must include the following identification information: the U.S. APPLICATION NUMBER, FILING DATE, NAME OF APPLICANT, and TITLE OF INVENTION. Fees transmitted by check or draft are subject to collection. Please verify the accuracy of the data presented on this receipt. **If an error is noted on this Filing Receipt, please submit a written request for a Filing Receipt Correction. Please provide a copy of this Filing Receipt with the changes noted thereon. If you received a "Notice to File Missing Parts" for this application, please submit any corrections to this Filing Receipt with your reply to the Notice. When the USPTO processes the reply to the Notice, the USPTO will generate another Filing Receipt incorporating the requested corrections**

Inventor(s)

Xining Wang, City of Industry, CA;

Applicant(s)

Xining Wang, City of Industry, CA;

Power of Attorney: None

Domestic Applications for which benefit is claimed - None.

A proper domestic benefit claim must be provided in an Application Data Sheet in order to constitute a claim for domestic benefit. See 37 CFR 1.76 and 1.78.

Foreign Applications (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see <http://www.uspto.gov> for more information.)

CHINA 201420212173.5 04/28/2014

Request to Retrieve - This application either claims priority to one or more applications filed in an intellectual property Office that participates in the Priority Document Exchange (PDX) program or contains a proper **Request to Retrieve Electronic Priority Application(s)** (PTO/SB/38 or its equivalent). Consequently, the USPTO will attempt to electronically retrieve these priority documents.

If Required, Foreign Filing License Granted: 12/29/2014

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 14/569,352**

Projected Publication Date: To Be Determined - pending completion of Corrected Papers

Non-Publication Request: No

Early Publication Request: No

**** SMALL ENTITY ****

Title

Automobile Charger

Preliminary Class

307

Statement under 37 CFR 1.55 or 1.78 for AIA (First Inventor to File) Transition Applications: No

PROTECTING YOUR INVENTION OUTSIDE THE UNITED STATES

Since the rights granted by a U.S. patent extend only throughout the territory of the United States and have no effect in a foreign country, an inventor who wishes patent protection in another country must apply for a patent in a specific country or in regional patent offices. Applicants may wish to consider the filing of an international application under the Patent Cooperation Treaty (PCT). An international (PCT) application generally has the same effect as a regular national patent application in each PCT-member country. The PCT process **simplifies** the filing of patent applications on the same invention in member countries, but **does not result** in a grant of "an international patent" and does not eliminate the need of applicants to file additional documents and fees in countries where patent protection is desired.

Almost every country has its own patent law, and a person desiring a patent in a particular country must make an application for patent in that country in accordance with its particular laws. Since the laws of many countries differ in various respects from the patent law of the United States, applicants are advised to seek guidance from specific foreign countries to ensure that patent rights are not lost prematurely.

Applicants also are advised that in the case of inventions made in the United States, the Director of the USPTO must issue a license before applicants can apply for a patent in a foreign country. The filing of a U.S. patent application serves as a request for a foreign filing license. The application's filing receipt contains further information and guidance as to the status of applicant's license for foreign filing.

Applicants may wish to consult the USPTO booklet, "General Information Concerning Patents" (specifically, the section entitled "Treaties and Foreign Patents") for more information on timeframes and deadlines for filing foreign patent applications. The guide is available either by contacting the USPTO Contact Center at 800-786-9199, or it can be viewed on the USPTO website at <http://www.uspto.gov/web/offices/pac/doc/general/index.html>.

For information on preventing theft of your intellectual property (patents, trademarks and copyrights), you may wish to consult the U.S. Government website, <http://www.stopfakes.gov>. Part of a Department of Commerce initiative, this website includes self-help "toolkits" giving innovators guidance on how to protect intellectual property in specific countries such as China, Korea and Mexico. For questions regarding patent enforcement issues, applicants may call the U.S. Government hotline at 1-866-999-HALT (1-866-999-4258).

LICENSE FOR FOREIGN FILING UNDER
Title 35, United States Code, Section 184
Title 37, Code of Federal Regulations, 5.11 & 5.15

GRANTED

The applicant has been granted a license under 35 U.S.C. 184, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" followed by a date appears on this form. Such licenses are issued in all applications where the conditions for issuance of a license have been met, regardless of whether or not a license may be required as set forth in 37 CFR 5.15. The scope and limitations of this license are set forth in 37 CFR 5.15(a) unless an earlier license has been issued under 37 CFR 5.15(b). The license is subject to revocation upon written notification. The date indicated is the effective date of the license, unless an earlier license of similar scope has been granted under 37 CFR 5.13 or 5.14.

This license is to be retained by the licensee and may be used at any time on or after the effective date thereof unless it is revoked. This license is automatically transferred to any related applications(s) filed under 37 CFR 1.53(d). This license is not retroactive.

The grant of a license does not in any way lessen the responsibility of a licensee for the security of the subject matter as imposed by any Government contract or the provisions of existing laws relating to espionage and the national security or the export of technical data. Licensees should apprise themselves of current regulations especially with respect to certain countries, of other agencies, particularly the Office of Defense Trade Controls, Department of State (with respect to Arms, Munitions and Implements of War (22 CFR 121-128)); the Bureau of Industry and Security, Department of Commerce (15 CFR parts 730-774); the Office of Foreign Assets Control, Department of Treasury (31 CFR Parts 500+) and the Department of Energy.

NOT GRANTED

No license under 35 U.S.C. 184 has been granted at this time, if the phrase "IF REQUIRED, FOREIGN FILING LICENSE GRANTED" DOES NOT appear on this form. Applicant may still petition for a license under 37 CFR 5.12, if a license is desired before the expiration of 6 months from the filing date of the application. If 6 months has lapsed from the filing date of this application and the licensee has not received any indication of a secrecy order under 35 U.S.C. 181, the licensee may foreign file the application pursuant to 37 CFR 5.15(b).

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The United States represents the largest, most dynamic marketplace in the world and is an unparalleled location for business investment, innovation, and commercialization of new technologies. The U.S. offers tremendous resources and advantages for those who invest and manufacture goods here. Through SelectUSA, our nation works to promote and facilitate business investment. SelectUSA provides information assistance to the international investor community; serves as an ombudsman for existing and potential investors; advocates on behalf of U.S. cities, states, and regions competing for global investment; and counsels U.S. economic development organizations on investment attraction best practices. To learn more about why the United States is the best country in the world to develop technology, manufacture products, deliver services, and grow your business, visit <http://www.SelectUSA.gov> or call +1-202-482-6800.



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UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
14/569,352	12/12/2014	Xining Wang	563761

30955
LATHROP & GAGE LLP
4845 PEARL EAST CIRCLE
SUITE 201
BOULDER, CO 80301

CONFIRMATION NO. 1207

FORMALITIES LETTER



Date Mailed: 12/31/2014

NOTICE TO FILE CORRECTED APPLICATION PAPERS

Filing Date Granted

An application number and filing date have been accorded to this application. The application is informal since it does not comply with the regulations for the reason(s) indicated below. Applicant is given TWO MONTHS from the date of this Notice within which to correct the informalities indicated below. Extensions of time may be obtained by filing a petition accompanied by the extension fee under the provisions of 37 CFR 1.136(a).

The required item(s) identified below must be timely submitted to avoid abandonment:

- Replacement drawings in compliance with 37 CFR 1.84 and 37 CFR 1.121(d) are required. The drawings submitted are not acceptable because:
 - Numbers, letters, and reference characters on the drawings must measure at least 0.32 cm (1/8 inch) in height. See Figure(s) 2.
 - The drawings submitted to the Office are not electronically reproducible because portions of figures 2 are missing and/or blurry.

Applicant is cautioned that correction of the above items may cause the specification and drawings page count to exceed 100 pages. If the specification and drawings exceed 100 pages, applicant will need to submit the required application size fee.

Items Required To Avoid Processing Delays:

Applicant is notified that the above-identified application contains the deficiencies noted below. No period for reply is set forth in this notice for correction of these deficiencies. However, if a deficiency relates to the inventor's oath or declaration, the applicant must file an oath or declaration in compliance with 37 CFR 1.63, or a substitute statement in compliance with 37 CFR 1.64, executed by or with respect to each actual inventor no later than the expiration of the time period set in the "Notice of Allowability" to avoid abandonment. See 37 CFR 1.53(f).

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
Xining Wang

Replies must be received in the USPTO within the set time period or must include a proper Certificate of Mailing or Transmission under 37 CFR 1.8 with a mailing or transmission date within the set time period. For more information and a suggested format, see Form PTO/SB/92 and MPEP 512.

Replies should be mailed to:

Mail Stop Missing Parts
Commissioner for Patents
P.O. Box 1450
Alexandria VA 22313-1450

Registered users of EFS-Web may alternatively submit their reply to this notice via EFS-Web, including a copy of this Notice and selecting the document description "Applicant response to Pre-Exam Formalities Notice".
<https://sportal.uspto.gov/authenticate/AuthenticateUserLocalEPF.html>

For more information about EFS-Web please call the USPTO Electronic Business Center at **1-866-217-9197** or visit our website at <http://www.uspto.gov/ebc>.

If you are not using EFS-Web to submit your reply, you must include a copy of this notice.

/tnguyen/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

Under the Paperwork Reduction Act of 1995 no persons are required to respond to a collection of information unless it displays a valid OMB control number

UTILITY PATENT APPLICATION TRANSMITTAL <i>(Only for new nonprovisional applications under 37 CFR 1.53(b))</i>		Attorney Docket No. 563761	
		First Named Inventor Xining Wang	
		Title Automobile Charger	
		Express Mail Label No.	

APPLICATION ELEMENTS <i>See MPEP chapter 600 concerning utility patent application contents.</i>		Commissioner for Patents P.O. Box 1450 Alexandria, VA 22313-1450	
1. ☒ Fee Transmittal Form (PTO/SB/17 or equivalent) 2. ☒ Applicant asserts small entity status. See 37 CFR 1.27 3. ☐ Applicant certifies micro entity status. See 37 CFR 1.29. Applicant must attach form PTO/SB/15A or B or equivalent. 4. ☒ Specification [Total Pages <u>10</u>] Both the claims and abstract must start on a new page. (See MPEP § 608.01(a) for information on the preferred arrangement) 5. ☒ Drawing(s) (35 U.S.C. 113) [Total Sheets <u>2</u>] 6. Inventor's Oath or Declaration [Total Pages _____] (including substitute statements under 37 CFR 1.64 and assignments serving as an oath or declaration under 37 CFR 1.63(e)) a. ☐ Newly executed (original or copy) b. ☐ A copy from a prior application (37 CFR 1.63(d)) 7. ☒ Application Data Sheet * See note below. See 37 CFR 1.76 (PTO/AIA/14 or equivalent) 8. CD-ROM or CD-R in duplicate, large table, or Computer Program (Appendix) ☐ Landscape Table on CD 9. Nucleotide and/or Amino Acid Sequence Submission (if applicable, items a. – c. are required) a. ☐ Computer Readable Form (CRF) b. ☐ Specification Sequence Listing on: i. ☐ CD-ROM or CD-R (2 copies); or ii. ☐ Paper c. ☐ Statements verifying identity of above copies		ACCOMPANYING APPLICATION PAPERS 10. ☐ Assignment Papers (cover sheet & document(s)) Name of Assignee _____ 11. ☐ 37 CFR 3.73(c) Statement ☐ Power of Attorney (when there is an assignee) 12. ☐ English Translation Document (if applicable) 13. ☐ Information Disclosure Statement (PTO/SB/08 or PTO-1449) ☐ Copies of citations attached 14. ☐ Preliminary Amendment 15. ☐ Return Receipt Postcard (MPEP § 503) (Should be specifically itemized) 16. ☐ Certified Copy of Priority Document(s) (if foreign priority is claimed) 17. ☐ Nonpublication Request Under 35 U.S.C. 122(b)(2)(B)(i). Applicant must attach form PTO/SB/35 or equivalent. 18. ☐ Other: _____ _____ _____ _____	

***Note:** (1) Benefit claims under 37 CFR 1.78 and foreign priority claims under 1.55 **must** be included in an Application Data Sheet (ADS).
 (2) For applications filed under 35 U.S.C. 111, the application must contain an ADS specifying the applicant if the applicant is an assignee, person to whom the inventor is under an obligation to assign, or person who otherwise shows sufficient proprietary interest in the matter. See 37 CFR 1.46(b).

19. CORRESPONDENCE ADDRESS			
☒ The address associated with Customer Number: <u>30955</u> OR ☐ Correspondence address below			
Name _____			
Address _____			
City	State	Zip Code	
Country	Telephone	Email	
Signature /Dan Cleveland Jr./		Date	December 12, 2014
Name (Print/Type) Dan Cleveland Jr.		Registration No. (Attorney/Agent)	36,106

This collection of information is required by 37 CFR 1.53(b). The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.11 and 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	563761
		Application Number	
Title of Invention	Automobile Charger		
The application data sheet is part of the provisional or nonprovisional application for which it is being submitted. The following form contains the bibliographic data arranged in a format specified by the United States Patent and Trademark Office as outlined in 37 CFR 1.76. This document may be completed electronically and submitted to the Office in electronic format using the Electronic Filing System (EFS) or the document may be printed and included in a paper filed application.			

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Title of the Invention	Automobile Charger		
Attorney Docket Number	563761	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	
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		Application Number	
Title of Invention	Automobile Charger		

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201420212173.5	CN	2014-04-28	
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This application (1) claims priority to or the benefit of an application filed before March 16, 2013 and (2) also contains, or contained at any time, a claim to a claimed invention that has an effective filing date on or after March 16, 2013. ☐ NOTE: By providing this statement under 37 CFR 1.55 or 1.78, this application, with a filing date on or after March 16, 2013, will be examined under the first inventor to file provisions of the AIA.
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Application Data Sheet 37 CFR 1.76		Attorney Docket Number	563761
		Application Number	
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First Name	Dan Jr.	Last Name	Cleveland	Registration Number	36106

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AUTOMOBILE CHARGER

RELATED APPLICATIONS

[0001] This application claims the benefit of priority of Chinese application no. 201420212173. 5 filed April 28, 2014, the entire content of which is incorporated herein by reference.

BACKGROUND

[0002] The present disclosure relates to an automobile charging device, in particular relates to a novel automobile charger with a safe power supply charging quickly.

[0003] Automobile charging is a big issue of traveling by automobile for those automobile fans and businessmen, the maturity of the technology thereof is one of the critical factors restricting the application of the automobile charger. However, current automobile chargers have common problems of not able to automatically detect whether a load is connected, whether an electrode is connected with an automobile storage battery reversely, whether an automobile engine or the storage battery has a reverse current, whether the battery state is suitable for heavy current power generation and so on. Accordingly, the present disclosure provides a novel automobile charger with the safe power supply charging quickly to solve the problems mentioned above, thus making the automobile charging safe, quick, mature and propagable.

SUMMARY

[0004] A purpose of the present disclosure aims to provide a novel automobile charger with the safe power supply charging quickly, in order to solve the problems presented in the above background.

[0005] To achieve the purpose described above, the present disclosure provides the following technical solutions: a novel automobile charger comprises a direct current power supply, wherein a positive pole of the direct current power supply is connected with one end of a DC to DC module, one end of a battery voltage detection

module and one end of a load module simultaneously, while a negative pole of the direct current voltage is connected with the other end of the DC to DC module, one end of a microcontroller, one end of an automobile start control module and the other end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with the other end of the microcontroller, and the other three ends of the microcontroller are connected with the third end of the battery voltage detection module, the other end of the automobile start control module and one end of the load detection module respectively, wherein the other end of the load detection module is connected with the third end of the automobile start control module and the other end of the load module simultaneously; the load module which comprises the automobile storage battery and the automobile engine is located on the end of the load module.

[0006] As a further solution of the present disclosure that: the DC to DC module provides a stable voltage for the microcontroller which collects relevant data to conduct the corresponding control. The battery voltage detection module conducts the measurement of the battery voltage, the automobile start control module conducts the power supply or the power outage for the load module through the microcontroller, and the load detection module which comprises the automobile storage battery or the automobile engine detects whether the load module is correctly connected.

[0007] As a further solution of the present disclosure that: the circuit employs an electronic switch to supply power to the load module, which can offer more protection for the product, or reduce the product size and the material cost.

[0008] As a further solution of the present disclosure that: the battery voltage detection module provides protection for the power supply battery to prevent damages caused by the discharging of the direct current power supply.

[0009] As a further solution of the present disclosure that: the load detection module prevents improper operations of the user.

[0010] As a further solution of the present disclosure that: in the standby mode, the microcontroller closes all outputs when the voltage of the direct current power supply is lower than that of the state being able to supply power and then recovers when it is higher than that of the state being able to supply power.

[0011] As a further solution of the present disclosure that: the automobile start control module is the electronic switch.

[0012] Compared to the prior art, the present disclosure has the beneficial effects that:

[0013] 1. The present disclosure employs the electronic switch to control the supply power for the load, this part can offer more protection for the product, and reduce the product size and the material cost.

[0014] 2. The battery detection of the present disclosure can provide low voltage protection to prevent damages caused by the over discharging of the battery.

[0015] 3. The load detection of the present disclosure can prevent improper operations by the user, such as reversed polarity, which causes damages to the automobile or the direct current power supply.

[0016] 4. The present disclosure employs the voltage backflow protection for abnormal load, wherein the automobile start line is closed to protect the battery when the abnormal voltage is detected.

[0017] 5. The present disclosure has a fast charging function, and can be installed fixedly or moved portably according to the use requirements of people.

[0018] 6. The automatic detection module of the present disclosure can automatically detects whether the load is connected, whether the electrode is connected with the automobile storage battery reversely, whether the automobile engine or the storage battery has reverse current, whether the battery state is suitable for heavy current power generation, thereby protecting the load and the circuit and thus has complete functions.

BRIEF DESCRIPTION OF DRAWINGS

[0019] Figure 1 is a block diagram for the principle of the emergency power supply of the safe intelligent automobile;

[0020] Figure 2 is a circuit diagram for the emergency power supply of the safe intelligent automobile.

[0021] In figures: 1-DC to DC module, 2-microcontroller, 3-battery voltage detection module, 4-automobile start control module, 5-load detection module, 6-load module, 7-direct current power supply.

DETAILED EMBODIMENTS

[0022] The technical solutions of the present disclosure will be described more clearly and fully in conjunction with drawings in the embodiments of the present disclosure, and obviously, the described embodiments are merely a part of the embodiments of the present disclosure, not all the embodiments. Based on the embodiments of the present disclosure, all the other embodiments obtained by the ordinary skilled in the art without creative labors belong to the scope claimed by the present disclosure.

[0023] Refer to figure 1, a novel automobile charger comprises a direct current power supply, wherein the positive pole of the direct current power supply is connected with one end or lead of the DC to DC module, one end of the battery voltage detection module and one end of the load module simultaneously, while the negative pole of the direct current voltage is connected with the other end of the DC to DC module, one end of the microcontroller, one end of the automobile start control module and the other end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with the other end of the microcontroller, and the other three ends of the microcontroller are connected with the third end of the battery voltage detection module, the other end of the automobile start control module and one end of the load detection module respectively, wherein the other end of the load detection module is connected with the third end of the automobile start control module and the other end of the load module simultaneously; the load module which comprises the automobile storage battery and the automobile engine is located on the end of the load module.

[0024] Refer to figure 2, the DC to DC module comprises a diode D1, a resistor R1, capacitor C1, a HT7530 voltage stabilizing tube, capacitors C2 and C3, wherein the positive pole of the diode D1 is connected with the positive pole of the battery, the negative pole of the diode D1 is connected with one end of the capacitor C1 and an IN port of the HT7530 voltage stabilizing tube simultaneously through the resistor R1, and an OUT port of the HT7530 voltage stabilizing tube is connected with one end of the capacitor C2, one end of the capacitor C3 and a VDD port of the microcontroller U2, while the other end of the capacitor C1, the other end of the capacitor C2 and the other end of the capacitor C3 as well as a GND port of the HT7530 voltage stabilizing tube are grounded and connected with the negative pole of the battery simultaneously; a R1 port of the microcontroller U2 is connected with the negative pole of the battery through a light-

emitting diode L1 and a resistor R12 which are in series connection, a B1 port of the microcontroller U2 is connected with a EN port of the automobile start control module, a V0 port of the microcontroller U2 is connected with the negative pole of the battery through a capacitor C4 and a resistor R7 which are in parallel connection , the V0 port is also connected with the VDD port through a slide rheostat RT, a V1 port of the microcontroller U2 is also connected with the negative pole of the battery through a resistor 10, a capacitor C6 and a resistor R13 which are in parallel connection, the V1 port is connected with the positive pole of the battery through a resistor R2, and is also connected with the negative pole of the automobile storage battery and the automobile engine simultaneously through a resistor R9, wherein two ends of the automobile storage battery are in parallel connection with the capacitor C7, resistors R9, 10, a capacitor C6 and a resistor R13 to form the load detection module together, a V4 port of the microcontroller U2 is grounded through a capacitor C5, a VSS port of the microcontroller U2 and one end of the capacitor C4 are grounded simultaneously. The other end of the capacitor C4 is connected with the VDD port of the microcontroller U2, the resistors R2, R13 and capacitor C6 form the battery voltage detection module together, and a Drive port of the automobile start control module is connected with the automobile engine and one end of a resistor R14 simultaneously, wherein the other end of the resistor R14 is grounded.

[0025] The DC to DC module in the present disclosure provides the stable voltage for the microcontroller which collects relevant data to conduct the corresponding control. The battery voltage detection module conducts the measurement of the batter voltage, and the automobile start control module conducts the power supply or the power outage for the load module through the microcontroller, wherein the load detection module detects whether the load module is correctly connected.

[0026] The microcontroller in the present disclosure determines whether the automobile storage battery is connected with the automobile engine through the load detection module, wherein the automobile start control model is automatically activated and the battery starts to supply power to the load module when the load is correctly connected; the automobile start control model is automatically deactivated and the battery stops supplying power to the load module when assuming that the load is not connected or the positive and negative polarities are reversely connected. In the standby mode, the microcontroller closes all outputs when the battery voltage is lower than 9V, and recovers

the normal operation only when the battery voltage is larger than 10V; the automobile engine will generate the normal voltage to recharge the battery after the automobile starts, whereas the automobile start control module is deactivated immediately once the recharging voltage is larger than the voltage before that battery starts the power supply, to protect the battery from damages caused by charging with the normal voltage; the automobile start control module is the electronic switch, which can prevent the load from being reversely connected and recharging of the normal voltage, thus protecting the battery and prolonging lifespan.

[0027] The automobile engine will generate abnormal voltage to recharge the direct current power supply after the automobile starts, and the automobile start control module is deactivated immediately once the recharging voltage is larger than the voltage before the direct current power supply starts the power supply, to protect the direct current power supply from damages caused by charging with normal voltage charge.

[0028] It is obvious for the skilled people in the art that the present disclosure is not merely limited to the details of the above exemplary embodiments, and the present disclosure can be implemented in other specific forms without departing from the sprits or the basic features of the present disclosure. Thus, no matter to consider from which point of view, the embodiments should be considered as exemplary and non-limiting. The scope of the present disclosure is defined by the accompanying Claims rather than the above description, therefore it is intended that all the changes fallen within the meanings and scope of the equivalent elements of the Claims are contained in the present disclosure. Any drawing reference in the Claims should not be regarded as limiting the Claims involved.

[0029] Furthermore, it should be understood that although the specification is described according to the embodiments, but not every embodiment includes only an independent technical solution, this manner of description for the specification is only for clarity, therefore the skilled people in the art should take the Specification as a whole, and the technical solutions in various embodiments can be combined appropriately to form other implementations understandable for those skilled in the art.

CLAIMS

What is claimed is:

1. A novel automobile charger which comprises a direct current power supply, comprising:

a positive pole of the direct current power supply connected with a first lead of a DC to DC module, a first lead of a battery voltage detection module, and a first lead of a load module simultaneously,

a negative pole of the direct current voltage connected with a second lead of the DC to DC module, a first lead of a microcontroller, a first lead of an automobile start control module and a second lead of the battery voltage detection module simultaneously;

a third lead of the DC to DC module connected with a second lead of the microcontroller, and

three additional leads the microcontroller connected with a third lead of the battery voltage detection module, a second lead of the automobile start control module and the first lead of the load detection module respectively,

wherein a second lead of the load detection module is connected with the third end of the automobile start control module and second lead of the load module simultaneously;

the load module including an automobile storage battery and an automobile engine is located on one end of the automobile.

2. The novel automobile charger according to Claim 1, wherein

the DC to DC module includes a diode D1, a resistor R1, a capacitor C1, a HT7530 voltage stabilizing tube, and capacitors C2 and C3,

a positive pole of the diode D1 is connected with a positive pole of the battery,

a negative pole of the diode D1 is connected with a first lead of the capacitor C1 and

an IN port of the HT7530 voltage stabilizing tube through the resistor R1 simultaneously, and

an OUT port of the HT7530 voltage stabilizing tube is connected with a first lead of the capacitor C2, a first lead of the capacitor C3 and a VDD port of a microcontroller U2 simultaneously,

a second lead of the capacitor C1, a second lead of the capacitor C2 and a second lead of the capacitor C3 as well as a GND port of the HT7530 voltage stabilizing tube are grounded and connected with the negative pole of the battery simultaneously;

a R1 port of the microcontroller U2 is connected with a negative pole of the battery through a luminous diode L1 and a resistor R12 in series connection,

a B1 port of the microcontroller U2 is connected with a EN port of the automobile start control module,

a V0 port of the microcontroller U2 is connected with the negative pole of the battery through a capacitor C4 and a resistor R7 in parallel connection and also with the VDD port through a slide rheostat RT,

a V1 port of the microcontroller U2 is also connected with the negative pole of the battery through a resistor 10, a capacitor C6 and a resistor R13 in parallel connection,

the V1 port is connected with the positive pole of the battery through a resistor R2 and is also connected with the negative pole of the automobile storage battery and the automobile engine simultaneously through a resistor R9,

wherein two leads of the automobile storage battery are in parallel connection with the capacitor C7, the resistors R9, 10, the capacitor C6 and the resistor R13 together to form the load detection module,

a V4 port of the microcontroller U2 is grounded through a capacitor C5,

a VSS port of the microcontroller U2 and one end of the capacitor C4 are grounded; simultaneously,

the second lead of the capacitor C4 is connected with the VDD port of the microcontroller U2,

the resistor R2, capacitor C6 and resistor R13 form the battery voltage detection module together, and

a Drive port of the automobile start control module is connected with the automobile engine and one end of a resistor R14 simultaneously, wherein the other end of the resistor R14 is grounded.

3. The automobile charger according to Claim 1, wherein the DC to DC module is operably configured to provide a stable voltage for the microcontroller which collects relevant data to conduct corresponding control, and

the battery voltage detection module conducts the measurement of the battery voltage, the automobile start control module conducts power supply or power outage for the load module through the microcontroller, wherein the load detection module detects whether the load module is correctly connected.

4. The automobile charger according to Claim 1, further comprising the battery voltage detection module being operably configured to provide protection for the power supply battery.

5. The automobile charger according to Claim 1, further comprising programmatic instructions such that, when placed in a standby mode, the microcontroller closes all outputs when the voltage of the direct current power supply is lower than that of a state being able to supply power and then recovers when it is higher than the state being able to supply power.

6. The automobile charger according to Claim 1 wherein the automobile start control module is an electronic switch.

ABSTRACT

A novel automobile charger which comprise a direct current voltage, wherein a positive pole of the direct current voltage is connected with one end or lead of a DC to DC module, one end of a battery voltage detection module and one end of a load module simultaneously, while a negative pole of the battery is connected with the other end of the DC to DC module, one end of a microcontroller, one end of the automobile start control module and the other end of the battery voltage detection module simultaneously. A third end of the DC to DC module is connected with the other end of the microcontroller, the other three ends of which are connected with the third end of the battery voltage detection module, the other end of the automobile start control module and one end of the load detection module respectively. The other end of the load detection module is connected with the third end of the automobile start control module and the other end of the load module simultaneously.

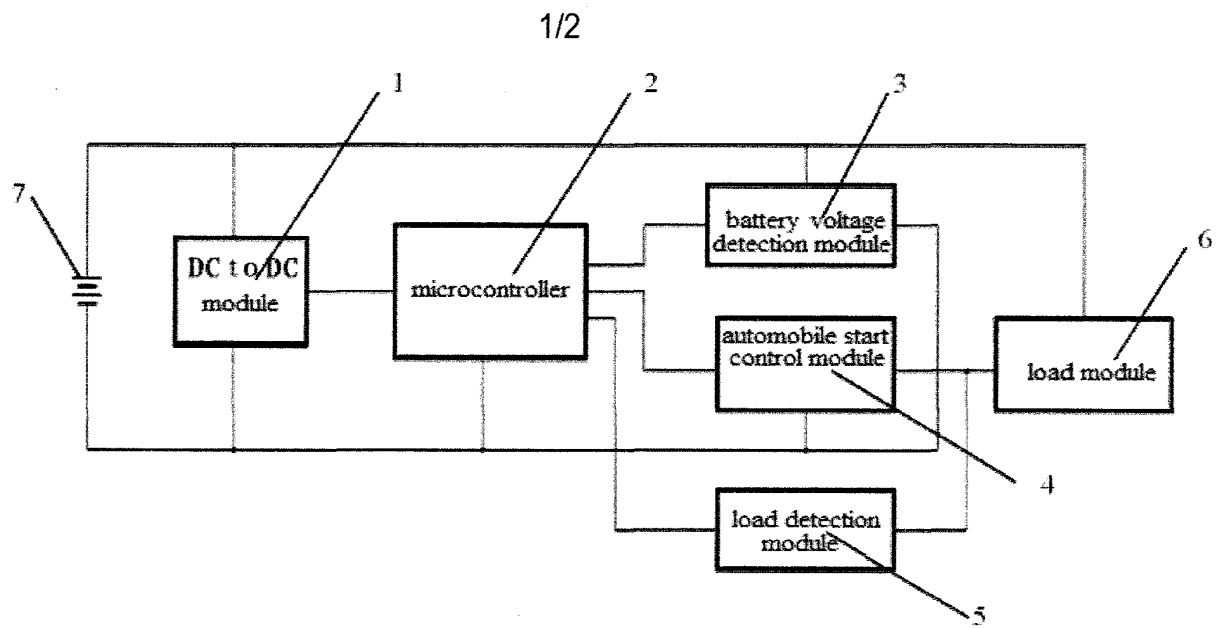


Figure 1

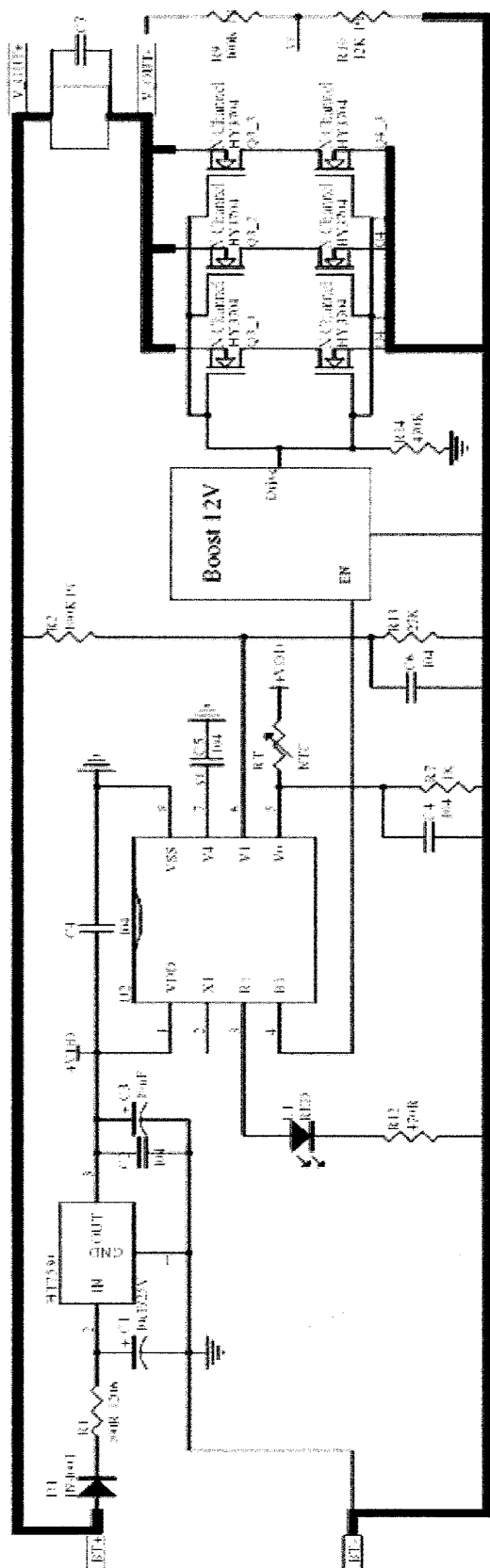


Figure 2

Electronic Patent Application Fee Transmittal				
Application Number:				
Filing Date:				
Title of Invention:		Automobile Charger		
First Named Inventor/Applicant Name:		Xining Wang		
Filer:		Dan Cleveland Jr./Janice Price		
Attorney Docket Number:		563761		
Filed as Small Entity				
Filing Fees for Utility under 35 USC 111(a)				
Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Basic Filing:				
Utility filing Fee (Electronic filing)	4011	1	70	70
Utility Search Fee	2111	1	300	300
Utility Examination Fee	2311	1	360	360
Pages:				
Claims:				
Miscellaneous-Filing:				
Late Filing Fee for Oath or Declaration	2051	1	70	70
Petition:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD(\$)
Patent-Appeals-and-Interference:				
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
Total in USD (\$)				800

Electronic Acknowledgement Receipt	
EFS ID:	20952877
Application Number:	14569352
International Application Number:	
Confirmation Number:	1207
Title of Invention:	Automobile Charger
First Named Inventor/Applicant Name:	Xining Wang
Customer Number:	30955
Filer:	Dan Cleveland Jr./Janice Price
Filer Authorized By:	Dan Cleveland Jr.
Attorney Docket Number:	563761
Receipt Date:	12-DEC-2014
Filing Date:	
Time Stamp:	18:16:36
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Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1	Transmittal Letter	563761_Transmittal.pdf	120288	no	1
			413e0abf5d56f0dfd756b19c7132b5dc556b9f		
Warnings:					
Information:					
2	Application Data Sheet	aia0014.pdf	1565462	no	7
			adc510d2c946161b706ecd49ad978b1e54cad9cc		
Warnings:					
Information:					
3		563761_Automobile_charger.pdf	244014	yes	12
			98a08e7156e9bd04fc7a58c5242688f4a6646dd1		
	Multipart Description/PDF files in .zip description				
	Document Description		Start	End	
	Specification		1	6	
	Claims		7	9	
	Abstract		10	10	
	Drawings-only black and white line drawings		11	12	
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	36438	no	2
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