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Paper 28
Entered: January 9, 2023

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZEN CHIC ELECTRICS CO., LTD.,
Petitioner,

v.

PILOT, INC.,
Patent Owner.

IPR2021-01232
Patent 10,046,653 B2

Before JEFFREY W. ABRAHAM, JULIA HEANEY, and STEVEN M. AMUNDSON, *Administrative Patent Judges.*

ABRAHAM, *Administrative Patent Judge.*

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

I. INTRODUCTION

A. Background and Summary

Shenzen Chic Electrics Co., Ltd. ("Petitioner") filed a petition for an *inter partes* review (Paper 2 ("Pet.")) challenging claims 1 and 3–20 of U.S. Patent No. 10,046,653 B2 (Ex. 1001 ("the '653 patent"). Pilot Inc. ("Patent Owner") did not file a Preliminary Response.

On January 14, 2022, we instituted an *inter partes* review of claims 1 and 3–20. Paper 6 ("Institution Decision" or "Inst. Dec."). After institution, Patent Owner filed a Response to the Petition (Paper 8, "PO Resp."), Petitioner filed a Reply to Patent Owner's Response (Paper 12, "Reply"), and Patent Owner filed a Corrected Sur-reply (Paper 21, "Sur-reply").[1]

On October 12, 2022, the parties presented arguments at an oral hearing for this proceeding. We have entered a transcript of the hearing into the record. Paper 26 ("Tr."). After the hearing, we authorized additional briefing regarding the patentability of claim 3. Paper 24 (Order authorizing additional briefing); Paper 25 (Pet. Suppl. Brief); Paper 27 (PO Suppl. Brief).

We have jurisdiction under 35 U.S.C. § 6. We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a). Based on the record before us, we conclude that Petitioner has shown, by a preponderance of the evidence, that claims 1 and 4–20 of the '653 patent are unpatentable, but has not shown that claim 3 is unpatentable.

[1] Patent Owner's original Sur-reply (Paper 13) was expunged, and Patent Owner filed its Corrected Sur-reply pursuant to our Order Granting-in-Part Petitioner's Motion to Strike (Paper 20).

B. Real Parties-in-Interest

Each party identifies itself as the real party-in-interest. Pet. 1; Paper 4, 2.

C. Related Matters

The parties indicate that the '653 patent is at issue in one currently pending district court litigation: *Pilot Inc. v. The NOCO Company, Inc.*, No. 2:20-cv-01452 (D. Ariz.), as well as IPR2021-00777 ("the 777 IPR").[2] Pet. 2; Paper 4, 2. The parties also indicate that the '653 patent was at issue in other district court litigations that have been dismissed without prejudice. Pet. 2; Paper 4, 2–3.

D. The '653 Patent (Ex. 1001)

The '653 patent, titled "Automobile Charger," issued August 14, 2018, and is directed to "a novel automobile charger with a safe power supply charging quickly." Ex. 1001, codes (45), (54), 1:11–13. The '653 patent explains that prior-art automobile charging devices, i.e., devices for jump starting vehicles, suffered from various problems, including an inability to automatically detect whether a load (e.g., an automobile storage battery) is connected, whether an automobile engine or storage battery has a reverse current, and whether the battery state is suitable for heavy power generation. Ex. 1001, 1:18–24. The '653 patent aims to solve these problems, and depicts one solution in Figure 1, reproduced below.

[2] The Board issued a Final Written Decision in the 777 IPR on October 3, 2022. IPR2021-00777, Paper 22.

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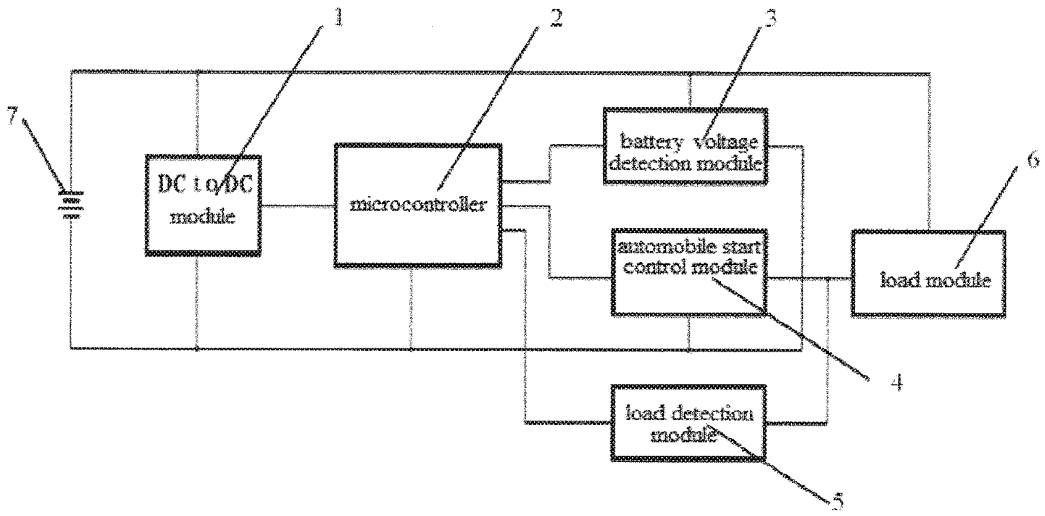


Figure 1 is a block diagram showing one embodiment of an automobile charger that includes DC to DC module 1, microcontroller 2, battery voltage detection module 3, automobile start control module 4, load detection module 5, load module 6, and direct current power supply 7 (the jump starter battery). Ex. 1001, 2:55–58. Although not shown in Figure 1, the '653 patent states that load module 6 "comprises the automobile storage battery and the automobile engine is located on the end of the load module." Ex. 1001, 3:23–25.

The '653 patent explains that the DC to DC module provides "the stable voltage for the microcontroller which collects relevant data" and "determines whether the automobile storage battery is connected with the automobile engine through the load detection module." Ex. 1001, 4:4–16. When the load is correctly connected, the automobile start control module (an electronic switch) is automatically activated, and the battery starts to supply power to the load module. Ex. 1001, 2:18–19, 4:16–18. If the load is

not connected, or positive and negative polarities are reversed, the automobile start control module is automatically deactivated, and the battery stops supplying power to the load module. Ex. 1001, 4:19–23.

The '653 patent explains that its automobile charger provides benefits over prior-art devices, including, *inter alia*, (1) controlling the supply power for the load, which protects the product and reduces the product size and material cost, (2) providing low voltage protection to prevent damage caused by over-discharging the battery, (3) preventing improper operations by the user, such as reversed polarity, which can cause damage to the automobile or direct current power supply, and (4) employing voltage backflow protection for an abnormal load, wherein the automobile start line is closed to protect the battery when an abnormal voltage is detected. Ex. 1001, 2:20–36.

E. Illustrative Claims

Of the challenged claims, claims 1, 7, and 17 are independent claims. Claims 1 and 7 are illustrative, and are reproduced below.

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.

Ex. 1001, 5:2–20.

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.

Ex. 1001, 6:28–35. Independent claim 17 is a method claim containing limitations similar to those in claim 7. Ex. 1001, 7:6–13.

F. Reviewed Unpatentability Challenges

We review the following challenges from the Petition:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 3, 6	103	Yu,[3] Klang,[4] Koebler[5]
4, 7–12, 14–20	103	Yu, Klang, Koebler, Thomason[6]
5, 13	103	Yu, Klang, Koebler, Richardson[7]

[3] CN 203211234 U, issued Sept. 25, 2013 (Ex. 1005).
[4] US 6,424,158 B2, issued July 23, 2002 (Ex. 1006).
[5] US 2013/0241498 A1, published Sept. 19, 2013 (Ex. 1007).
[6] US 2005/0110467 A1, published May 26, 2005 (Ex. 1008).
[7] US 2013/0154543 A1, published June 20, 2013 (Ex. 1009).

Petitioner relies on declarations from James L. Kirtley, Jr., Ph.D. Ex. 1004 ("Kirtley Declaration"); Ex. 1020 ("Kirtley Rebuttal Declaration").[8]

Patent Owner relies on a declaration from Joseph McAlexander III. Ex. 2005. Petitioner deposed Mr. McAlexander, and filed the transcript of the deposition as Exhibit 1019. *See also* Ex. 2004 (executed signature page and errata pages from the McAlexander deposition).

II. ANALYSIS

A. Legal Standards

"In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

A claim is unpatentable under 35 U.S.C. § 103 if "the differences between the claimed invention and the prior art are such that the claimed

[8] In its Patent Owner Response, Patent Owner argues that Dr. Kirtley's Declaration is not admissible because Petitioner failed to show Dr. Kirtley is a person of ordinary skill in the art. PO Resp. 30–32. Petitioner challenged this assertion in its Reply, and Patent Owner did not respond in its Sur-reply. Reply 22–24; *see generally* Sur-reply. During the Oral Hearing, Patent Owner confirmed it was no longer pursuing this argument. Tr. 51:21–52:1.

invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains." 35 U.S.C. § 103 (2018). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when present, objective evidence of nonobviousness.[9] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

To show obviousness, it is not enough to merely show that the prior art includes separate references covering each separate limitation in a challenged claim. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). "This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418–19 (2007). On the other hand, an obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418; *accord In re Translogic Tech., Inc.*, 504 F.3d 1249, 1259 (Fed. Cir. 2007).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art would have had "a bachelor's degree in electrical engineering or its equivalent and two years of experience in electrical engineering with some experience in design

[9] The parties have not asserted or otherwise directed our attention to any objective evidence of nonobviousness.

of battery charging systems." Pet. 8. Patent Owner states that it adopts this definition for purposes of its Response. PO Resp. 4.

In light of the record before us, we adopt Petitioner's proposal regarding the level of ordinary skill in the art. Based on our review of the '653 patent and the prior art of record, we determine that the definition offered by Petitioner comports with the qualifications a person would have needed to understand and implement the teachings of the '653 patent and the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required "where the prior art itself reflects an appropriate level and a need for testimony is not shown") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)). It is also consistent with the level of skill in the art adopted in the 777 IPR, which also involves the '653 patent. IPR2021-00777, Paper 7 at 6–7.

C. Claim Construction

In an *inter partes* review, we construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2022). Under *Phillips*, claim terms are afforded "their ordinary and customary meaning." *Phillips*, 415 F.3d at 1312. "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313. "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.*

Petitioner proposes constructions for the terms "battery level detector," "load detector," and "switching circuit"/"switching circuitry." Pet. 9–12. Petitioner contends that "[a]ll other claim terms are to be understood according to their plain and ordinary meaning." Pet. 9.

Patent Owner contends that Petitioner's proposed constructions are not necessary because they do "nothing more than combine the words already present with words that do nothing to alter or clarify the meaning of the terms," and because "none of Petitioner's proposed constructions appear material to the issues to be determined by the Board." PO Resp. 5. Petitioner did not respond to Patent Owner's contention. *See generally* Reply.

Claim 3 of the '653 patent depends from claim 1 and recites that "the switching circuit conducts power supply or power outage for the load through the microcontroller." Ex. 1001, 6:13–14. As part of the Final Written Decision in the 777 IPR, we construed the phrase "conducts power supply or power outage for the load through the microcontroller" to mean "[t]he power for charging the load passes through the microcontroller." IPR2021-00777, Paper 22, 11–12. After the oral hearing, we explained in an Order that "[f]or purposes of consistency, we intend to adopt the same construction of the phrase 'conducts power supply or power outage for the load through the microcontroller' for this proceeding as we did in the 777 IPR." Paper 24, 3. Neither party, however, addressed the patentability of claim 3 under this construction in its papers or during the oral hearing. *See* Pet. 9–12, 47–49; PO Resp. 4–6; *see generally* Reply; Sur-reply; Tr. Therefore, we authorized supplemental briefing on the patentability of claim 3 under this proposed construction. Paper 24, 3.

In its supplemental brief, Petitioner contends that our proposed construction "contradicts the technical disclosure of the '653 patent" and that "[t]he proper construction of this term is 'switching circuit under control of the microcontroller that selectively conducts power supply or power outage for the load.'" Pet. Suppl. Br. 3.[10] In particular, Petitioner contends that claim 3, through claim 1, only recites one connection between the microcontroller and the first battery, such that the connections in claim 3 do not allow the power supply from the first battery to pass through the microcontroller to the load. Pet. Suppl. Br. 4–5. Claim 1, however, recites "an automobile charger, comprising . . ." which is an open-ended term, meaning that claim 1 is not limited to only the connections expressly recited therein. Petitioner's arguments do not address this open-ended aspect of the plain language of the claims.

Petitioner also argues that the language of claim 3 is consistent with its construction because claim 3 "places the switching circuit between the second pole of the first battery . . . and the second lead of the load." Pet. Suppl. Br. 5. Although Petitioner's interpretation may be consistent with the language in claim 3, we discern nothing in claim 3 that expressly limits the placement of the switching circuit, especially considering the open-ended "comprising" language used in claims 1 and 3.

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[10] We disagree with Petitioner's assertion that its supplemental brief is "Petitioner's first opportunity to address the construction" of this limitation "in this proceeding." Pet. Suppl. Br. 3. Petitioner had the opportunity to construe any and all claim terms in its Petition. As noted above, Petitioner proposed constructions for only three claim terms and stated that "[a]ll other claim terms are to be understood according to their plain and ordinary meaning." Pet. 9. Nevertheless, we address Petitioner's arguments in its supplemental brief regarding the construction of this limitation in claim 3.

Nor are we persuaded by Petitioner's argument that the Specification "is consistent" with its proposed construction. Pet. Suppl. Br. 5–8. Once again, although Petitioner's interpretation may be consistent with language in the Specification describing an embodiment of the invention, the plain language of claims 1 and 3 does not suggest a clear intention to limit the scope of the claim, as proposed by Petitioner. *See Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004) ("Even when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction.'"). Indeed, in its Reply, Petitioner takes the position that the claims are not necessarily limited by the embodiment disclosed in the Specification. *See, e.g.*, Reply 4–5 (asserting that Mr. McAlexander's testimony that his conclusion was informed by the disclosure of only one embodiment in the specification reflects an "improper importation of specification limitations into the claim language"); *see also* Ex. 1001, 2:61–67 (stating "[t]he technical solutions of the present disclosure will be described more clearly and fully in conjunction with the drawings in the embodiments of the present disclosure, and obviously, the described embodiments are merely part of the present disclosure, not all the embodiments").

Petitioner also argues that we should not construe the term "conduct" in claim 3 to literally mean "conducts electrical conductivity or current transmission" because elsewhere the '653 patent uses the term "conduct" according to "another conventional meaning for the word," namely to mean "perform." Pet. Suppl. Br. 8–9. Petitioner makes a similar argument

regarding the term "through," which, according to Petitioner, is used in some places in the Specification according to "its other conventional meaning" of "using" or "by means of." Pet. Suppl. Br. 9. But implicit in this argument is the fact that the construction of this phrase we adopted in the 777 IPR is based on at least one of the conventional meanings of the terms "conduct" and "through." This confirms that our construction is consistent with the plain language of the claim.

For all of the foregoing reasons,[11] we are not persuaded that we should deviate from the construction of this claim limitation that we adopted in the 777 IPR. *See* IPR2021-00777, Paper 22 at 11–12 (explaining that this construction is consistent with the plain language of the claim and comports with the Federal Circuit's decision in *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1373 (Fed. Cir. 2004), which Petitioner does not address). As a result, we construe the phrase "conducts power supply or power outage for the load through the microcontroller" to mean "[t]he power for charging the load passes through the microcontroller."

We determine that we do not need to expressly construe any other terms for purposes of this Decision. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) ("[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.")).

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[11] Patent Owner, in its supplemental brief, states that it agrees with Petitioner's assertion that the disputed limitation does not require that the power for charging the load passes through the microcontroller. PO Suppl. Br. 1. Patent Owner, however, does not offer any additional arguments in support of its statement. PO Suppl. Br. 1.

D. Claims 1, 3, and 6 – Obviousness in View of Yu, Klang, and Koebler

Petitioner contends claims 1, 3, and 6 are unpatentable as obvious in view of Yu, Klang, and Koebler. Pet. 13–50; Reply 3–20. Patent Owner argues that Petitioner has failed to provide substantial evidence of obviousness. *See generally*, PO Resp.; Sur-reply.

1. Yu (Ex. 1005)

Yu discloses "an apparatus for the emergency starting of an automobile." Ex. 1005 ¶ 1. Yu explains that when using an external lead-acid battery to start an automobile, a large current may be generated that can damage the original battery of the automobile or even cause an explosion. Ex. 1005 ¶ 2. According to Yu, its invention "can effectively prevent electric sparks from being generated when it is connected to or disconnected from the automobile, and thus safety can be improved." Ex. 1005 ¶ 3. Yu provides a schematic diagram of its apparatus in Figure 1, reproduced below.

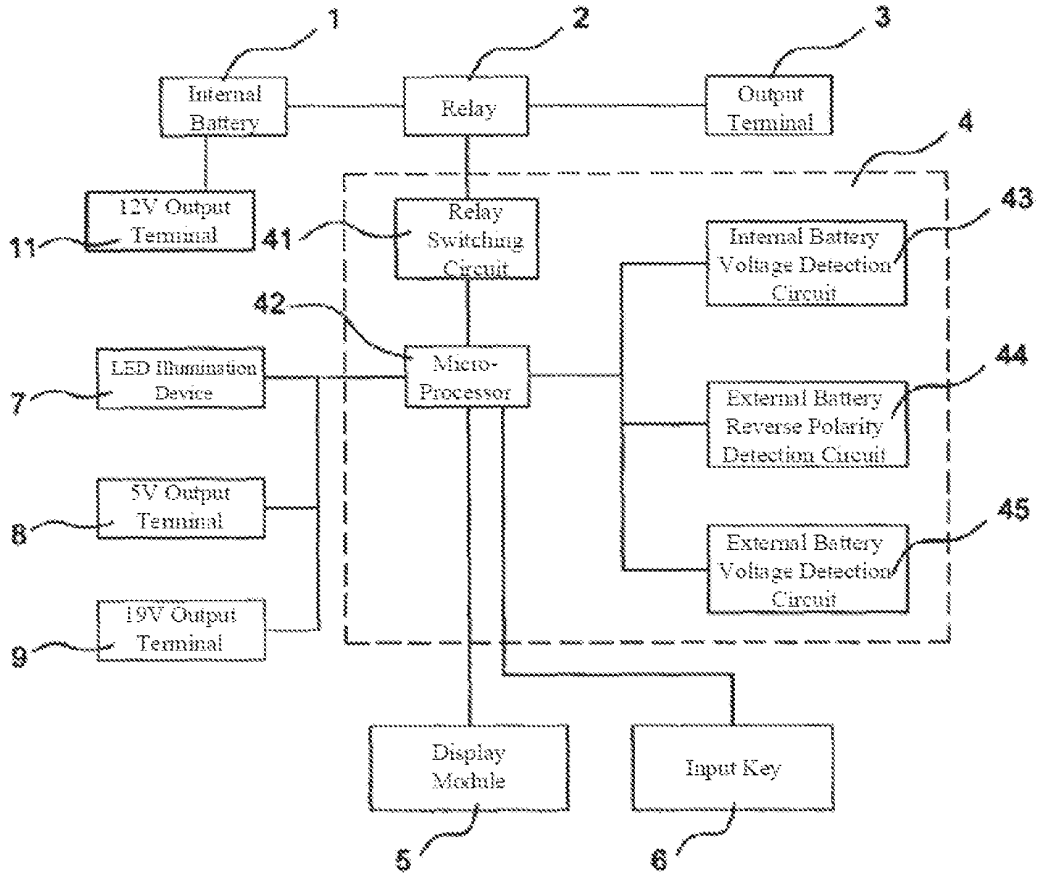


Figure 1 of Yu shows an apparatus for starting an automobile, including internal battery 1, relay 2, output terminal 3, and control module 4. Ex. 1005 ¶ 21. Control module 4 includes relay switching circuit 41, microprocessor 42, internal battery voltage detection circuit 43, external battery reverse polarity detection circuit 44, and external battery voltage detection circuit 45. Ex. 1005 ¶¶ 21–23. Yu explains that microprocessor 42 is configured to control the on/off state of relay 2 via relay switching circuit 4, and that external battery reverse polarity detection circuit 44 is "configured to provide a signal indicating correct or erroneous connection of an external battery." Ex. 1005 ¶ 21. Yu further explains that internal battery voltage detection circuit 43 and external battery voltage detection circuit 45

provide signals to microprocessor 42 to facilitate monitoring of the condition of the internal and external batteries, respectively. Ex. 1005 ¶ 27.

2. Klang (Ex. 1006)

Klang is directed to a "method and system for performing automatic and rapid diagnostic testing and charging of a battery." Ex. 1006, code (57). In one embodiment, Klang "utilizes a novel interactive stepping procedure which allows batteries determined to be good to be recharged in a minimum period of time without overheating the battery or spewing electrolyte." Ex. 1006, 3:51–54.

3. Koebler (Ex. 1007)

Koebler is directed to an apparatus for starting the motor of an internal combustion engine, and includes "a solid state switching configuration for high powered battery systems for protecting against over-charging, over-discharging and short circuiting of batteries, especially starter batteries for internal combustion engines." Ex. 1007 ¶ 2.

4. Analysis

a. Claim 1

Petitioner contends Yu teaches or suggests an automobile charger, as claim 1 recites,[12] based on Yu's description of its invention as "an apparatus for starting of an automobile, and specifically, . . . an apparatus for emergency starting of an automobile." Pet. 18 (quoting Ex. 1005 ¶ 1; citing Ex. 1005 ¶¶ 2–4, 21, Fig. 1).

[12] Neither party affirmatively argues that the preamble is limiting. Although we find that the evidence supports that Yu discloses the preamble, we make no determination that the preamble is limiting.

Claim 1 recites that its automobile charger comprises "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" and "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." Ex. 1001, 5:3–9. Petitioner contends that Yu discloses a first battery ("internal battery 1"), a power converter (e.g., power supply chip "IC9" in Figure 4), a battery level detector ("internal battery voltage detection circuit 43"), a switching circuit (that includes relay 2 and the switching control circuit 41 in Figures 1 and 2), a microcontroller (microprocessor 42), and a load (e.g. an automobile engine, storage battery, or external battery connected to "output terminal 3"). Pet. 19–23 (citing Ex. 1005 ¶¶ 2, 21–23, 26–27, Figs. 1, 2, 4; Ex. 1004 ¶¶ 83–92, 107–108).

Petitioner further contends that "negative and positive internal battery terminals 'B-' and 'B+' are mapped to claimed first pole and second pole of the first battery, respectively." Pet. 27. Petitioner argues that the negative terminal B- (the first pole of the first battery) is grounded and connected with the ground "PGND" at Pin 1 of the power converter chip IC9 as the first lead of the power converter, connected with the ground on the bottom terminal of the resistor R71 within the internal battery voltage detection circuit 43 as the first lead of the battery level detector, and connected with a grounded output terminal of output terminal 3 as the first lead of the load, as claim 1 requires. Pet. 27–29 (citing Ex. 1005, Figs. 2 and 4).

Petitioner contends that the positive terminal B+ (second pole of the first battery) is connected with the top terminal of R69 of internal battery voltage detection circuit 43, as the second lead of the battery level detector,

is connected with microprocessor 42, and connected to contact 1 on the left-hand side of switch component K1, as the first lead of the switching circuit, as claim 1 requires. Pet. 30–32.

Petitioner also argues that it would have been obvious to place the switch between the load and the negative pole. According to Petitioner,

> Moving the switch in this manner is simply a modification of known and routine circuit elements (a battery, a switch, and a load) in a known, routine and predictable manner: the switch controls when the circuit between the battery and the load is closed—regardless of whether the switch is locate[d] between the load and the positive pole of the battery or the load and the negative pole. At a minimum, it would have been obvious to try this modification given the limited number of solutions (i.e., two) for connecting a switch between a power supply and the load—i.e., either connecting it to the positive terminal or the negative terminal of the power supply.

Pet. 32–33; *see also* Reply 9–10 (arguing that "[b]ecause each of Yu, Klang and Koebler, were trying to solve the same safety problem of selectively connecting a power source to a load only when it is safe to do so, there is 'good reason' under the KSR analysis to try the finite number of topologies and combinations presented in the art").

Petitioner further contends that Klang and Koebler teach placing a switch on the negative side of the load. Pet. 33–34 (citing Ex. 1006, 7:8–14, Fig. 2; Ex. 1007, Figs. 16, 18, 20, and 22). Moreover, Petitioner contends that:

> Koebler teaches that its MOSFET solid-state switch apparatus can be used in "any battery system that requires charging and discharging in order to extend the battery life, and for safety" ([Ex. 1007 ¶ 94]) and this teaching would have guided and motivated a [person of ordinary skill in the art] to apply choices of Koebler's MOSFET switching designs on positive and

> negative sides of the load to implement the switches in the jump start devices or battery charging devices in Yu and Klang.

Pet. 34.

Claim 1 additionally requires various connections (i) between the power converter and microcontroller; (ii) between the microcontroller and the battery level detector, the switching circuit, and a load detector, and (iii) between the load detector and the switching circuit and the load. Ex. 1001, 5:10–19. Petitioner directs us to portions of Yu that teach or suggest these components and connections recited in claim 1. Pet. 21–22, 36–46.

Lastly, claim 1 requires that "the load includes a second battery and a motor." Ex. 1001, 5:20. Petitioner contends that Yu discloses that the load includes the storage battery of a vehicle and an engine of a car. Pet. 46–47 (citing Ex. 1005 ¶ 2).

Patent Owner argues Petitioner has failed to demonstrate sufficiently that a person of ordinary skill in the art would have been motivated to modify Yu to arrive at the claimed invention. PO Resp. 8. In particular, Patent Owner contends that Petitioner fails to point to any evidence in the asserted prior-art references themselves that provide a reason to combine their teachings, and therefore Petitioner relies on statements in the Kirtley Declaration. Pet. 8–9. Patent Owner states that Dr. Kirtley provides several rationales for combining Yu with the secondary references that are all based on the similarities of the references, which do not constitute substantial evidence of a motivation to combine. PO Resp. 9–15 (addressing paragraphs 120–134 of the Kirtley Declaration). Patent Owner also argues Dr. Kirtley's opinions suffer from hindsight bias. PO Resp. 15–16.

Patent Owner next criticizes Petitioner's arguments based on the advantages of solid-state switches, such as MOSFET, to replace other electronic switches. PO Resp. 17–20. Patent Owner contends that the challenged claims of the '653 patent simply require an electronic switch, not solid-state switches, and, therefore, "a motivation to use such switches would not itself support any other alterations to the circuitry." PO Resp. 18–19. As a result, Patent Owner contends that Petitioner's evidence supports only the "direct substitution between different types of electronic switches," and does not support "substituting ***the entire*** switching solution of secondary references into Yu." PO Resp. 19. According to Patent Owner, "[a] motivation to use solid state switches, even if correct, is not a 'reason to combine the known elements in the fashion claimed by the patent at issue.'" PO Resp. 20 (quoting *KSR*, 550 U.S. at 418).

Patent Owner also argues that "Claim 1 requires negative pole switching," such that the final connection between the jump starter and the car battery is on the negative pole. PO Resp. 20. Patent Owner explains that the preferred embodiment shown in Figure 2 of the '653 patent includes a direct connection between the positive pole of the first battery and the positive pole of the load, and a direct connection between the negative pole of the first battery and the switching circuit. Pet. 21–22. According to Mr. McAlexander, "[a]ny attempt to identify 'a first pole of a first battery' as the negative terminal of a first battery creates a configuration conflict that fails to satisfy all the remaining elements of Claim 1." Ex. 2001 ¶ 34; PO Resp. 20–22.

Patent Owner asserts that Yu discloses the opposite of negative pole switching by inserting a normally open relay between the first (positive) pole

of the first battery and the first lead of the load. PO Resp. 22–23. Patent Owner further asserts that Petitioner fails to provide "any basis that would motivate the extensive rearrangement of connections necessary to implement the required negative pole switching" in Yu. PO Resp. 24–25. Additionally, Patent Owner contends Petitioner fails to show that combining Yu with the teachings of the secondary references (such as Koebler) to replace the Yu positive switching circuit with a negative switching circuit would have been technically feasible and would predictably work. PO Resp. 25–26. According to Patent Owner, Petitioner and Dr. Kirtley provide nothing beyond conclusory assertions that a redesign is possible. PO Resp. 26–27. Patent Owner further contends that Yu and Koebler have "totally different connection solution[s]," such that moving the switch to the negative pole in Yu would render Yu inoperable. PO Resp. 28–29 (arguing that "[i]f the required structure of 'a first pole of a first battery connected with . . . a first lead of a load' is deployed in the device of Yu, the device will not work or, at least, would not work without complex further modification unconsidered by Petitioner").

In its Reply, Petitioner challenges Patent Owner's argument that claim 1 requires negative pole switching, i.e., that the first pole of the first battery is a positive terminal, the second pole of the first battery is a negative terminal, and the switching circuit is between the negative pole of the battery and the load. Reply 4. Petitioner argues that claim 1 does not include express language imposing these requirements, and Patent Owner is attempting to import limitations into the claim from a preferred embodiment in the Specification. Reply 4–5. Petitioner further asserts that Patent Owner did not otherwise address Petitioner's arguments that Yu discloses all of the

limitations in claim 1 "where the claimed 'first pole' of the first battery of Claim 1 is mapped to the negative terminal B- of Yu's battery, and the claimed 'second pole' of the first battery of Claim 1 is mapped to the positive terminal B+ of Yu's battery." Reply 5–6.

In its Sur-reply, Patent Owner clarifies that "[f]or avoidance of doubt, Patent Owner does *not* argue that Claim 1 is limited by the specification's disclosure to negative side switching, as a matter of claim construction or otherwise." Sur-reply 2. Instead, Patent Owner contends that the specific connections recited in claim 1 require a circuit with a switch on the negative pole "as *a matter of practical engineering* and patent claim utility." Sur-reply 2–3. Patent Owner explains that according to claim 1, the first pole of the battery is connected to the first lead of the power converter, and the power converter is connected with second lead of the microcontroller, providing power to the microcontroller. Sur-reply 4–5 (citing Ex. 1001, Fig. 1). Patent Owner further explains that according to claim 1, the second pole of the battery is connected to the power converter, microcontroller, and switching circuit. Sur-reply 5. According to Patent Owner, "[f]or practical electrical engineering reasons, it necessarily follows, from the required connection between the second pole of the battery and the microcontroller, that the second pole *is* the negative pole, i.e., the ground, in this context, because the microcontroller is receiving power from the first pole via the power converter." Sur-reply 6–7 (citing Ex. 2001 ¶¶ 34, 39–40; Ex. 1019, 156:3–6). Patent Owner also asserts that "[m]icrocontrollers are expected to be grounded, rather than connected to various 'hot' wires at different levels." Sur-reply 7 (citing Ex. 1019, 152:24–153:1).

After considering the parties' arguments and evidence, we find Petitioner has demonstrated by a preponderance of evidence that Yu teaches or suggests all of the limitations claim 1 requires. It is undisputed that the claimed first pole and second pole of the first battery are the two poles of a conventional battery, that one of the poles is the positive terminal, and the other pole is the negative terminal. Sur-reply 3. It is also undisputed that claim 1 does not expressly require (1) the first pole of the first battery to be the positive terminal, (2) the second pole of the first battery to be the negative terminal, or (3) the switch being placed between the negative pole of the battery and the load—i.e., negative pole switching. *See* Reply 4; Sur-reply 2–3; Ex. 1020 ¶¶ 58, 82; Ex. 1019, 76:24–77:18, 78:15–19:15.

Rather, claim 1 only expressly requires a connection between the first pole of the first battery and a first lead of a power converter, a first lead of a battery level detector, and a first lead of a load. Ex. 1001, 5:3–5. Consistent with the express language of claim 1, Petitioner directs us to portions of Yu that disclose a first pole of a battery (B-), a power converter, a battery level detector, and a load, as well as connections between the first pole of the first battery and these components. Pet. 19–29.

Claim 1 also expressly requires connections between the second pole of the first battery and 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. Ex. 1001, 5:6–9. Again, consistent with the express language of claim 1, Petitioner directs us to portions of Yu that disclose a second pole of a battery (B+), a microcontroller, and a switching circuit, as well as connections between the second pole of the first battery and 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. Pet. 19–23, 30–32.

Patent Owner does not dispute that Yu discloses the specific components or the connections between them that Petitioner directs us to. *See generally* PO Resp; Sur-reply. Instead, Patent Owner's argument that Petitioner fails to demonstrate sufficient evidence of obviousness is based on its assertion that claim 1 requires *different* connections than those Yu discloses or suggests. PO Resp. 21–23 (arguing claim 1 requires negative pole switching, which Yu does not disclose).

We, however, disagree with Patent Owner's contention that the Petition is deficient because claim 1 requires negative pole switching and Yu does not teach negative pole switching. PO Resp. 21–23; Sur-reply 1–15. Although Patent Owner contends that claim 1 requires a circuit with the switch between the negative pole and the load "as a *matter of practical engineering* and patent claim utility," Patent Owner fails to direct us to any authority supporting its argument that these considerations frame the interpretation of claim language that is otherwise clear on its face. Sur-reply 2–3. Nor does Patent Owner direct us to any authority supporting its assertion that we should "reject" Petitioner's arguments and evidence demonstrating Yu discloses the express limitations recited in the claim "as not fitting the claim language based on engineering design principles." Tr. 47:10–12.

We also disagree with Patent Owner's argument that the "structural context" of claim 1, "i.e., the specific claimed *connections* between various components enumerated in [c]laim 1," requires that the first pole of a first battery be the positive terminal and the second pole be the negative terminal.

Sur-reply 3. Petitioner has demonstrated persuasively that Yu discloses the specific connections between the various components expressly enumerated in claim 1 without the first pole of the first battery being the positive terminal of the battery or the second pole of the first battery being the negative terminal. Moreover, Patent Owner acknowledges that systems with positive side switches, i.e., having the switching circuit connected to the positive terminal of the battery, were known in the art. Sur-reply 9 (stating that "a positive side switch arrangement is known in the prior art").

Patent Owner directs us to paragraphs 34, 39, and 40 of Mr. McAlexander's Declaration to support its assertion that claim 1 requires negative side switching. Mr. McAlexander's testimony in paragraph 34 is based on Figure 2 of the '653 patent. But the '653 patent is explicit that its description of the invention, made in conjunction with the figures, represents only "part of the embodiments of the present disclosure, not all the embodiments." Ex. 1001 2:62–67. Likewise, Patent Owner admits that claim 1 is not limited "by the specification's disclosure to negative side switching." Sur-reply 2. Additionally, Petitioner's demonstration that Yu discloses the express limitations of claim 1 undermines Mr. McAlexander's statement that "[a]ny attempt to identify 'a first pole of a first battery' as the negative terminal of a first battery creates a configuration conflict that fails to satisfy remaining elements of Claim 1." Ex. 2001 ¶ 34. We reach the same conclusion regarding Mr. McAlexander's complementary statement in paragraph 40 that "[a]ny attempt to identify 'a second pole of a first battery' as the positive terminal of a first battery creates a configuration conflict that fails to satisfy all the elements of Claim 1." Ex. 2001 ¶ 40.

Paragraph 39 of Mr. McAlexander's Declaration suffers from similar problems, as it also relies on Figure 2 of the '653 patent. Moreover, Patent Owner's arguments that the second pole of the first battery must be the negative terminal because the first pole of the first battery is the positive terminal, and vice versa, are conclusory, unsupported, and rely on circular reasoning. Sur-reply 6–7.

Patent Owner's arguments based on specific required connections to the microcontroller are likewise unavailing. Sur-reply 6–8. Patent Owner relies on annotations made to Figure 1 of the '653 patent (Sur-reply 8), but, as explained above, Patent Owner acknowledges that the claims are not limited to the preferred embodiments and related discussion of the figures in the Specification. Sur-reply 2; Ex. 1001 2:62–67. Furthermore, with regard to Patent Owner's argument that persons of skill in the art would have known that microcontrollers must be grounded, we note that claim 1 uses the term comprising, which means the claimed automobile charger can include additional components or connections not expressly recited in the claim. Ex. 1001, 5:2. This open-ended nature of claim 1 undermines Patent Owner's argument that the second pole of the battery *must* be the negative terminal in order to account for the microcontroller being grounded. Notably, Patent Owner acknowledges that alternative types of circuits with multiple grounds and additional components may exist, consistent with testimony from Dr. Kirtley. Sur-reply 10; Ex. 1020 ¶ 84.

Specifically, Dr. Kirtley testifies that a person of ordinary skill in the art would have understood that connections between components depicted as single lines in Yu's figures "may comprise multiple connections, such as multiple signal connections, and common power and ground connections for

sensors and microprocessors." Ex. 1020 ¶ 84 (citing Ex. 1021 (US 7,973,534 B2)). We credit Dr. Kirtley's testimony, as Patent Owner does not dispute the substance of Dr. Kirtley's testimony or the supporting exhibit. Instead, Patent Owner argues that Petitioner is attempting to "sneak in new evidence that is improper in a reply" and create a new ground. Sur-reply 13–15. We disagree, as Petitioner and Dr. Kirtley offer this evidence to demonstrate what a person of ordinary skill in the art would have understood in considering Yu—not as a new ground. Moreover, Petitioner properly offered this exhibit and Dr. Kirtley's testimony in response to Patent Owner's arguments that claim 1 requires negative side switching, which Yu does not disclose. In its Reply, Petitioner is entitled to "respond to arguments raised in the corresponding . . . patent owner response." 37 C.F.R. § 42.23(b). A party also may submit rebuttal evidence in support of its reply. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1077–78 (Fed. Cir. 2015).

Patent Owner also contends that Yu does not disclose a connection between the first pole of the first battery and the first lead of the load because Yu discloses a switch between the positive battery terminal and the load. Sur-reply 10–12 (citing PO Resp. 22–23; Ex. 2001 ¶ 37; Ex. 1005, Figure 4). This argument is based on Mr. McAlexander's assessment of Figure 2 of Yu, showing open relay K1 between the positive pole of the battery in Yu (B+) and the first lead of the load (OUT+). Sur-reply 12–13; Ex. 2001 ¶ 37; Tr. 65:12–66:11. As noted above, however, Petitioner argues that the *negative pole* (*B-*) in Yu's battery, not the positive pole of the battery, corresponds to the first pole of the first battery recited in claim 1. As such, Patent Owner's argument and Mr. McAlexander's assessment are

misguided, as they do not address Petitioner's actual argument. Moreover, Patent Owner does not dispute that there is a connection between the negative pole of Yu's battery and the load, as claim 1 expressly requires. Tr. 70:10–15.

For all of the foregoing reasons, we find Petitioner has demonstrated persuasively that Yu discloses "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" and "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." Ex. 1001, 5:3–9; Pet. 19–32; Reply 3–6; Ex. 1005 ¶¶ 2, 21–23, 26–27, Figs. 1, 2, 4; Ex. 1004 ¶¶ 83–92, 107–108; Ex. 1020 ¶¶ 58, 82, 84. Petitioner also directs us to evidence demonstrating Yu discloses or suggests the remaining limitations in claim 1, which Patent Owner does not dispute. Pet. 21–22, 36–46.

Based on the information presented in the Petition, including the relevant portions of the Kirtley Declaration and Kirtley Rebuttal Declaration, we are persuaded that Petitioner has demonstrated by a preponderance of the evidence that Yu discloses or suggests all of the limitations in claim 1.[13]

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[13] Although Petitioner refers to the disclosures of Klang and Koebler when discussing certain limitations of claim 1, Petitioner presents these arguments as alternative disclosures to the teaching in Yu to address the possible construction of claim terms under 35 U.S.C. § 112(f) and/or arguments potentially made by Patent Owner. *See, e.g.*, Pet. 24 (referring to the disclosure of switches in Klang and Koebler "[t]o the extent it is argued that that a relay disclosed in Yu is not an electronic switch"); 36 (stating "[t]o the extent that 'switching circuit' may [be] construed under 112(f), Koebler

We have considered Patent Owner's arguments that Petitioner failed to show any motivation to alter Yu to use negative pole switching, failed to show that Yu can be reliably combined with Koebler, and that Yu would be inoperable by moving the switch to the negative pole. PO Resp. 24–29. These arguments, however, are based on Patent Owner's contention that negative pole switching is a required feature of claim 1 and Yu does not teach negative pole switching. *See, e.g.*, Reply 6 (addressing Patent Owner's arguments regarding a motivation to combine references "[i]f it is determined that Claim 1 requires negative pole switching"); Tr. 8:13–17, 55:23–56:1, 62:10–21 (all referring to Petitioner's arguments that Yu discloses or suggests each and every limitation of claim 1). For the reasons stated above, we disagree with Patent Owner's contention that negative pole switching is a required feature of claim 1, and find that Petitioner has demonstrated persuasively that Yu discloses or suggests each limitation of claim 1. As a result, the outcome here does not depend on modifying Yu to use negative pole switching or combining Yu with Koebler. We, therefore, decline to address Patent Owner's arguments directed towards modifying Yu or combining Yu with additional prior-art references.

In view of the foregoing, we find Petitioner has demonstrated, by a preponderance of the evidence, that claim 1 is unpatentable as obvious in view of Yu.

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discloses using a plurality of MOSFETs"); Tr. 8:13–17, 55:23–56:1, 62:10–21. For purposes of this challenge, we do not rely on these disclosures in Klang and Koebler because we do not construe the claims under § 112(f) and they concern arguments Patent Owner did not raise.

b. Claim 3

As discussed above, we construe the phrase "the switching circuit conducts power supply or power outage for the load through the microcontroller" in claim 3 to mean "[t]he power for charging the load passes through the microcontroller." Petitioner admits that under this construction of claim 3, it has not presented evidence that claim 3 is unpatentable in view of Yu, Koebler, and Klang. Pet. Suppl. Br. 10. As a result, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claim 3 is unpatentable as obvious in view of Yu, Koebler, and Klang.

c. Claim 6

Claim 6 depends from claim 1 and requires that the switching circuit is an electronic switch. Ex. 1001, 6:26–27. Petitioner argues Yu discloses relay 2 as an electronic switching device. Pet. 49 (citing Ex. 1005 ¶ 21, Figs. 1 and 2). Petitioner also relies on its arguments regarding Yu discussed above with regard to claim 1.

Patent Owner does not separately challenge the arguments and evidence Petitioner presents for claim 6. *See, e.g.*, PO Resp. 7. Instead, Patent Owner relies on the same arguments for claim 6 as it does for claim 1. *See generally* PO Resp.; Sur-reply.

After reviewing the evidence and arguments Petitioner presents in the Petition regarding claim 6, including the relevant portions of the supporting Kirtley Declaration, we agree, for the reasons explained in the Petition, that Yu discloses or suggests all of the limitations in claim 6. Pet. 49. As a result, we determine Petitioner has established by a preponderance of the evidence that claim 6 is unpatentable as obvious in view of Yu.

E. Claims 4, 7–12, and 14–20 – Alleged Obviousness in View of Yu, Klang, Koebler, and Thomason

Petitioner contends claims 4, 7–12, and 14–20 are unpatentable as obvious in view of Yu, Klang, Koebler, and Thomason. Pet. 50–68.

1. Thomason (Ex. 1008)

Thomason discloses a battery charger "having a polarity detection mechanism, automated current routing circuitry and excessive voltage protection" that is "configured to provide safe, spark free jump starting." Ex. 1008, code (57). Thomason teaches that its jump-starter includes a first switch that activates the flow of electricity out of the device and a second switch that activates lights on the clamps that connect with the terminals of the battery intended to be recharged. Ex. 1008 ¶ 14. Thomason further teaches that "a variety of other lights and switches are also utilized to designate various functions such as the charge status of the battery being charged as well as the level of the battery in the jump-starting unit." Ex. 1008 ¶ 14. In one preferred embodiment, Thomason discloses the use of metal-oxide-semiconductor field-effect transistors (MOSFETs) to provide the various switching and signaling functions. Ex. 1008 ¶ 17.

2. Analysis

a. Claim 4

Claim 4 depends from claim 1, and recites that the "the battery level detector is further configured to provide a protection for the first battery." Ex. 1001, 6:17–19.

Petitioner contends that Yu discloses a connection between microprocessor 42 and internal battery voltage detection circuit 43 to provide signaling between these components that enables display module 5

to display the voltage of the internal battery 1 ("a battery level detector") and for "monitoring of the use status of the internal battery." Pet. 52–53 (citing Ex. 1005 ¶¶ 21–22, 27).

Petitioner also contends that Thomason discloses a battery level detector and a "a protection mechanism for protecting [an] internal battery by limiting [the] amount of power that is allowed to flow out of [the] internal battery to prevent it from being fully discharged and to prevent the jump starter from self-destructing when jumper cables are connected together." Pet. 53 (citing Ex. 1008 ¶ 36). According to Petitioner, a person of ordinary skill in the art would have known from Yu how to use sensor inputs to a microcontroller to control a relay/switch, and would have had reason to "consider the level of the internal battery when determining when to turn on the relay, as taught in Thomason, because that would further protect the internal battery from being connected to a load when it is severely discharged, avoiding damage to the battery." Pet. 53–54.

Patent Owner does not separately address claim 4, or dispute that Yu and Thomason teach or suggest the additional limitations in claim 4. Rather, Patent Owner relies on its arguments presented for claim 1, including its argument that Petitioner fails to show a motivation to combine the asserted prior-art references and its arguments based on negative pole switching. PO Resp. 8–17, 20–29. Specifically, with regard to the proposed combination of Yu and Thomason, as discussed above in Section II.D.4.a, Patent Owner contends that Petitioner fails to point to any evidence in the asserted prior-art references themselves that provides a reason to combine their teachings, and therefore relies on statements in the Kirtley Declaration. Pet. 8–9. Patent Owner states that Dr. Kirtley provides several rationales for combining Yu

with the secondary references that are all based on the similarities of the references, which do not constitute substantial evidence of a motivation to combine. PO Resp. 9–15 (addressing paragraphs 120–134 of the Kirtley Declaration). Patent Owner also argues Dr. Kirtley's opinions suffer from hindsight bias. PO Resp. 15–16.

After considering the parties' arguments and evidence, we find Petitioner has established, by a preponderance of the evidence, that claim 4 is unpatentable as obvious in view of Yu and Thomason. As discussed above, we disagree with Patent Owner's arguments regarding negative pole switching, and find that Petitioner presents persuasive evidence that Yu teaches or suggests the limitations of claim 1. Petitioner also presents undisputed evidence that Yu and Thomason teach or suggest the additional limitations in claim 4. Pet. 52–54. Additionally, Petitioner directs us to a disclosure in Thomason itself regarding a protection mechanism to prevent the jump starter from self-destructing, and presents testimony from Dr. Kirtley that a person of ordinary skill in the art would have considered Thomason's teaching in order to avoid damage to Yu's internal battery, and would have been able to implement Thomason's teachings. Pet. 52–54; Reply 20–21; Ex. 1004 ¶¶ 189–192. Patent Owner and Mr. McAlexander do not challenge or otherwise refute this testimony. PO Resp. 9–10. Thus, contrary to Patent Owner's assertions, Petitioner does direct us to evidence in the asserted prior-art references themselves that provide a reason to combine their teachings, and does not rely solely on conclusory statements regarding the similarities of Yu and Thomason to support its obviousness challenge.

In view of Petitioner's persuasive evidence demonstrating where the prior-art references teach or suggest each limitation in the challenged claims, and explaining why a person of ordinary skill in the art would have had reason to combine the prior-art references with a reasonable expectation of success, we find Petitioner has established, by a preponderance of the evidence, that claim 4 is unpatentable as obvious in view of Yu and Thomason.

b. Claim 7

Claim 7 recites a "charging device." Ex. 1001, 6:28. Petitioner contends Yu discloses[14] an automobile charger based on Yu's description of its invention as "an apparatus for starting of an automobile, and specifically, . . . an apparatus for emergency starting of an automobile." Pet. 18 (quoting Ex. 1005 ¶ 1; citing Ex. 1005 ¶¶ 2–4, 21, Fig. 1), 54 (referring to its analysis of this limitation in claim 1).

Claim 7 next recites "a battery level detector to detect a level of a first battery." Ex. 1001, 6:29. For this limitation, Petitioner directs us to Yu's internal battery voltage detection circuit 43, "that is connected to enable signaling to the microprocessor 42 on the voltage of the internal battery 1." Pet. 41 (addressing this limitation in connection with claim 1), 55 (addressing this limitation in connection with claim 7, referring to its analysis of this limitation in claim 1); *see also* Pet. 20 (asserting internal

[14] Neither party affirmatively argues that the preamble is limiting. Although we find that the evidence supports that Yu discloses the preamble, we make no determination that the preamble is limiting.

battery voltage detection circuit 43 corresponds to the claimed battery level detector; citing Ex. 1005 ¶ 22, Fig. 2).

Claim 7 also requires "a load detector to detect a type of connection of a load." Ex. 1001, 6:30. Petitioner contends that Yu teaches or suggests this limitation based on its disclosure of external battery reverse polarity detection circuit 44, which detects connection polarity, and/or external battery voltage detection circuit 45, which detects the voltage of the external battery and indicates whether the external battery is connected and if the "voltage of the external battery is in a normal range." Pet. 57 (citing Ex. 1005 ¶¶ 21, 23, 26, 27, Figs. 1–2).

Claim 7 next requires "a microcontroller to generate an output signal based on the level of the first battery and the type of connection of the load." Ex. 1001, 6:31–33. Similar to the discussion above for claim 4, for this limitation, Petitioner asserts that "Yu explains how microcontroller 42 receives and collects signals from reverse polarity detection circuit 44 and external battery voltage detection circuit 45, and, based on the received and collected signals, [provides] an output control to relay 2." Pet. 59 (citing Ex. 1005 ¶¶ 21–27, Figs. 1–5). Petitioner also asserts that Thomason discloses measuring the internal battery voltage of a system, and considering the level of the internal battery when determining when to turn its switch on/off, which serves as "a protection mechanism for protecting [an] internal battery by limiting [the] amount of power that is allowed to flow out of [the] internal battery to prevent it from being fully discharged and to prevent the jump starter from self-destructing when jumper cables are connected together." Pet. 53 (citing Ex. 1008 ¶ 36). According to Petitioner, a person of ordinary skill in the art would have known from Yu how to use sensor

inputs to a microcontroller to control a relay/switch, and would have had reason to "consider the level of the internal battery when determining when to turn on the relay, as taught in Thomason, because that would further protect the internal battery from being connected to a load when it is severely discharged, avoiding damage to the battery." Pet. 53–54, 59–60.

Finally, claim 7 recites "switching circuitry to selectively connect the first battery to the load based on the output signal." Ex. 1001, 6:34–35. According to Petitioner, Yu discloses a microcontroller (microprocessor 42) that controls the switching circuitry (relay 2) based on the output from the microprocessor to "selectively connect the internal battery to the external battery to be charged." Pet. 60.

Patent Owner does not dispute that Yu and Thomason disclose the limitations in claim 7. As to the combination of the teachings of Yu and Thomason, Patent Owner relies on the same arguments discussed above in connection with claims 1 and 4.

After considering the parties' arguments and evidence, we find Petitioner has established, by a preponderance of the evidence, that claim 7 is unpatentable as obvious in view of Yu and Thomason. Based on the evidence and arguments Petitioner presents in the Petition regarding claim 7, we agree that Yu discloses a charging device comprising a battery level detector (internal battery voltage detection circuit 43), load detector (external battery reverse polarity detection circuit 44 and/or external battery voltage detection circuit 45), microcontroller (microprocessor 42), and switching circuitry (relay 2), as claim 7 requires. Ex. 1005 ¶¶ 21–27; Pet. 53–60. Yu also discloses microprocessor 42 receives sensor input signals from internal battery voltage detection circuit 43, external battery reverse

polarity detection circuit 44, and external battery voltage detection circuit 45, and can use various signals to control relay 2. Ex. 1005 ¶¶ 26–27. We also agree that Thomason discloses considering the level of the internal battery when determining when to turn its switch on/off and that doing so avoids damaging the battery. Ex. 1008 ¶ 36; Pet. 53–60.

Thus, Petitioner directs us to a disclosure in Thomason itself regarding a protection mechanism to prevent the jump starter from self-destructing, and presents testimony from Dr. Kirtley that a person of ordinary skill in the art would have considered Thomason's teaching in order to avoid damage to Yu's internal battery, and would have been able to implement Thomason's teachings. Pet. 52–54, 59–60; Reply 20–21; Ex. 1004 ¶¶ 189–192. Patent Owner and Mr. McAlexander do not challenge or otherwise refute this testimony. PO Resp. 9–10. Thus, contrary to Patent Owner's assertions, Petitioner does direct us to evidence in the asserted prior-art references themselves that provide a reason to combine their teachings, and does not rely solely on conclusory statements regarding the similarities of Yu and Thomason to support its obviousness challenge.

In view of Petitioner's persuasive evidence demonstrating where the prior-art references teach or suggest each limitation in claim 7, and explaining why a person of ordinary skill in the art would have had reason to combine the prior-art references with a reasonable expectation of success, we find Petitioner has established, by a preponderance of the evidence, that claim 7 is unpatentable as obvious in view of Yu and Thomason.

c. Claims 8–12 and 14–20

Claims 8–12 and 14–16 depend directly or indirectly from claim 7. Petitioner directs us to portions of Yu and Thomason that disclose the additional limitations in these claims. Pet. 61–66.

Independent claim 17 contains limitations similar to those in claim 7, and Petitioner relies on the same arguments and evidence for claim 17 as it does for claim 7. Pet. 66–67. Claim 18 depends from claim 17, and claims 19 and 20 depend from claim 18. For these claims, Petitioner relies on the arguments and evidence it presents for claims 8–11. Pet. 67–68.

Once again, Patent Owner does not dispute that Yu and Thomason disclose the limitations in claims 8–12 and 14–20. As to the combination of the teachings of Yu and Thomason, Patent Owner relies on the same arguments discussed above in connection with claims 1, 4, and 7.

After considering the parties' arguments and evidence, we find Petitioner has established, by a preponderance of the evidence, that claims 8–12 and 14–20 are unpatentable as obvious in view of Yu and Thomason. Based on the evidence and arguments Petitioner presents in the Petition regarding claims 8–12 and 14–20, we find Petitioner has presented persuasive evidence demonstrating where the prior-art references teach or suggest each limitation in claims 8–12 and 14–20, and explaining why a person of ordinary skill in the art would have had reason to combine the prior-art references with a reasonable expectation of success. We disagree with Patent Owner's arguments to the contrary, for the reasons discussed above. Accordingly, we find Petitioner has established, by a preponderance of the evidence, that claims 8–12 and 14–20 are unpatentable as obvious in view of Yu and Thomason.

F. Claims 5 and 13 – Alleged Obviousness in View of Yu, Klang, Koebler, and Richardson

Petitioner contends claims 5 and 13 are unpatentable as obvious in view of Yu, Klang, Koebler, and Richardson. Pet. 69–75.

1. Richardson (Ex. 1009)

Richardson discloses a "portable power source for a motor vehicle," (i.e., a jump starter), that "performs real-time monitoring of all system parameters to increase the safety and effectiveness of the unit's operation while providing additional parametric and diagnostic information obtained before, during and after the vehicle starting operation." Ex. 1009 ¶¶ 1, 5. Richardson explains that its method and apparatus include a programmable microprocessor that receives inputs and includes several outputs to provide information to the user and to control the application of power to the vehicle to be jump started. Ex. 1009 ¶¶ 11, 13. Richardson also discloses several sensors that monitor different parameters such as the voltage level of one or more jump starter batteries, the voltage of the vehicle battery, the polarity of the jumper cables, and the temperature of a shunt cable. Ex. 1009 ¶ 12. According to Richardson, "[t]he voltage is monitored to determine open circuit, disconnected conductive clamps, shunt cable fault, and solenoid fault conditions," and the "current through the shunt cable is monitored to determine if there is a battery explosion risk, and for excessive current conditions presenting an overheating condition, which may result in fire." Ex. 1009 ¶ 6.

2. Analysis

Claim 5 depends from claim 1, and requires that the microcontroller, "when placed in 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." Ex. 1001, 6:20–25. Claim 13 depends from claim 12 (which depends from claim 7), and requires that "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." Ex. 1001, 6:59–63.

Petitioner directs us to portions of Yu and Richardson that disclose or suggest the limitations in claims 5 and 13. Pet. 72–75 (citing Ex. 1009 ¶¶ 22, 28–29, 55). Petitioner also argues that a person of ordinary skill in the art would have had reason to "modify Yu's microcontroller to inhibit operation of the device and connecting the internal battery to the output when it is discharged, as taught by Richardson," as a way to detect and avoid the drawbacks of using partially or severely discharged batteries. Pet. 71–72.

Patent Owner does not dispute that Yu and Richardson disclose the limitations in claims 5 and 13. As to the combination of the teachings of Yu and Richardson, Patent Owner relies on the same arguments discussed above in connection with claims 1, 4, and 7, including an argument that "Dr. Kirtley provides inapposite opinions regarding the superiority of solid-state switches." PO Resp. 8.

After considering the parties' arguments and evidence, we find Petitioner has established, by a preponderance of the evidence, that claims 5 and 13 are unpatentable as obvious in view of Yu and Richardson. Based on the evidence and arguments Petitioner presents in the Petition regarding claims 5 and 13, we find Petitioner has presented persuasive evidence

demonstrating where the prior-art references teach or suggest each limitation in claims 5 and 13. Pet. 72–75; Ex. 1009, ¶¶ 22, 28–29, 55, Figs. 3–8.

Additionally, Petitioner directs us to a disclosure in Richardson itself regarding safety features that inhibit the closing of a switch to connect the battery power source to a load for charging when the battery level is too low, and presents testimony from Dr. Kirtley that a person of ordinary skill in the art would have considered Richardson's teaching to improve the safety features of Yu's system. Pet. 71–75; Reply 21–22; Ex. 1009 ¶ 28, Figs. 3 and 5; Ex. 1004 ¶¶ 233–241. Patent Owner and Mr. McAlexander do not challenge or otherwise refute this testimony. PO Resp. 9–10. Thus, contrary to Patent Owner's assertions, Petitioner does direct us to evidence in the asserted prior-art references themselves supporting a reason to combine their teachings, and does not rely solely on conclusory statements from Dr. Kirtley regarding the similarities of Yu and Richardson to support its obviousness challenge.

In view of Petitioner's persuasive evidence demonstrating where the prior-art references teach or suggest each limitation in the challenged claims, and explaining why a person of ordinary skill in the art would have had reason to combine the prior-art references with a reasonable expectation of success, we find Petitioner has established, by a preponderance of the evidence, that claims 5 and 13 are unpatentable as obvious in view of Yu and Richardson.

III. CONCLUSION

After reviewing the complete record developed during the course of the trial, we conclude that Petitioner has satisfied its burden of demonstrating, by a preponderance of the evidence, that claims 1 and 4–20

of the '653 patent are unpatentable.[15] Petitioner, however, has not demonstrated by a preponderance of the evidence that claim 3 of the '653 patent is unpatentable.

IV. ORDER

For the reasons given, it is:

ORDERED that Petitioner has established by a preponderance of the evidence that claims 1 and 4–20 of the '653 patent are unpatentable;

FURTHER ORDERED that Petitioner has not established by a preponderance of the evidence that claim 3 of the '653 patent is unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

[15] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this Decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

Claim(s)	35 U.S.C. §	References/ Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
1, 3, 6	103	Yu, Klang, Koebler	1, 6	3
4, 7–12, 14–20	103	Yu, Klang, Koebler, Thomason	4, 7–12, 14–20	
5, 13	103	Yu, Klang, Koebler, Richardson	5, 13	
Overall Outcome			1, 4–20	3

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

THE NOCO COMPANY, INC.,
Petitioner,

v.

PILOT, INC.,
Patent Owner.

IPR2021-00777
Patent 10,046,653 B2

Before JEFFREY W. ABRAHAM, JULIA HEANEY, and STEVEN M. AMUNDSON, *Administrative Patent Judges.*

ABRAHAM, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining Some Challenged Claims Unpatentable
35 U.S.C. § 318

I. INTRODUCTION

A. Background and Summary

The Noco Company, Inc. ("Petitioner") filed a petition for an *inter partes* review (Paper 1 ("Pet.")) challenging claims 1, 3–9, 11–18, and 20 of U.S. Patent No. 10,046,653 B2 (Ex. 1001 ("the '653 patent")). Pilot Inc. ("Patent Owner") did not file a Preliminary Response.

On October 5, 2021, we instituted *inter partes* review of claims 1, 3–9, 11–18, and 20. Paper 7 ("Institution Decision" or "Inst. Dec."). After institution, Patent Owner filed a Response to the Petition (Paper 10, "PO Resp."), Petitioner filed a Reply to Patent Owner's Response (Paper 13, "Reply"), and Patent Owner filed a Sur-reply (Paper 14, "Sur-reply").

On July 6, 2022, the parties presented arguments at an oral hearing for this proceeding. We have entered a transcript of the hearing into the record. Paper 21 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6. We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a). Based on the record before us, we conclude that Petitioner has shown, by a preponderance of the evidence, that claims 1, 4–9, 11–18, and 20 of the '653 patent are unpatentable, but has not shown that claim 3 is unpatentable.

II. BACKGROUND

A. Related Matters

The parties state that the '653 patent is at issue in one currently pending district court litigation: *Pilot Inc. v. The NOCO Company, Inc.*, No. 2:20-cv-01452 (D. Ariz.) ("the District Court proceeding"). Pet. 1; Paper 3, 2. The parties also indicate that the '653 patent was at issue in three other litigations that have been dismissed without prejudice. Pet. 2; Paper 3, 2–3.

B. The '653 Patent (Ex. 1001)

The '653 patent, titled "Automobile Charger," issued August 14, 2018, and is directed to "a novel automobile charger with a safe power supply charging quickly." Ex. 1001, codes (45), (54), 1:11–13. The '653 patent explains that prior-art automobile charging devices, i.e., devices for jump starting vehicles, suffered from various problems, including an inability to automatically detect whether a load (e.g., an automobile storage battery) is connected, whether an automobile engine or storage battery has a reverse current, and whether the battery state is suitable for heavy power generation. Ex. 1001, 1:18–24. The '653 patent aims to solve these problems, and depicts one solution in Figure 1, reproduced below.

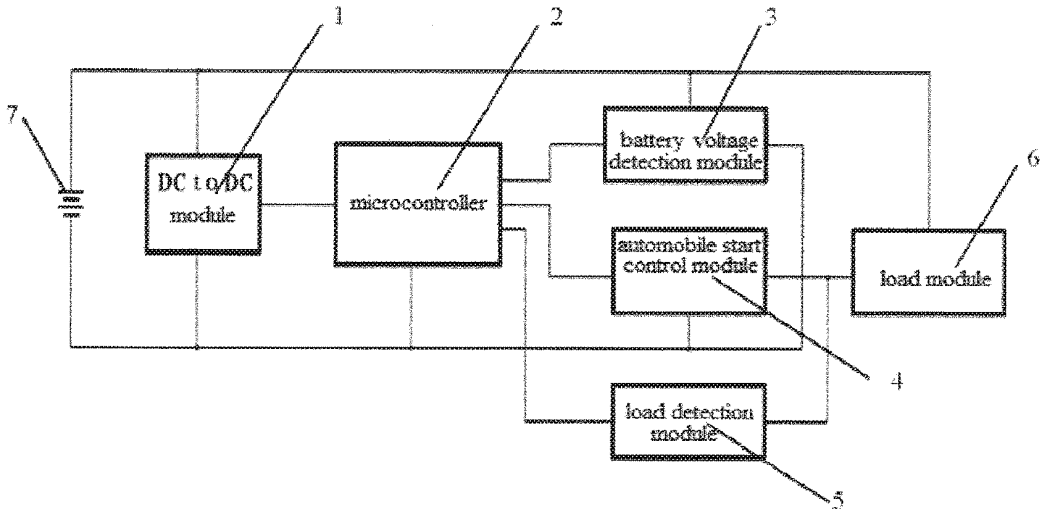


Figure 1 is a block diagram showing one embodiment of an automobile charger that includes DC to DC module 1, microcontroller 2, battery voltage detection module 3, automobile start control module 4, load detection module 5, load module 6, and direct current power supply 7 (the

jump starter battery). Ex. 1001, 2:55–58. Although not shown in Figure 1, the '653 patent states that load module 6 "comprises the automobile storage battery and the automobile engine is located on the end of the load module." Ex. 1001, 3:23–25.

The '653 patent explains that the DC to DC module provides "the stable voltage for the microcontroller which collects relevant data" and "determines whether the automobile storage battery is connected with the automobile engine through the load detection module." Ex. 1001, 4:4–16. When the load is correctly connected, the automobile start control module (an electronic switch) is automatically activated, and the battery starts to supply power to the load module. Ex. 1001, 2:18–19, 4:16–18. If the load is not connected, or positive and negative polarities are reversed, the automobile start control module is automatically deactivated, and the battery stops supplying power to the load module. Ex. 1001, 4:19–23.

The '653 patent explains that its automobile charger provides benefits over prior-art devices, including, *inter alia*, (1) controlling the supply power for the load, which protects the product and reduces the product size and material cost, (2) providing low voltage protection to prevent damage caused by over-discharging the battery, (3) preventing improper operations by the user, such as reversed polarity, which can cause damage to the automobile or direct current power supply, and (4) employing voltage backflow protection for an abnormal load, wherein the automobile start line is closed to protect the battery when an abnormal voltage is detected. Ex. 1001, 2:20–36.

C. Illustrative Claims

Of the challenged claims, claims 1, 7, and 17 are independent claims. Claims 1 and 7 are illustrative, and are reproduced below.

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.

Ex. 1001, 5:2–20.

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.

Ex. 1001, 6:28–35. Independent claim 17 is a method claim containing limitations similar to those in claim 7. Ex. 1001, 7:6–13.

D. Reviewed Unpatentability Challenges

We review the following challenges from the Petition:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
7–9, 11, 12, 14–18, 20	102	Richardson[1]
13	103	Richardson, George[2]
1, 3–6	103	Richardson, Krieger[3]
7–9, 11, 12, 14–18, 20	102	Baxter[4]
1, 3–6	103	Baxter, Krieger

Petitioner relies on declarations from Alex Z. Kattamis, Ph.D. Ex. 1008 ("Kattamis Declaration"); Ex. 1016 ("Kattamis Reply Declaration"). Patent Owner deposed Dr. Kattamis, and filed the transcript of the deposition as Exhibit 2002 in this proceeding.

Patent Owner relies on a declaration from Joseph McAlexander III. Ex. 2005. Petitioner deposed Mr. McAlexander, and filed the transcript of the deposition as Exhibit 1015.

III. ANALYSIS

A. Legal Standards

"In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable." *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review

[1] US 2009/0174362 A1, published July 9, 2009 (Ex. 1003).
[2] US 6,803,743 B2, issued Oct. 12, 2004 (Ex. 1006).
[3] US 7,345,450 B2, issued Mar. 18, 2008 (Ex. 1005).
[4] US 2010/0173182 A1, published July 8, 2010 (Ex. 1004).

petitions to identify "with particularity . . . the evidence that supports the grounds for the challenge to each claim")). This burden of persuasion never shifts to Patent Owner. *See Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. Inc., v. Union Oil Co.*, 814 F.2d 628, 631 (Fed. Cir. 1987); *see also Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1334 (Fed. Cir. 2008) (to anticipate a patent claim under 35 U.S.C. § 102, "a single prior art reference must expressly or inherently disclose each claim limitation"). Moreover, "[b]ecause the hallmark of anticipation is prior invention, the prior art reference—in order to anticipate under 35 U.S.C. § 102—must not only disclose all elements of the claim within the four corners of the document, but must also disclose those elements 'arranged as in the claim.'" *Net MoneyIN, Inc. v. VeriSign, Inc.*, 545 F.3d 1359, 1369 (Fed. Cir. 2008) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)).

Whether a reference anticipates is assessed from the perspective of one of ordinary skill in the art. *See Dayco Prods., Inc. v. Total Containment, Inc.*, 329 F.3d 1358, 1368 (Fed. Cir. 2003) ("'[T]he dispositive question regarding anticipation [i]s whether one skilled in the art would reasonably understand or infer from the [prior art reference's] teaching' that every claim element was disclosed in that single reference." (alterations in original) (quoting *In re Baxter Travenol Labs.*, 952 F.2d 388, 390 (Fed. Cir. 1991))). Additionally, "[u]nder the principles of inherency, if the prior art necessarily

functions in accordance with, or includes, the claimed limitations, it anticipates." *MEHL/Biophile Int'l Corp. v. Milgraum*, 192 F.3d 1362, 1365 (Fed. Cir. 1999) (citation omitted); *In re Cruciferous Sprout Litig.*, 301 F.3d 1343, 1349–50 (Fed. Cir. 2002).

A claim is unpatentable under 35 U.S.C. § 103 if "the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art" to which said subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) when present, objective evidence of nonobviousness.[5] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

To show obviousness, it is not enough to merely show that the prior art includes separate references covering each separate limitation in a challenged claim. *Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1360 (Fed. Cir. 2011). "This is so because inventions in most, if not all, instances rely upon building blocks long since uncovered, and claimed discoveries almost of necessity will be combinations of what, in some sense, is already known." *KSR*, 550 U.S. at 418–419. On the other hand, an obviousness analysis "need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences

[5] The parties have not asserted or otherwise directed our attention to any objective evidence of nonobviousness.

and creative steps that a person of ordinary skill in the art would employ." *KSR*, 550 U.S. at 418; *accord In re Translogic Tech., Inc.*, 504 F.3d 1249, 1259 (Fed. Cir. 2007).

B. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art "would have had an undergraduate degree in electrical engineering (or equivalent subject) together with two or three years of experience in [the] automotive electrical systems industry." Pet. 11–12 (citing Ex. 1008 ¶ 13). Patent Owner does not challenge Petitioner's definition or offer its own. Mr. McAlexander indicated that he adopted Petitioner's definition for purposes of his declaration. Ex. 2005 ¶ 16.

In light of the record before us, we adopt Petitioner's proposal regarding the level of ordinary skill in the art. Based on our review of the '653 patent and the prior art of record, we determine that the definition offered by Petitioner comports with the qualifications a person would have needed to understand and implement the teachings of the '653 patent and the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required "where the prior art itself reflects an appropriate level and a need for testimony is not shown") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)).

C. Claim Construction

In an *inter partes* review, we construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b) (2022). Under *Phillips*, claim terms are afforded "their ordinary and customary meaning." *Phillips*, 415

F.3d at 1312. "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313. "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.*

Petitioner argues that "most of the [claim] terms can be given . . . the ordinary meaning they would have to a person of ordinary skill in the art of automobile chargers and jump starters." Pet. 14. Petitioner identifies two exceptions, and proposes constructions for (1) "conducts power supply or power outage for the load through the microprocessor" in claim 3 and (2) "recharging level" in claims 12 and 13. Pet. 15–17.

1. "conducts power supply or power outage for the load through the microcontroller"

Claim 3 depends from claim 1 and recites that "the switching circuit conducts power supply or power outage for the load through the microcontroller." Ex. 1001, 6:13–14. Petitioner contends we should construe the term "conducts power supply or power outage for the load through the microcontroller" in claim 3, to mean "[t]he power for charging the load passes through the microcontroller," arguing that, according to the plain meaning of the claim language, the actual power for charging the load must literally be conducted through the microprocessor chip. Pet. 15 (quoting Ex. 1010, 13–14; citing Ex. 1001, 1:62–65 and *Chef Am., Inc. v. Lamb-Weston, Inc.*, 358 F.3d 1371, 1373 (Fed. Cir. 2004)); Reply 3–6; Tr. 18:15–18. Petitioner argues that support for this construction is found at column 1, lines 62–65 of the '653 patent. Petitioner states that this

construction is the same construction it proposed in the District Court proceeding, and acknowledges that if we adopt this construction, claim 3 would not be unpatentable based on the grounds set forth in the Petition. Pet. 15; Tr. 17:25–18:2, 18:18–20.

Patent Owner does not directly challenge Petitioner's proposed construction or offer its own in this proceeding. *See* PO Resp. 3–4; Reply 6–7. In the District Court proceeding, however, Patent Owner proposed the phrase "the switching circuit conducts power supply or power outage for the load through the microcontroller" should be interpreted to mean that "the switching circuit connects power to, or disconnects power from, the load under the control of the microcontroller." Pet. 15; Ex. 1012, 2. Petitioner contends that under Patent Owner's proposed construction in the District Court proceeding, claim 3 is unpatentable based on the grounds set forth in the Petition. Pet. 15. Patent Owner criticizes Petitioner for asserting inconsistent claim construction arguments in this proceeding and the District Court proceeding. PO Resp. 3–4.

After considering the parties' arguments and evidence, we adopt Petitioner's proposed construction of the phrase "the switching circuit conducts power supply or power outage for the load through the microcontroller." Petitioner's construction is consistent with the plain language of the claim, and comports with the Federal Circuit's decision in *Chef America*. Ex. 1001, 6:13–14; *Chef Am.*, 358 F.3d at 1373–74 (holding that courts may not redraft claims to make them operable or sustain their validity, and construing the claims "based on the patentee's version of the claim as he himself drafted it"). Additionally, the Specification of the '653 patent states that "the automobile start control module conducts the power

supply or power outage for the load module through the microcontroller." Ex. 1001, 1:61–65. Furthermore, Patent Owner does not challenge Petitioner's arguments or evidence, or present a competing construction. In view of this, we construe the phrase "the switching circuit conducts power supply or power outage for the load through the microcontroller" to mean "[t]he power for charging the load passes through the microcontroller." Pet. 15; Reply 3–6.

2. "recharging level"

Petitioner argues that the term "recharging level" in claims 12 and 13 refers to the voltage level of the jump starter battery (i.e., the "first battery" in claims 7, 12, and 13) after a jump start operation has begun. Pet. 16. In support of its argument, Petitioner directs us to a portion of the Specification discussing the automobile engine generating "abnormal voltage to recharge the direct current power supply after the automobile starts." Pet. 16 (citing Ex. 1001, 4:37–43); Reply 6 (arguing again that "recharging level of the first battery" refers to "the recharging level of the jump starter battery, i.e., the power supply"). In view of this, Petitioner contends the term "recharging level" should be interpreted to mean "the level of the first battery after it is connected to the load." Pet. 17.

Patent Owner does not directly challenge Petitioner's proposed construction or offer its own in this proceeding. *See* PO Resp. 3–4; Reply 6–7.

After considering the parties' arguments and evidence, we adopt Petitioner's proposed construction of the term. Petitioner's construction is consistent with the plain language of the claim and supported by the Specification. Ex. 1001, 4:37–43, 6:57–58. Furthermore, Patent Owner

does not challenge Petitioner's arguments or evidence, or present a competing construction. In view of this, we construe the term "recharging level" to mean "the level of the first battery after it is connected to the load." Pet. 17.

We determine that we do not need to expressly construe any other terms for purposes of this Decision. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) ("[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.")).

D. The Kattamis Declaration

As noted above, Petitioner relies on the Kattamis Declaration (Ex. 1008) to support its unpatentability challenges.

In its Patent Owner Response, Patent Owner argues that we should give the opinions of Dr. Kattamis in the Kattamis Declaration little or no weight because Petitioner and Dr. Kattamis failed to disclose the origin and basis of Dr. Kattamis' opinions. PO Resp. 6 (citing 37 C.F.R. § 42.65(a)). Specifically, Patent Owner contends that the Kattamis Declaration "is copied in significant part, word-for-word, from the declaration of" Dr. Souri in IPR2018-00488 ("the 488 IPR"), involving related U.S. Patent No. 9,525,297.[6] According to Patent Owner, "[t]he precise appropriation is present not only in the background recital, but also in crucial analysis sections of the report, such as the alleged motivations to combine the referenced prior art." PO Resp. 6–7.

[6] Patent Owner submitted Dr. Souri's declaration from IPR2018-00488 as Exhibit 2001 in this proceeding.

Patent Owner asserts that "the source of this copied analysis was not disclosed in the Petition," and states that

> Dr. Kattamis' Declaration itself makes no reference to or disclosure of the apparent source of much of its text. . . . Dr. Kattamis failed to provide a specific list of the materials relied on in forming his opinion. Rather, Dr. Kattamis makes a general statement that he "relied on the '653 Patent claims, disclosure and prosecution history, the prior art exhibits to the Petition for Inter Partes Review of the '653 Patents, and my own experience, expertise and knowledge of a person of ordinary skill in the relevant art in the relevant timeframe." Exhibit 1008 at 11. Obviously, this statement does not reveal reliance on the Declaration of Dr. Souri or any other materials from IPR2018-00488. *Id.*

PO Resp. 10.

Additionally, Patent Owner states that Dr. Kattamis "did not or could not reveal" the source of his analysis when deposed. PO Resp. 10; *see also* PO Resp. 6–7 ("Notwithstanding the amount of text copied, even after his deposition, it is unclear whether Dr. Kattamis was aware of the source of the text that makes up a substantial and dispositive portion of his Declaration."). In particular, Patent Owner asserts it questioned Dr. Kattamis about the similarities between the Kattamis and Souri Declarations during the deposition of Dr. Kattamis. PO Resp. 11–12. According to Patent Owner, Dr. Kattamis testified that although there "may be background material that was similar," he did not "rely on any materials" from the 488 IPR in preparing his own Declaration. PO Resp. 12. Patent Owner asserts this "strains credulity" considering "the record evidence shows that analysis in the Kattamis Declaration submitted by Petitioner is largely copied" from Dr. Souri's Declaration. PO Resp. 12–13, 17 ("Substantial analysis of the patent, the references themselves, and, most importantly, assertions of

motivations to combine those references are all copied with scarce editing from another's opinions on a different patent and different references.").

Patent Owner further contends that despite being given multiple opportunities to correct his declaration and admit that he relied on materials from the 488 IPR, Dr. Kattamis "continued to deny the obvious copying." PO Resp. 18. Patent Owner, therefore, argues that "Petitioner and Dr. Kattamis have failed to disclose the underlying basis for his opinion, as they were copied from another, meaning the declaration of Dr. Kattamis must be given 'no weight.'" PO Resp. 18.

In addition to its repeated allegations of copying, Patent Owner states that

> Perhaps the more charitable possible reading of the circumstances is that this is an instance of auto-plagiarism—Dr. Kattamis reusing materials that he wrote previously when working with Dr. Souri. Even if this interpretation is correct though, the situation remains deeply troubling and warrants striking or giving no weight to the Kattamis' Declaration. Despite attempts to interrogate the source of opinions in the Kattamis Declaration, Patent Owner and the Board simply cannot know the source and basis of the opinions expressed in the Kattamis Declaration.

PO Resp. 17; *see also* PO Resp. 7 n.1 (recognizing that "[t]his may be auto-plagerism [sic]" and "[i]t is possible Dr. Kattamis wrote the background on behalf of Dr. Souri" because "Dr. Kattamis stated at his deposition that he previously did work for Dr. Souri, who is more senior at Exponent, the company where both experts worked at the time."); Sur-reply 8 (addressing the possibility of auto-plagiarism).

In its Reply, Petitioner confirms that Dr. Kattamis (not Dr. Souri) wrote the material that Patent Owner alleges Dr. Kattamis copied from the

Souri Declaration and used in the Kattamis Declaration. Reply 7. Petitioner explains that Dr. Souri hired Dr. Kattamis to work at Exponent in 2007, and, in that capacity, Dr. Kattamis worked on the 488 IPR, for which Dr. Souri served as the expert declarant. Reply 8. Dr. Kattamis states that the material he prepared while working on the 488 IPR was "still on Exponent's file servers when he was retained by Petitioner in this matter, and that it was these files that he reviewed and adapted, separate and apart from any files containing Dr. Souri's executed declaration." Reply 8 (citing Ex. 1016 ¶ 6).[7] According to Petitioner, "[t]here simply is nothing unusual, let alone disqualifying, about an expert witness using material that he himself had prepared in connection with an earlier matter in a later, related proceeding." Reply 9.

After reviewing the parties' arguments and evidence, we disagree with Patent Owner that the Kattamis declaration, in its entirety, should be afforded little or no weight pursuant to 37 C.F.R. § 42.62(a) because we are unable to "determine the basis for the opinions expressed in the Kattamis Declaration." Sur-reply 8; PO Resp. 10. Contrary to Patent Owner's assertion that Dr. Kattamis failed to state the source or basis for his opinions, Dr. Kattamis states in the Kattamis Declaration that

> In forming my opinion, I have relied on the '653 Patent claims, disclosure and prosecution history, the prior art exhibits to the Petition for *Inter Partes* Review of the '653 Patents, and my own

[7] Patent Owner argues this is improper reply evidence. Sur-reply 1, 5–6. We disagree. In its Reply, Petitioner is entitled to "respond to arguments raised in the corresponding . . . patent owner response." 37 C.F.R. § 42.23(b). A party also may submit rebuttal evidence in support of its reply. *See Belden Inc. v. Berk-Tek LLC*, 805 F.3d 1064, 1077–78 (Fed. Cir. 2015).

> experience, expertise and knowledge of a person of ordinary skill in the relevant art in the relevant timeframe.

Ex. 1008 ¶ 12 (under the heading "Basis for My Opinion"). In addition to this general statement, Dr. Kattamis also cites to exhibits in specific paragraphs of the Kattamis Declaration to support the statements made therein. *See, e.g.*, Ex. 1008 ¶ 18 (citing Ex. 1013), ¶ 22 (citing Ex. 1014), ¶¶ 63–68 (citing Krieger and Richardson), ¶¶ 70–74 (citing Baxter and Krieger), ¶¶ 76–79 (citing Richardson and George). In view of this, we consider Dr. Kattamis to have provided a sufficient disclosure regarding the basis for his opinions to at least avoid a determination that the Kattamis Declaration, in its entirety, is entitled to little or no weight.

The fact that Dr. Kattamis, in preparing the Kattamis Declaration, re-used material he had previously written for an earlier proceeding involving a different patent does not justify a different outcome. To the extent Dr. Kattamis used previously prepared material in the Kattamis Declaration, he indicates that he "reviewed all of these passages in detail and confirmed that they were all still accurate and suitable for inclusion in his declaration in the current proceeding." Reply 8; Ex. 1016 ¶ 6. Additionally, as Patent Owner demonstrates, Dr. Kattamis supplemented the re-used material by adding, where appropriate and necessary, language directed to the facts of this proceeding and specific citations to exhibits in this proceeding. *See* PO Resp. 8–9 (showing in redline the additions Dr. Kattamis included in the Kattamis Declaration).

Furthermore, Patent Owner acknowledges that "[h]ad Dr. Kattamis said at his deposition or in his report, for example, 'I relied on materials that I wrote years ago for someone else about a different patent,' there would be

no issue of failure to disclose." Sur-reply 8. Although perhaps not recited using this exact language, Dr. Kattamis did provide testimony during his deposition suggesting he relied on material prepared previously for Dr. Souri:

> Q: Okay. Did you use [the Souri Declaration] to draft your declaration in this case?
>
> A: I mean so there is language in here that may be part of technical background that I may have initially assisted in the original draft when this document was written, and so there may be some similarities in background of the patents, that kind of thing.
>
> Q: How much of it do you think is the same?
>
> A: I don't know. In terms of word count or like -- in terms of the analysis and limitation by limitation analysis, I would say none. There may be similarities in, like I said, in background of each of the patents, that kind of thing.

Ex. 2002, 108:14–109:7 (objection omitted). This evidence undermines Patent Owner's argument that "[d]espite attempts to interrogate the source of opinions in the Kattamis Declaration," the Board "could not determine the basis for the opinions expressed in the Kattamis Declaration from the Petition or deposition questioning." Sur-reply 8 (alteration in original).

For all of the foregoing reasons, we disagree with Patent Owner's argument that Dr. Kattamis' Declaration is improper and should be given little or no credit. PO Resp. 13.

E. Claims 7–9, 11, 12, 14–18, and 20 – Anticipation by Richardson

Petitioner contends Richardson anticipates claims 7–9, 11, 12, 14–18, and 20 of the '653 patent. Pet. 19–30. Patent Owner argues that "[i]f the

Board agrees that Dr. Kattamis' Declaration is entitled to no weight, there is a lack of evidence supporting any of Petitioner's Grounds, which should now all be denied on this basis alone." PO Resp. 18–19. Patent Owner does not otherwise challenge Petitioner's contentions that Richardson anticipates claims 7–9, 11, 12, 14–18, and 20 of the '653 patent. PO Resp. 5 ("Patent Owner does not provide any further argument regarding anticipation under Grounds 1 and 4."); Reply 2.

1. Richardson (Ex. 1003)

Richardson discloses a "portable power source for a motor vehicle," (i.e., a jump starter), that "performs real-time monitoring of all system parameters to increase the safety and effectiveness of the unit's operation while providing additional parametric and diagnostic information obtained before, during and after the vehicle starting operation." Ex. 1003 ¶¶ 1, 5. Richardson explains that its method and apparatus include a programmable microprocessor that receives inputs and includes several outputs to provide information to the user and to control the application of power to the vehicle to be jump started. Ex. 1003 ¶¶ 11, 13. Richardson also discloses several sensors that monitor different parameters such as the voltage level of one or more jump starter batteries, the voltage of the vehicle battery, the polarity of the jumper cables, and the temperature of a shunt cable. Ex. 1003 ¶ 12. According to Richardson, "[t]he voltage is monitored to determine open circuit, disconnected conductive clamps, shunt cable fault, and solenoid fault conditions," and the "current through the shunt cable is monitored to determine if there is a battery explosion risk, and for excessive current conditions presenting an overheating condition, which may result in fire." Ex. 1003 ¶ 6.

2. Analysis

a. Claim 7

Petitioner first contends the preamble of claim 7, reciting "[a] charging device," is not limiting, but even if it were treated as an element of the claim, Richardson describes certain situations when its jump starter "will start to charge the vehicle's battery before any starting operation begins." Pet. 20–21 (quoting Ex. 1003 ¶ 41).

Claim 7 next recites "a battery level detector to detect a level of a first battery." Ex. 1001, 6:29. For this limitation, Petitioner directs us to Richardson's statement that "battery voltage sensor 20 monitors the voltage level of one or more jump starter batteries 22." Pet. 21 (quoting Ex. 1003 ¶ 12).

Petitioner also argues that reverse voltage sensor 24 in Richardson "is an electrical circuit that determines whether the load is correctly connected," and, therefore, corresponds to "a load detector to detect a type of connection of a load" as claim 7 requires. Pet. 21 (citing Ex. 1003 ¶ 20; Ex. 1008 ¶¶ 86–87).

Claim 7 also requires "a microcontroller to generate an output signal based on the level of the first battery and the type of connection of the load." Ex. 1001, 6:31–33. For this limitation, Petitioner asserts that Richardson discloses that microprocessor 12 generates contact relay control signal 58 based on, at least in part, input from battery level detector 20 and reverse voltage sensor 24. Pet. 22 (citing Ex. 1003, Figure 1; Ex. 1008 ¶ 89).

Finally, claim 7 recites "switching circuitry to selectively connect the first battery to the load based on the output signal." Ex. 1001, 6:34–35. According to Petitioner, "Richardson also discloses that the microprocessor

12 controls the contact relay **34** based upon the reverse polarity sensor determining that the jump starter is correctly connected to the vehicle." Pet. 22–23 (citing Ex. 1003 ¶ 20; Ex. 1008 ¶ 91).

As noted above, Patent Owner does not dispute that Richardson discloses the limitations in claim 7. After reviewing the evidence and arguments Petitioner presents in the Petition regarding claim 7, including the relevant portions of the supporting Kattamis Declaration,[8] we agree, for the reasons explained in the Petition, that Richardson discloses a charging device comprising a battery level detector (battery voltage sensor 20), load detector (reverse voltage sensor 24), microcontroller (microprocessor 12), and switching circuitry (contact relay 34/contact relay control output 58), as claim 7 requires. Pet. 20–22; Ex. 1008 ¶¶ 82–91. Accordingly, Petitioner has established, by a preponderance of the evidence, that Richardson anticipates claim 7.

b. Claims 8, 9, 11, 12, 14–18, and 20

Claims 8, 9, 11, 12, and 14–16 depend directly or indirectly from claim 7. Petitioner directs us to portions of Richardson that disclose the additional limitations in these claims. Pet. 23–27.

Independent claim 17 contains limitations similar to those in claim 7, and Petitioner relies on the same arguments for claim 17 as it does for claim 7. Pet. 28–29. Claim 18 depends from claim 17, and claim 20 depends from claim 18. Petitioner directs us to portions of Richardson that disclose the additional limitations in these claims. Pet. 29.

[8] For the reasons discussed above, we do not agree with Patent Owner's argument that the Kattamis Declaration is entitled to no little or no weight.

Patent Owner does not dispute that Richardson discloses the limitations in claims 8, 9, 11, 12, 14–18, and 20. After reviewing the evidence and arguments Petitioner presents in the Petition regarding these claims, including the relevant portions of the supporting Kattamis Declaration, we agree, for the reasons explained in the Petition and Reply, that Richardson discloses all of the limitations in these claims. Pet. 23–29; Ex. 1008 ¶¶ 93–139. Accordingly, Petitioner has established, by a preponderance of the evidence, that Richardson anticipates claims 8, 9, 11, 12, 14–18, and 20.

3. Conclusion

For all of the foregoing reasons, we determine Petitioner has demonstrated, by a preponderance of the evidence, that Richardson anticipates claims 7–9, 11, 12, 14–18, and 20.

F. Claim 13 – Obviousness in view of Richardson and George

Petitioner argues that claim 13 is unpatentable in view of Richardson and George. Pet. 30–32. Patent Owner argues that Petitioner has not provided substantial evidence that a skilled artisan would have been motivated to combine these references. PO Resp. 21.

1. George (Ex. 1006)

George discloses a "jump start protection circuit having a normally open switch" and a controller that manipulates the switch between an open and closed position. Ex. 1006, code (57). The controller measures voltages at the battery and a jump start post, and moves the switch to a closed position, thereby connecting the jump start post to the battery, when it detects acceptable jump start conditions. Ex. 1006, code (57). According to George, its circuit "provides protection against attempts to charge a battery

with incorrect polarity connections and attempts to charge a battery from a potentially hazardous higher voltage power." Ex. 1006, code (57). George explains that one example of a condition that would cause its switch to open includes the voltage at the battery or jump start post exceeding a predefined range for a predefined period of time. Ex. 1006, 5:55–64.

2. Analysis

Claim 13 depends from claim 12, and requires that "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." Ex. 1001, 6:59–63.

Petitioner relies on its arguments and evidence demonstrating that Richardson discloses all of the elements in claim 12, and acknowledges that Richardson does not expressly disclose the additional limitation in claim 13. Pet. 30–31. Petitioner, however, contends that Richardson discloses that it will determine that a start cycle has been completed based on a measurement of the starting current, and will open the contact relay when the current drops below a threshold. Pet. 31 (citing Ex. 1003 ¶ 40; Ex. 1008 ¶ 142). Petitioner further contends that "George discloses that its switch will be opened if the voltage of the power source is too high as compared to the vehicle battery." Pet. 31 (citing Ex. 1006, 5:64–6:2; Ex. 1008 ¶ 144).

According to Petitioner

> It would have been obvious to a person of ordinary skill in the art to modify Richardson's microcontroller programming to open the contact relay when the voltage level detector detects a voltage that is higher than a given level as described in George, either in place of or in addition to Richardson's current sensing method. If in place of Richardson's method, this would provide the advantage of simplifying the circuit and reducing cost by

> avoiding the need for the current-sensing circuit elements; if in addition to Richardson's method, this would provide the advantage of redundancy for safety purposes. (Kattamis ¶¶76-80, 145-146.).

Pet. 31–32; *see also* Reply 11 (noting that "Dr. Kattamis has testified that Richardson can be modified using the George reference to monitor for excess voltage using a voltage sensor rather than the convoluted current sensing mechanism of Richardson for determining when to open the switch").

Patent Owner does not dispute that George discloses the additional limitation in claim 13, but challenges Petitioner's proposed combination of Richardson and George. PO Resp. 27–28. In particular, Patent Owner asserts that Petitioner relies solely on four conclusory statements regarding the similarity of Richardson and George to support its obviousness challenge for claim 13. PO Resp. 27–28. According to Patent Owner, identifying similarities between prior-art references is not sufficient for establishing a *prima facie* case of obviousness. PO Resp. 28.

After considering the parties' arguments and evidence, we find Petitioner has established, by a preponderance of the evidence, that claim 13 is unpatentable as obvious in view of Richardson and George. Petitioner presents undisputed evidence that Richardson and George teach or suggest all of the limitations in claim 13. Pet. 30–32. Petitioner also presents testimony from Dr. Kattamis that a person of ordinary skill in the art could and would have either modified Richardson in view of George to simplify the circuit and reduce cost, or would have substituted George's method for Richardson's to provide redundancy for safety purposes. Pet. 31; Reply 11; Ex. 1008 ¶¶ 145–146. Patent Owner and Mr. McAlexander do not challenge

or otherwise refute this testimony. PO Resp. 27–28; Sur-reply 2 (admitting that "Patent Owner did not attempt to contradict the substantive evidence presented by the Petitioner" in its Response); Ex. 1015, 52:19–53:19 (Mr. McAlexander conceding he did not refute Dr. Kattamis' opinion regarding claim 13). Thus, contrary to Patent Owner's assertions, Petitioner does not rely solely on conclusory statements regarding the similarities of Richardson and George to support its obviousness challenge.

In view of Petitioner's undisputed evidence demonstrating where the prior-art references teach or suggest each limitation in the challenged claims, and explaining why a person of ordinary skill in the art would have had reason to combine the prior-art references with a reasonable expectation of success, we find Petitioner has established, by a preponderance of the evidence, that claim 13 is unpatentable as obvious in view of Richardson and George.

G. Claims 1 and 3–6 – Obviousness in view of Richardson and Krieger

Petitioner contends that claims 1 and 3–6 are unpatentable as obvious in view of Richardson and Krieger.[9] Pet. 32–46. Patent Owner contends that Petitioner has failed to provide substantial evidence of obviousness. PO Resp. 20, 28–47.

1. Krieger (Ex. 1005)

Krieger discloses a "polarity protection circuit for a battery booster device." Ex. 1005, code (57). The polarity protection circuit is electrically

[9] Petitioner's unpatentability challenge of claim 3 is based on the construction of "conducts power supply or power outage for the load through the microprocessor" that Patent Owner presented in the District Court proceeding, which, for the reasons discussed above, we do not adopt.

connected to the battery to be charged and to the boosting battery, and prevents current flow between the batteries unless proper polarity is achieved. Ex. 1005, code (57). Krieger explains that the device ensures that the connection of the two batteries is made correctly and in a safe manner to prevent damage to the batteries, the vehicle, or a person. Ex. 1005, 1:43–51.

Krieger discloses the use of a switch coupled to one of the wires or battery cables to be connected to the depleted battery, which is activated to complete the boosting circuit between the boosting battery and the depleted battery "only when a correct polarity connection between the batteries is attained." Ex. 1005, 5:22–26. In one embodiment, a microprocessor controls a switch located between the negative pole of the boosting battery and the battery to be charged. Ex. 1005, 8:59–60, Fig. 1. In this configuration, the connection to the negative pole of the booster battery is made when the switch is closed. Ex. 1005, 8:59–9:10.

2. Analysis

a. Claim 1

Petitioner first contends the preamble of claim 1, reciting "[a]n automobile charger," is not limiting, but even if it were treated as an element of the claim, Richardson discloses an automobile charger. Pet. 33 (citing Ex. 1008 ¶ 150 and referring to its analysis regarding the preamble of claim 7); *see also* Pet. 20–21 (containing Petitioner's analysis of the preamble of claim 7 and quoting Ex. 1003 ¶ 41).

Claim 1 recites that its automobile charger comprises "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," and "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." Ex. 1001, 5:3–9. Petitioner contends that Richardson discloses a first battery (jump starter batteries 22), a power converter (shown in Richardson Figure 1), a battery level detector (the circuit formed by resistors 10.2K and 3.4K), a switching circuit (that includes contact relay 34), a microcontroller, and a load (including vehicle 28). Pet. 33 (citing Ex. 1008 ¶¶ 152–153; Ex. 1003, Fig. 2C), 37 (citing Ex. 1008 ¶ 160; Ex. 1003, Fig. 2C).

Petitioner further contends that Richardson discloses that the first pole of jump starter batteries 22 is connected to a first lead of the power converter and a first lead of the battery level detector. Pet. 34 (citing Ex. 1008 ¶ 154). Petitioner also argues that the second pole of jump starter battery 22 is the negative terminal, which is connected to a second lead of the power converter, a first lead of a microcontroller, and a second lead of the battery level detector, as claim 1 requires. Pet. 37 (citing Ex. 1008 ¶ 161).

Petitioner acknowledges that Richardson does not disclose that the first pole of the jump starter battery is connected to a first lead of the load, or that the second pole of the jump starter battery is connected to the first lead of the switching circuit. Pet. 34, 37. Petitioner explains that in Richardson, the first pole of the jump starter batteries is separated from the load by contact relay 34, which is normally open, and the second pole of the jump starter battery is connected to the second lead of the load via ground. Pet. 34. According to Petitioner, "[i]n effect, Richardson has the switching circuit . . . on the positive side of the load rather than the negative side as claimed in Claim 1." Pet. 34 (citing Ex. 1008 ¶ 155).

Petitioner states that Krieger discloses a jump starter system in which the first pole of the jump starter battery is connected to the first pole of the load without any intervening components, and the second pole of the load is connected to a switching circuit, as claim 1 requires. Pet. 35 (citing Ex. 1008 ¶ 156; Ex. 1005, Fig. 1). Thus, Petitioner argues that when the switching circuit in Richardson is moved from the positive side to the negative side, as disclosed by Krieger, the modified device satisfies the limitations of claim 1. Pet. 35–38.

Petitioner contends that "[a]s there are only two possible general locations to provide the switch in a circuit such as this – the positive side or the negative side – it would have been obvious to try locating the switch on the negative side," as disclosed in Krieger. Pet. 36 (citing Ex. 1008 ¶ 157). Petitioner adds that it is common in the automotive industry to instruct persons to connect the negative terminals last when performing a jump start because there will be some arc or spark wherever the final connection is made. Pet. 36. According to Petitioner, "[i]t is therefore advisable to have this connection be made away from the automobile battery, usually to ground via the engine block." Pet 36 (citing Ex. 1008 ¶¶ 63–69). Petitioner asserts this constitutes additional motivation for a person of ordinary skill to locate the switch in Richardson on the negative side, as disclosed in Krieger. Pet. 36.

Claim 1 additionally requires various connections (i) between the power converter and microcontroller; (ii) between the microcontroller and the battery level detector, the switching circuit, and a load detector, and (iii) between the load detector and the switching circuit and the load. Ex. 1001, 5:10–19. Petitioner directs us to portions of Richardson disclosing the

components and connections recited in claim 1. Pet. 38–41 (citing Ex. 1008 ¶¶ 163–164, 166–167, 169–170).

Lastly, claim 1 requires that "the load includes a second battery and a motor." Ex. 1001, 5:20. Petitioner contends that Richardson discloses a vehicle as the load, which contains a battery and a motor. Pet. 41 (citing Ex. 1008 ¶ 171; Ex. 1003 ¶ 3).

Patent Owner does not dispute Petitioner's arguments and evidence demonstrating that the combined teachings of Richardson and Krieger disclose or suggest all of the limitations in claim 1. *See* PO Resp. 20. Rather, Patent Owner argues Petitioner has failed to show a motivation to combine the prior-art references, including a failure to show any motivation to modify Richardson to use negative-side switching. PO Resp. 21–38. In particular, Patent Owner contends that Petitioner fails to point to any evidence in the asserted prior-art references themselves that provide a reason to combine their teachings, and therefore relies on statements in the Kattamis Declaration. Pet. 21. Patent Owner first states that Dr. Kattamis provides several rationales based on common characteristics in the prior art, which do not constitute substantial evidence of a motivation to combine. PO Resp. 22–27 (addressing paragraphs 63–66 of the Kattamis Declaration).

Patent Owner next criticizes paragraph 68 of the Kattamis Declaration, asserting that Dr. Kattamis simply indicates that Krieger discloses negative-side switching and then states a conclusion without a rationale, and relies on a known recommendation for safely using traditional jumper cables which provides no guidance to a designer of an integrated jump starter because "[t]he risks of traditional jumper cables are unlike the circumstances of using the devices of Richardson . . . or Krieger." PO Resp.

31–35; *see also* Sur-reply 9 ("Ultimately, the Petition does not show that a skilled artisan would have 'a good reason' to modify the prior art devices, which already work fine, and therefore fails to present a *prima facie* case of obviousness on any ground."). Patent Owner also challenges as conclusory Dr. Kattamis' testimony in paragraph 68 that a person of ordinary skill in the art could reconfigure Richardson to provide the switching circuitry on the negative side. PO Resp. 42–47. Patent Owner asserts that Richardson's self-test, self-diagnosis, and self-monitoring routines are complex and depend on its own connection solution that is opposite of what is disclosed in Krieger and the '653 patent. PO Resp. 46. According to Patent Owner, "Dr. Kattamis chooses to ignore the complexity involved in re-engineering and the many design changes that would be required to force Richardson into to the opposite structure disclosed in Claim 1 of the '653 Patent." PO Resp. 47.

In its Reply, Petitioner responds to Patent Owner's arguments challenging Dr. Kattamis' testimony by pointing out that Mr. McAlexander, during his deposition, stated that "placing the switch on the negative side as opposed to the positive side was '***so obvious*** to Richardson that he never covered it.'" Reply 15 (quoting Ex. 1015, 77). Additionally, in response to Mr. McAlexander's arguments regarding the complexity of modifying Richardson in view of Krieger, Petitioner presents testimony from Dr. Kattamis (in the Kattamis Reply Declaration) indicating that moving the switch in Richardson requires "only a few straight-forward structural changes," and that it took Dr. Kattamis less than an hour to determine how to modify the Richardson circuit. Reply 16–19 (citing Ex. 1016 ¶¶ 8–17).

Patent Owner argues that the testimony presented in the Kattamis Reply Declaration is improper because Patent Owner did not attempt to contradict the substantive evidence presented by Petitioner, but only pointed out deficiencies in the Petition. Sur-reply 2; *see also* Sur-reply 4 ("Ultimately, Patent Owner's argument on this point is not that the Kattamis declaration is wrong—Mr. McAlexander agrees that substitution is possible with 'many design changes.'"). According to Patent Owner, all of the evidence Petitioner presents in its Reply should have been included in the Petition. Sur-reply 10–11. To the extent we do consider the Reply evidence, Patent Owner characterizes the changes proposed by Dr. Kattamis as "extensive," and argues that they "reinforce that Mr. McAlexander is correct in saying that there would be insufficient motivation [to] alter the working prior art devices." Sur-reply 12.

After considering the parties' arguments and evidence, we find Petitioner has established, by a preponderance of the evidence, that claim 1 is unpatentable as obvious in view of Richardson and Krieger. Petitioner presents undisputed evidence that Richardson and Krieger teach or suggest all of the limitations in claim 1. Pet. 33–41; Ex. 1008 ¶¶ 150, 152–156, 160–161; Ex. 1003 ¶ 41; Fig. 2C; Ex. 1005, Fig. 1.

The evidence of record also supports Petitioner's contention that it would have been obvious to move the location of the electric switch from the positive side, as shown in Richardson, to the negative side, as shown in Krieger. Pet. 36; Reply 13–16; Ex. 1008 ¶ 157. In *KSR*, when discussing whether a combination of claimed elements would be obvious to try, the Supreme Court stated that

> When there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a person of ordinary skill in the art has good reason to pursue the known options within his or her technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

KSR, 550 U.S. at 421.

Here, Petitioner presents undisputed testimony that both Richardson and Krieger are directed to solving the same problem – the safety of battery charging devices. Ex. 1008 ¶¶ 63–68; *see* PO Resp. 23 ("None of these statements are . . . disputed."). Dr. Kattamis further testified that there are a limited number of general locations in which it would be possible to place the switch – the positive side or the negative side. Ex. 1008 ¶ 157; Pet. 36; Reply 13. Additionally, Mr. McAlexander, Patent Owner's declarant, testified that "negative side switching was so obvious to Richardson that he never covered it." Ex. 1015, 77:6–7. This evidence supports Petitioner's assertion that it would have been obvious to a person of ordinary skill in the art to try locating the switch in Richardson on the negative side. Ex. 1008 ¶¶ 68; 157; Pet. 36; Reply 13–14.

Petitioner also presents evidence, in the form of testimony from Dr. Kattamis, that a person of ordinary skill in the art "would readily be able to reconfigure the Richardson system to provide switching circuity on the negative side as opposed to the positive side." Ex. 1008 ¶ 68. Although Patent Owner argues, based on testimony from Mr. McAlexander, that making this change would require modification and experimentation, Patent Owner acknowledges that it "did not attempt to contradict the substantive evidence presented by the Petitioner." Sur-reply 2, 4. In addition, Patent Owner admits that its "argument on this point is not that the Kattamis

declaration is wrong—Mr. McAlexander agrees that substitution is possible with 'many design changes.'" Sur-reply 4; Ex. 2005 ¶ 48; *see also* Tr. 43:20–44:16 (Q: "Patent Owner's position is not that [Dr. Kattamis'] statement [regarding reconfiguring Richardson] is incorrect, your position is that this statement is not sufficient to support a prima facie case of obviousness, is that accurate? [A]: Yes, that's correct.").

Accompanying its Reply, Petitioner presented additional testimony detailing changes made to the Richardson circuit to successfully relocate the Richardson switch. Ex. 1016 ¶¶ 8–16; Reply 16–19. According to Dr. Kattamis, a person of ordinary skill in the art would have been able to accomplish the task in a few hours. Reply 18; Ex. 1016 ¶¶ 15–16. Once again, Patent Owner did not substantively dispute this evidence.[10] Thus, the evidence of record[11] demonstrates that reconfiguring the Richardson system to provide switching circuity on the negative side as opposed to the positive side switch was not beyond the capabilities of a person of ordinary skill in the art.

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[10] Patent Owner contends that the Kattamis Reply Declaration comprises improper evidence. Sur-reply 4–6. We disagree, as this testimony responds to issues raised in Patent Owner's Response, namely the argument that "if the required structure of 'a first pole of a first battery connected with . . . a first lead of a load' is deployed in Richardson . . . [the] invention will not work or, at least, would not work without complex further modification unconsidered by Petitioner." PO Resp. 43 (first alteration in original); *see* 37 C.F.R. § 42.23(b); *Belden*, 805 F.3d at 1077–78 (Fed. Cir. 2015).

[11] Petitioner states that it does not rely on Dr. Kattamis' redesign testimony in the Kattamis Reply Declaration as part of its *prima facie* case of obviousness. Tr. 6:20–24. Nevertheless, it constitutes unchallenged evidence of record confirming a person of ordinary would have been able to modify Richardson in view of Krieger.

In view of the foregoing, and consistent with the analytical framework set forth in *KSR*, we find that Petitioner has demonstrated by a preponderance of the evidence that locating Robinson's switch on the negative side is "likely the product not of innovation but of ordinary skill and common sense." *KSR*, 550 U.S. at 421.

Furthermore, we disagree with Patent Owner's assertion that Petitioner has failed to establish a prima facie case of obviousness. PO Resp. 41; Sur-reply 1, 2, 4. Although Patent Owner argues that "Petitioner does not point to any teaching, suggestion, or motivation found in the prior art references themselves as providing the skilled artisan a reason to combine their teachings," Patent Owner also acknowledges that under *KSR*, "a teaching, suggestion, or motivation to make the claimed invention need not be found explicitly in the prior art." PO Resp. 21, 24 (citing *KSR*, U.S. 550 at 418). And while we agree in general with Patent Owner's assertion that common characteristics in the prior art do not constitute substantial evidence of a motivation to combine (PO Resp. 22–27), Petitioner relies on more than just common characteristics to support its obviousness challenge. *E.g.*, Pet. 36 (arguing it would be obvious to try locating Richardson's switch on the negative side); Ex. 1008 ¶ 157. Indeed, Patent Owner recognizes that

> In certain limited circumstances, common components or features can go toward showing that a combination would be obvious to try. *See Unigene Labs., Inc. v. Apotex, Inc.*, 655 F.3d 1352, 1361 (Fed. Cir. 2011) ("[A] combination is only obvious to try if a person of ordinary skill has 'a good reason to pursue the known options.'" (quoting *KSR*, 550 U.S. at 421)).

PO Resp. 26.

Petitioner's evidence demonstrates that Richardson and Krieger disclose the limited "known options" for placing the switch—on the positive terminal or negative terminal. Pet. 33–36; Ex. 1008 ¶¶ 152–156; Ex. 1003. Fig. 2C; Ex. 1005, Fig. 1, 8:59–9:10. Furthermore, the undisputed evidence showing that Richardson and Krieger share the goal of creating safe jump starter devices demonstrates that a person of ordinary skill in the art would have had reason to pursue the known option disclosed in Krieger. Ex. 1008 ¶ 64; Ex. 1003 ¶ 4; Ex. 1005, 1:47–51; *KSR*, 550 U.S. at 421. Accordingly, we disagree with Patent Owner's assertion that Petitioner fails to show that a skilled artisan would have a "good reason" to modify the prior art devices. Sur-reply 9.

For all of the foregoing reasons, we find that Petitioner has demonstrated by a preponderance of the evidence that claim 1 is unpatentable as obvious in view of Richardson and Krieger.

b. Claims 4–6

Claims 4–6 depend directly or indirectly from claim 1. Petitioner directs us to portions of Richardson and Krieger that disclose the additional limitations in these claims. Pet. 44–46. Petitioner also relies on its arguments regarding the combination of Richardson and Krieger discussed above with regard to claim 1.

Patent Owner does not separately challenge the arguments and evidence Petitioner presents for claims 4–6. *See* PO Resp. 5, 20–22. Instead, Patent Owner relies on the same arguments for these claims as it does for claim 1. *See* PO Resp. 28–48; *see generally* Sur-reply.

After reviewing the evidence and arguments Petitioner presents in the Petition regarding these claims, including the relevant portions of the

supporting Kattamis Declaration, we agree, for the reasons explained in the Petition, that Richardson and Krieger disclose or suggest all of the limitations in these claims. Pet. 44–46. We also find, for the reasons discussed above, that it would have been obvious to modify Richardson in view of Krieger. As a result, we determine Petitioner has established by a preponderance of the evidence that claims 4–6 are unpatentable as obvious in view of Richardson and Krieger.

c. Claim 3

As discussed above, we construe the phrase "the switching circuit conducts power supply or power outage for the load through the microcontroller" in claim 3 to mean "[t]he power for charging the load passes through the microcontroller." Pet. 15; Reply 3–6. Petitioner admits that under this construction claim 3 is not unpatentable. Pet. 15. As a result, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claim 3 is unpatentable as obvious in view of Richardson and Krieger.

H. Petitioner's Remaining Patentability Challenges

Having determined that Petitioner establishes by a preponderance of the evidence that Richardson anticipates claims 7–9, 11, 12, 14–18, 20, that claim 13 is unpatentable as obvious in view of Richardson and George, and that claims 1 and 4–6 are unpatentable as obvious in view of Richardson and Krieger, we do not address Petitioner's additional grounds challenging claims 1, 4–9, 11–18, and 20. *See SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1359 (2018) (holding a petitioner "is entitled to a final written decision addressing all of the claims it has challenged"); *Boston Sci. Scimed, Inc. v. Cook Grp. Inc.*, 809 F. App'x 984, 990 (Fed. Cir. 2020) (nonprecedential)

("We agree that the Board need not address [alternative grounds] that are not necessary to the resolution of the proceeding.").

Additionally, Petitioner admits that under the construction of the phrase "the switching circuit conducts power supply or power outage for the load through the microcontroller" we have adopted, claim 3 is not unpatentable. Pet. 15. As a result, we determine that Petitioner has not demonstrated by a preponderance of the evidence that claim 3 is unpatentable as obvious in view of Baxter and Krieger.

IV. CONCLUSION

After reviewing the complete record developed during the course of the trial, we conclude that Petitioner has satisfied its burden of demonstrating, by a preponderance of the evidence, that claims 1, 4–9, 11–18, and 20 of the '653 patent are unpatentable.[12] Petitioner, however, has not demonstrated by a preponderance of the evidence that claim 3 of the '653 patent is unpatentable.

[12] Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner's attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. *See* 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. *See* 37 C.F.R. § 42.8(a)(3), (b)(2).

V. ORDER

In consideration of the foregoing, it is hereby

ORDERED that Petitioner established by a preponderance of the evidence that claims 1, 4–9, 11–18, and 20 of the '653 patent are unpatentable;

FURTHER ORDERED that Petitioner has not established by a preponderance of the evidence that claim 3 of the '653 patent is unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

In summary:

Claim(s)	35 U.S.C. §	References/ Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
7–9, 11, 12, 14–18, 20	102	Richardson	7–9, 11, 12, 14–18, 20	
13	103	Richardson, George	13	
1, 3–6	103	Richardson, Krieger	1, 4–6	3
7–9, 11, 12, 14–18, 20	102	Baxter[13]		
1, 3–6	103	Baxter and Krieger		3

[13] As explained above, we do not reach this ground, or the ground involving Baxter and Krieger, with the exception of claim 3, in view of our determination that Petitioner has otherwise established claims 1, 4–9, 11–18, and 20 are unpatentable.

Claim(s)	35 U.S.C. §	References/ Basis	Claim(s) Shown Unpatentable	Claim(s) Not Shown Unpatentable
Overall Outcome			1, 4–9, 11–18, 20	3

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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

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 for the Central District of California on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:22-cv-02219	4/4/2022	for the Central District of California

PLAINTIFF	DEFENDANT
Shenzhen Gooloo E-Commerce Co., Ltd. and HULKMAN LLC	Pilot, Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	10,046,653	8/14/2018	Pilot, Inc.
2			
3			
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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
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

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

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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2:21-cv-8915 RGK	11/12/2021	for the Central District of California

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Shenzhen Gooloo E-Commerce Co., Ltd.	Pilot, Inc.

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DECISION/JUDGEMENT
"SEE ATTACHED COPY OF NOTICE OF VOLUNTARY DISMISSAL"

CLERK	(BY) DEPUTY CLERK	DATE
Kiry Gray	/s/ J. Lam	12/20/2021

Copy 3—Upon termination of action,

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Trials@uspto.gov
571-272-7822

Paper 6
Date: January 14, 2022

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SHENZEN CHIC ELECTRICS CO., LTD.,
Petitioner,

v.

PILOT, INC.,
Patent Owner.

IPR2021-01232
Patent 10,046,653 B2

Before JEFFREY W. ABRAHAM, JULIA HEANEY, and STEVEN M. AMUNDSON, *Administrative Patent Judges.*

ABRAHAM, *Administrative Patent Judge.*

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314, 37 C.F.R. § 42.4

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

I. INTRODUCTION

A. Background and Summary

Shenzen Chic Electrics Co., Ltd. ("Petitioner") filed a petition for an *inter partes* review (Paper 2 ("Pet.")) challenging claims 1 and 3–20 of U.S. Patent No. 10,046,653 B2 (Ex. 1001 ("the '653 Patent"). Pilot Inc. ("Patent Owner") did not file a Preliminary Response.

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2021). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted "unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."

For the reasons set forth below, we determine the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims. Accordingly, we institute an *inter partes* review.

B. Related Matters

The parties indicate that the '653 patent is at issue in one currently pending district court litigation: *Pilot Inc. v. The NOCO Company, Inc.*, No. 2:20-cv-01452 (D. Ariz.), as well as IPR2021-00777. Pet. 2; Paper 4, 2. The parties also indicate that the '653 patent was at issue in other district court litigations that have been dismissed without prejudice. Pet. 2; Paper 4, 2–3.

C. The '653 Patent (Ex. 1001)

The '653 patent, titled "Automobile Charger," issued August 14, 2018, and is directed to "a novel automobile charger with a safe power supply charging quickly." Ex. 1001, codes (45), (54), 1:11–13. The '653 patent explains that prior art automobile charging devices, i.e., devices for jump starting vehicles, suffered from various problems, including an inability to automatically detect whether a load (e.g., an automobile storage battery) is connected, whether an automobile engine or storage battery has a reverse current, and whether the battery state is suitable for heavy power generation. Ex. 1001, 1:18–24. The '653 patent aims to solve these problems, and depicts one solution in Figure 1, reproduced below.

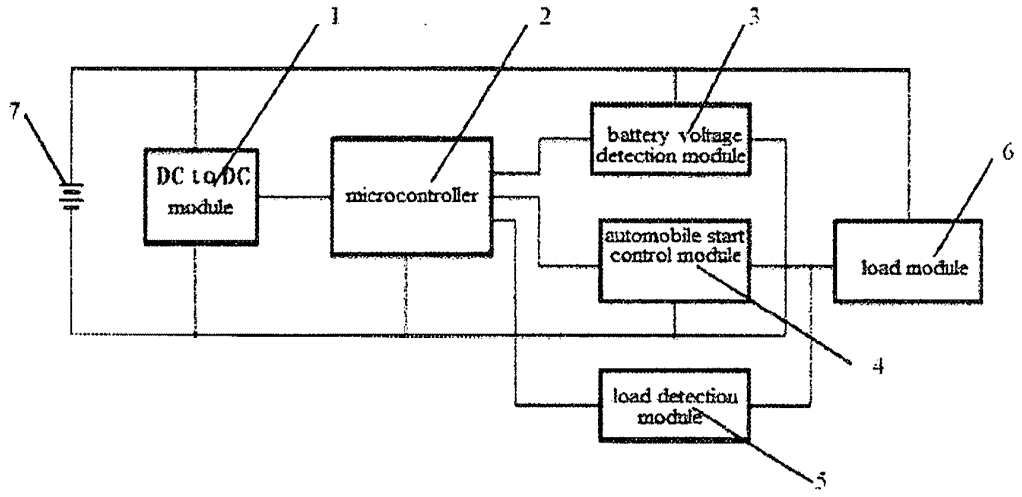


Figure 1 is a block diagram showing one embodiment of an automobile charger that includes DC to DC module 1, microcontroller 2, battery voltage detection module 3, automobile start control module 4, load detection module 5, load module 6, and direct current power supply 7 (the

jump starter battery). Ex. 1001, 2:55–58. Although not shown in Figure 1, the '653 patent states that load module 6 "comprises the automobile storage battery and the automobile engine is located on the end of the load module." Ex. 1001, 3:23–25.

The '653 patent explains that the DC to DC module provides "the stable voltage for the microcontroller which collects relevant data" and "determines whether the automobile storage battery is connected with the automobile engine through the load detection module." Ex. 1001, 4:4–16. When the load is correctly connected, the automobile start control module (an electronic switch) is automatically activated, and the battery starts to supply power to the load module. Ex. 1001, 2:18–19, 4:16–18. If the load is not connected, or positive and negative polarities are reversed, the automobile start control module is automatically deactivated, and the battery stops supplying power to the load module. Ex. 1001, 4:19–23.

The '653 patent explains that its automobile charger provides benefits over prior art devices, including, *inter alia*, (1) controlling the supply power for the load, which protects the product and reduces the product size and material cost, (2) providing low voltage protection to prevent damage caused by over-discharging the battery, (3) preventing improper operations by the user, such as reversed polarity, which can cause damage to the automobile or direct current power supply, and (4) employing voltage backflow protection for an abnormal load, wherein the automobile start line is closed to protect the battery when an abnormal voltage is detected. Ex. 1001, 2:20–36.

D. Illustrative Claims

Of the challenged claims, claims 1, 7, and 17 are independent claims. Claims 1 and 7 are illustrative, and are reproduced below.

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.

Ex. 1001, 5:2–20.

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.

Ex. 1001, 6:28–35. Independent claim 17 is a method claim containing limitations similar to those in claim 7. Ex. 1001, 7:6–13.

E. Asserted Unpatentability Challenges

Petitioner asserts that claims 1 and 3–20 are unpatentable based on the following challenges:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1, 3, 6	103	Yu,[1] Klang,[2] Koebler[3]
4, 7–12, 14–20	103	Yu, Klang, Koebler, Thomason[4]
5, 13	103	Yu, Klang, Koebler, Richardson[5]

Petitioner relies on the declaration of James L. Kirtley, Jr., Ph.D. (Ex. 1004).

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art would have had "a bachelor's degree in electrical engineering or its equivalent and two years of experience in electrical engineering with some experience in design of battery charging systems." Pet. 8. Patent Owner does not challenge Petitioner's definition or offer its own.

In light of the record before us, and for purposes of this Decision, we adopt Petitioner's proposal regarding the level of ordinary skill in the art. Based on our review of the '653 patent and the prior art of record, we determine that the definition offered by Petitioner comports with the qualifications a person would have needed to understand and implement the teachings of the '653 patent and the prior art. *See Okajima v. Bourdeau*, 261

[1] CN 203211234 U, issued Sept. 25, 2013 (Ex. 1005).
[2] US 6,424,158 B2, issued July 23, 2002 (Ex. 1006).
[3] US 2013/0241498 A1, published Sept. 19, 2013 (Ex. 1007).
[4] US 2005/0110467 A1, published May 26, 2005 (Ex. 1008).
[5] US 2013/0154543 A1, published June 20, 2013 (Ex. 1009).

F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required "where the prior art itself reflects an appropriate level and a need for testimony is not shown") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)). It is also consistent with the level of skill in the art adopted in IPR2021-00777, which also involves the '653 patent. IPR2021-00777, Paper 7 at 6–7.

B. Claim Construction

In an *inter partes* review, we construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b). Under *Phillips*, claim terms are afforded "their ordinary and customary meaning." *Phillips*, 415 F.3d at 1312. "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313. "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.*

Petitioner proposes constructions for the terms "battery level detector," "load detector," and "switching circuit"/"switching circuitry." Pet. 9–12. Petitioner contends that "[a]ll other claim terms are to be understood according to their plain and ordinary meaning." Pet. 9.

We determine that we do not need to expressly construe any terms for purposes of this Decision. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) ("[O]nly

those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.")).

C. Claims 7–12 and 14–20 – Alleged Obviousness in View of Yu, Klang, Koebler, and Thomason

Petitioner contends claims 7–12 and 14–20[6] are unpatentable as obvious in view of Yu, Klang, Koebler, and Thomason. Pet. 50–68.

1. Yu (Ex. 1005)

Yu discloses "an apparatus for the emergency starting of an automobile." Ex. 1005 ¶ 1. Yu explains that when using an external lead-acid battery to start an automobile, a large current may be generated that can damage the original battery of the automobile or even cause an explosion. Ex. 1005 ¶ 2. According to Yu, its invention "can effectively prevent electric sparks from being generated when it is connected to or disconnected from the automobile, and thus safety can be improved." Ex. 1005 ¶ 3. Yu provides a schematic diagram of its apparatus in Figure 1, reproduced below.

[6] Petitioner also asserts that the subject matter of claim 4 would have been obvious in view of Yu, Klang, Koebler, and Thomason. Pet. 50, 52–54. Claim 4 depends from claim 1, which we do not address in this Decision. Instead, we focus on independent claims 7 and 17, and the challenged claims that depend therefrom.

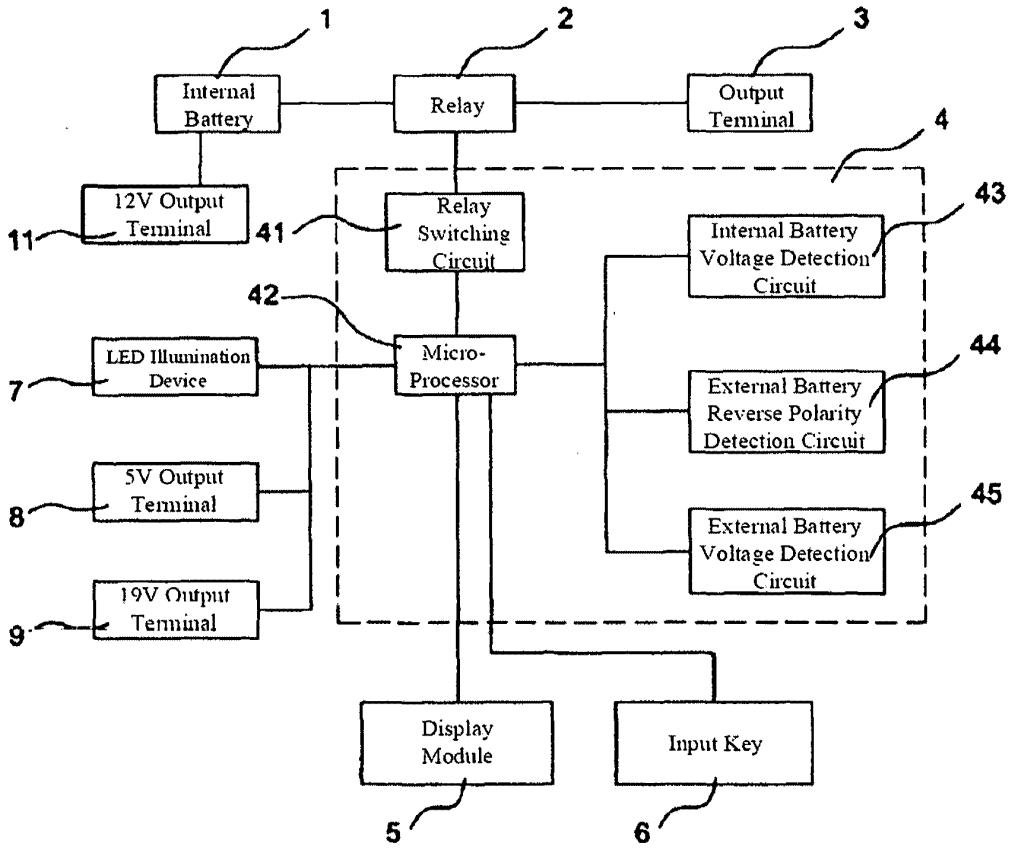


Figure 1 of Yu shows an apparatus for starting an automobile, including internal battery 1, relay 2, output terminal 3, and control module 4. Ex. 1005 ¶ 21. Control module 4 includes relay switching circuit 41, microprocessor 42, internal battery voltage detection circuit 43, external battery reverse polarity detection circuit 44, and external battery voltage detection circuit 45. Ex. 1005 ¶¶ 21–23. Yu explains that microprocessor 42 is configured to control the on/off state of relay 2 via relay switching circuit 4, and that external battery reverse polarity detection circuit 44 is "configured to provide a signal indicating correct or erroneous connection of an external battery." Ex. 1005 ¶ 21. Yu further explains that internal battery voltage detection circuit 43 and external battery voltage detection circuit 45

provide signals to microprocessor 42 to facilitate monitoring of the condition of the internal and external batteries, respectively. Ex. 1005 ¶ 27.

2. Thomason (Ex. 1008)

Thomason discloses a battery charger "having a polarity detection mechanism, automated current routing circuitry and excessive voltage protection" that is "configured to provide safe, spark free jump starting." Ex. 1008, code (57). Thomason teaches that its jump-starter includes a first switch that activates the flow of electricity out of the device and a second switch that activates lights on the clamps that connect with the terminals of the battery intended to be recharged. Ex. 1008 ¶ 14. Thomason further teaches that "a variety of other lights and switches are also utilized to designate various functions such as the charge status of the battery being charged as well as the level of the battery in the jump-starting unit." Ex. 1008 ¶ 14. In one preferred embodiment, Thomason discloses the use of metal-oxide-semiconductor field-effect transistors (MOSFETs) to provide the various switching and signaling functions. Ex. 1008 ¶ 17.

3. Analysis

a. Claim 7

Claim 7 recites a "charging device." Ex. 1001, 6:28. Petitioner contends Yu discloses an automobile charger based on Yu's description of its invention as "an apparatus for starting of an automobile, and specifically, . . . an apparatus for emergency starting of an automobile." Pet. 18 (quoting Ex. 1005 ¶ 1; citing Ex. 1005 ¶¶ 2–4, 21, Fig. 1), 54 (referring to its analysis of this limitation in claim 1).

Claim 7 next recites "a battery level detector to detect a level of a first battery." Ex. 1001, 6:29. For this limitation, Petitioner directs us to Yu's

internal battery voltage detection circuit 43, "that is connected to enable signaling to the microprocessor 42 on the voltage of the internal battery 1." Pet. 41 (addressing this limitation in connection with claim 1), 55 (addressing this limitation in connection with claim 7, referring to its analysis of this limitation in claim 1); *see also* Pet. 20 (asserting internal battery voltage detection circuit 43 corresponds to the claimed battery level detector; citing Ex. 1005 ¶ 22, Fig. 2).

Claim 7 also requires "a load detector to detect a type of connection of a load." Ex. 1001, 6:30. Petitioner contends that Yu teaches or suggests this limitation based on its disclosure of external battery reverse polarity detection circuit 44, which detects connection polarity, and/or external battery voltage detection circuit 45, which detects the voltage of the external battery and indicates whether the external battery is connected and if the "voltage of the external battery is in a normal range." Pet. 57 (citing Ex. 1005 ¶¶ 21, 23, 26, 27, Figs. 1–2).

Claim 7 next requires "a microcontroller to generate an output signal based on the level of the first battery and the type of connection of the load." Ex. 1001, 6:31–33. For this limitation, Petitioner asserts that "Yu explains how microcontroller 42 receives and collects signals from reverse polarity detection circuit 44 and external battery voltage detection circuit 45, and, based on the received and collected signals, [provides] an output control to relay 2." Pet. 59 (citing Ex. 1005 ¶¶ 21–27, Figs. 1–5). Petitioner also asserts that Thomason discloses measuring the internal battery voltage of a system, and considering the level of the internal battery when determining when to turn its switch on/off, which serves as "a protection mechanism for protecting internal battery by limiting [the] amount of power that is allowed

to flow out of internal battery to prevent it from being fully discharged and to prevent the jump starter from self-destructing when jumper cables are connected together." Pet. 53 (citing Ex. 1008 ¶ 36). According to Petitioner, a person of ordinary skill in the art would have known from Yu how to use sensor inputs to a microcontroller to control a relay/switch, and would have had reason to "consider the level of the internal battery when determining when to turn on the relay, as taught in Thomason, because that would further protect the internal battery from being connected to a load when it is severely discharged, avoiding damage to the battery." Pet. 53–54, 59–60.

Finally, claim 7 recites "switching circuitry to selectively connect the first battery to the load based on the output signal." Ex. 1001, 6:34–35. According to Petitioner, Yu discloses a microcontroller (microprocessor 42) that controls the switching circuitry (relay 2) based on the output from the microprocessor to "selectively connect the internal battery to the external battery to be charged." Pet. 60.

At this stage of the proceeding, Patent Owner does not dispute that Yu and Thomason disclose the limitations in claim 7, or that a person of ordinary skill in the art would have had reason to combine the teachings of Yu and Thomason and would have known how to do so. After reviewing the evidence and arguments Petitioner presents in the Petition regarding claim 7, we agree that Yu discloses a charging device comprising a battery level detector (internal battery voltage detection circuit 43), load detector (external battery reverse polarity detection circuit 44 and/or external battery voltage detection circuit 45), microcontroller (microprocessor 42), and switching circuitry (relay 2), as claim 7 requires. Ex. 1005 ¶¶ 21–27; Pet.

53–60. Yu also discloses microprocessor 42 receives sensor input signals from internal battery voltage detection circuit 43, external battery reverse polarity detection circuit 44, and external battery voltage detection circuit 45, and can use various signals to control relay 2. Ex. 1005 ¶¶ 26–27. We also agree that Thomason discloses considering the level of the internal battery when determining when to turn its switch on/off and that doing so avoids damaging the battery. Ex. 1008 ¶ 36; Pet. 53–60. Accordingly, Petitioner has demonstrated sufficiently that Yu and Thomason teach or suggest all the limitations of claim 7, and that a person of ordinary skill in the art would have had reason to combine the teachings and would have had a reasonable expectation of success in doing so. Thus, we are persuaded Petitioner has established a reasonable likelihood of prevailing on its obviousness challenge with respect to claim 7.

b. Claims 8–12 and 14–20

Claims 8–12, and 14–16 depend directly or indirectly from claim 7. Petitioner directs us to portions of Yu and Thomason that disclose the additional limitations in these claims. Pet. 61–66.

Independent claim 17 contains limitations similar to those in claim 7, and Petitioner relies on the same arguments for claim 17 as it does for claim 7. Pet. 66–67. Claim 18 depends from claim 17, and claims 19 and 20 depend from claim 18. For these claims, Petitioner relies on the arguments it presented for claims 8–11. Pet. 67–68.

After reviewing the evidence and arguments Petitioner presents in the Petition, we are persuaded Petitioner has established a reasonable likelihood of prevailing on its obviousness challenge with respect to these claims.

4. Conclusion

For all of the foregoing reasons, we determine Petitioner has demonstrated a reasonable likelihood of prevailing with respect its argument that claims 7–12 and 14–20 are unpatentable as obvious in view of Yu, Klang, Koebler, and Thomason.

III. CONCLUSION

Because Petitioner has demonstrated a reasonable likelihood that at least one challenged claim of the '653 patent is unpatentable over the prior art of record, we institute an *inter partes* review. And because we find some grounds sufficient for institution, we institute on all grounds in the petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1353 (2018) ("The agency cannot curate the claims at issue but must decide them all."); *see also PGS Geophysical AS v. Iancu*, 891 F.3d 1354, 1360 (Fed. Cir. 2018) (interpreting the statute as requiring "a simple yes-or-no institution choice respecting a petition, embracing all challenges included in the petition").

At this stage of the proceeding, we have not made a final determination with respect to the patentability of any challenged claim or any underlying factual or legal issue.

IV. ORDER

For the reasons given, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1 and 3–20 of the '653 patent is instituted with respect to all grounds of unpatentability asserted in the Petition, commencing on the entry date of this Decision; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of trial.

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AO 120 (Rev. 08/10)

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Copy 2—Upon filing document adding patent(s), mail this copy to Director Copy 4—Case file copy

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Trials@uspto.gov
571-272-7822

Paper 7
Date: October 5, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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v.

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IPR2021-00777
Patent 10,046,653 B2

Before JEFFREY W. ABRAHAM, JULIA HEANEY, and STEVEN M. AMUNDSON, *Administrative Patent Judges.*

ABRAHAM, *Administrative Patent Judge.*

DECISION
Granting Institution of *Inter Partes* Review
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Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

I. INTRODUCTION

A. Background and Summary

The Noco Company, Inc. ("Petitioner") filed a petition for an *inter partes* review (Paper 1 ("Pet.")) challenging claims 1, 3–9, 11–18, and 20 of U.S. Patent No. 10,046,653 B2 (Ex. 1001 ("the '653 Patent"). Pilot Inc. ("Patent Owner") did not file a Preliminary Response.

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2021). The standard for instituting an *inter partes* review is set forth in 35 U.S.C. § 314(a), which provides that an *inter partes* review may not be instituted "unless the Director determines . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition."

For the reasons set forth below, we determine the information presented in the Petition establishes a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims. Accordingly, we institute an *inter partes* review.

B. Related Matters

The parties state that the '653 patent is at issue in one currently pending district court litigation: *Pilot Inc. v. The NOCO Company, Inc.*, No. 2:20-cv-01452 (D. Ariz.). Pet. 1; Paper 3, 2. The parties also indicate that the '653 patent was at issue in three other litigations that have been dismissed without prejudice. Pet. 2; Paper 3, 2–3.

C. The '653 Patent (Ex. 1001)

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supply charging quickly." Ex. 1001, codes (45), (54), 1:11–13. The '653 patent explains that prior art automobile charging devices, i.e., devices for jump starting vehicles, suffered from various problems, including an inability to automatically detect whether a load (e.g., an automobile storage battery) is connected, whether an automobile engine or storage battery has a reverse current, and whether the battery state is suitable for heavy power generation. Ex. 1001, 1:18–24. The '653 patent aims to solve these problems, and depicts one solution in Figure 1, reproduced below.

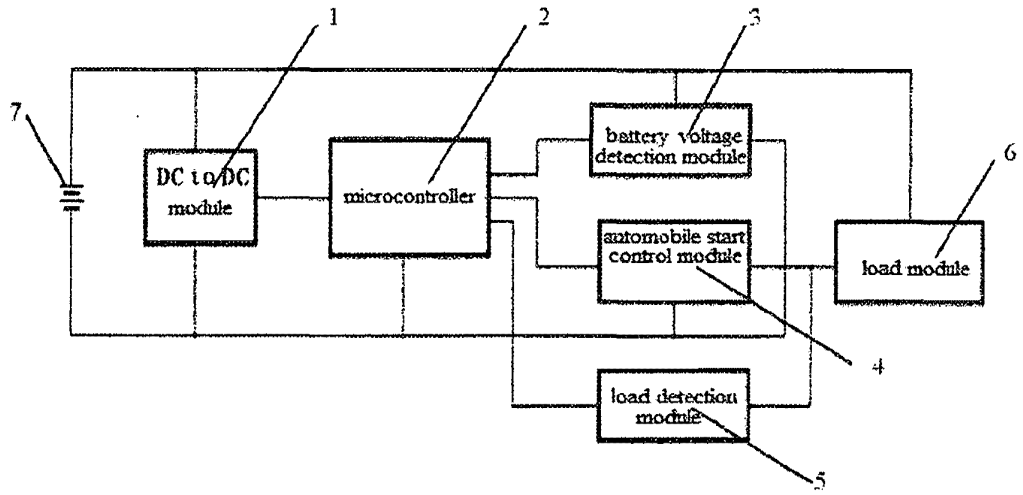


Figure 1 is a block diagram showing one embodiment of an automobile charger that includes DC to DC module 1, microcontroller 2, battery voltage detection module 3, automobile start control module 4, load detection module 5, load module 6, and direct current power supply 7 (the jump starter battery). Ex. 1001, 2:55–58. Although not shown in Figure 1, the '653 patent states that load module 6 "comprises the automobile storage

battery and the automobile engine is located on the end of the load module." Ex. 1001, 3:23–25.

The '653 patent explains that the DC to DC module provides "the stable voltage for the microcontroller which collects relevant data" and "determines whether the automobile storage battery is connected with the automobile engine through the load detection module." Ex. 1001, 4:4–16. When the load is correctly connected, the automobile start control module (an electronic switch) is automatically activated, and the battery starts to supply power to the load module. Ex. 1001, 2:18–19, 4:16–18. If the load is not connected, or positive and negative polarities are reversed, the automobile start control module is automatically deactivated, and the battery stops supplying power to the load module. Ex. 1001, 4:19–23.

The '653 patent explains that its automobile charger provides benefits over prior art devices, including, *inter alia*, (1) controlling the supply power for the load, which protects the product and reduces the product size and material cost, (2) providing low voltage protection to prevent damage caused by over-discharging the battery, (3) preventing improper operations by the user, such as reversed polarity, which can cause damage to the automobile or direct current power supply, and (4) employing voltage backflow protection for an abnormal load, wherein the automobile start line is closed to protect the battery when an abnormal voltage is detected. Ex. 1001, 2:20–36.

D. Illustrative Claims

Of the challenged claims, claims 1, 7, and 17 are independent claims. Claims 1 and 7 are illustrative, and are reproduced below.

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.

Ex. 1001, 5:2–20.

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.

Ex. 1001, 6:28–35. Independent claim 17 is a method claim containing limitations similar to those in claim 7. Ex. 1001, 7:6–13.

E. Asserted Unpatentability Challenges

Petitioner asserts that claims 1, 3–9, 11–18, and 20 are unpatentable based on the following challenges:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
7–9, 11, 12, 14–18, 20	102	Richardson[1]
13	103	Richardson, George[2]
1, 3–6	103	Richardson, Krieger[3]
7–9, 11, 12, 14–18, 20	102	Baxter[4]
1, 3–6	103	Baxter, Krieger

Petitioner relies on the declaration of Alex Z. Kattamis, Ph.D. (Ex. 1008).

II. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner asserts that a person of ordinary skill in the art "would have had an undergraduate degree in electrical engineering (or equivalent subject) together with two or three years of experience in [the] automotive electrical systems industry." Pet. 11 (citing Ex. 1008 ¶ 13). Patent Owner does not challenge Petitioner's definition or offer its own.

In light of the record before us, and for purposes of this Decision, we adopt Petitioner's proposal regarding the level of ordinary skill in the art. Based on our review of the '653 patent and the prior art of record, we

[1] US 2009/0174362 A1, published July 9, 2009 (Ex. 1003).
[2] US 6,803,743 B2, issued Oct. 12, 2004 (Ex. 1006).
[3] US 7,345,450 B2, issued Mar. 18, 2008 (Ex. 1005).
[4] US 2010/0173182 A1, published July 8, 2010 (Ex. 1004).

determine that the definition offered by Petitioner comports with the qualifications a person would have needed to understand and implement the teachings of the '653 patent and the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required "where the prior art itself reflects an appropriate level and a need for testimony is not shown") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)).

B. Claim Construction

In an *inter partes* review, we construe claim terms according to the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–17 (Fed. Cir. 2005) (en banc). 37 C.F.R. § 42.100(b). Under *Phillips*, claim terms are afforded "their ordinary and customary meaning." *Phillips*, 415 F.3d at 1312. "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* at 1313. "Importantly, the person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which the disputed term appears, but in the context of the entire patent, including the specification." *Id.*

Petitioner argues that "most of the [claim] terms can be given . . . the ordinary meaning they would have to a person of ordinary skill in the art of automobile chargers and jump starters." Pet. 14. Petitioner identifies two exceptions, and proposes constructions for (1) "conducts power supply or power outage for the load through the microprocessor" in claim 3 and (2) "recharging level" in claims 12 and 13. Pet. 15–17.

With regard to the phrase "conducts power supply or power outage for the load through the microprocessor" in claim 3, Petitioner indicates that in the pending district court litigation, Petitioner has proposed the construction "[t]he power for charging the load passes through the microcontroller," arguing that the actual power for charging the load must literally be conducted through the microprocessor chip. Pet. 15 (quoting Ex. 1010, 13–14; citing Ex. 1001, 1:62–65). Petitioner also indicates that in the same district court litigation, Patent Owner proposed this phrase should be interpreted to mean that "the switching circuit connects power to, or disconnects power from, the load under the control of the microcontroller." Pet. 15 (quoting Ex. 1012). Petitioner acknowledges that under its construction, claim 3 would not be unpatentable based on the grounds set forth in the Petition, but argues that under Patent Owner's proposed construction, claim 3 would be unpatentable based on the grounds set forth in the Petition. Pet. 15.

Additionally, Petitioner argues that the term "recharging level" in claims 12 and 13 refers to the voltage level of the jump starter battery (i.e. the "first battery" in claims 7, 12, and 13) after a jump start operation has begun. Pet. 16. In support of its argument, Petitioner directs us to a portion of the Specification discussing the automobile engine generating "abnormal voltage to recharge the direct current power supply after the automobile starts." Pet. 16 (citing Ex. 1001, 4:37–43). In view of this, Petitioner contends the term "recharging level" should be interpreted to mean "the level of the first battery after it is connected to the load." Pet. 17.

We determine that we do not need to expressly construe any terms for purposes of this Decision. *See Nidec Motor Corp. v. Zhongshan Broad*

Ocean Motor Co., 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) ("[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.")). Nevertheless, the panel invites and encourages the parties to further address the construction of the aforementioned claim language during the trial.

C. Claims 7–9, 11, 12, 14–18, and 20 – Alleged Anticipation by Richardson

Petitioner contends Richardson anticipates claims 7–9, 11, 12, 14–18, and 20 of the '653 patent. Pet. 19–30.

1. Richardson (Ex. 1003)

Richardson discloses a "portable power source for a motor vehicle," (i.e., a jump starter), that "performs real-time monitoring of all system parameters to increase the safety and effectiveness of the unit's operation while providing additional parametric and diagnostic information obtained before, during and after the vehicle starting operation." Ex. 1003 ¶¶ 1, 5. Richardson explains that its method and apparatus include a programmable microprocessor that receives inputs and includes several outputs to provide information to the user and to control the application of power to the vehicle to be jump started. Ex. 1003 ¶¶ 11, 13. Richardson also discloses several sensors that monitor different parameters such as the voltage level of one or more jump starter batteries, the voltage of the vehicle battery, the polarity of the jumper cables, and the temperature of a shunt cable. Ex. 1003 ¶ 12. According to Richardson, "[t]he voltage is monitored to determine open circuit, disconnected conductive clamps, shunt cable fault, and solenoid fault conditions," and the "current through the shunt cable is monitored to

determine if there is a battery explosion risk, and for excessive current conditions presenting an overheating condition, which may result in fire." Ex. 1003 ¶ 6.

2. Analysis

a. Claim 7

Petitioner first contends the preamble of claim 7, reciting "[a] charging device," is not limiting, but even if it were treated as an element of the claim, Richardson describes certain situations when its jump starter "will start to charge the vehicle's battery before any starting operation begins." Pet. 20–21 (quoting Ex. 1003 ¶ 41).

Claim 7 next recites "a battery level detector to detect a level of a first battery." Ex. 1001, 6:29. For this limitation, Petitioner directs us to Richardson's statement that "battery voltage sensor **20** monitors the voltage level of one or more jump starter batteries **22**." Pet. 21 (quoting Ex. 1003 ¶ 12).

Petitioner also argues that reverse voltage sensor 24 in Richardson "is an electrical circuit that determines whether the load is correctly connected," and, therefore, corresponds to "a load detector to detect a type of connection of a load" as claim 7 requires. Pet. 21 (citing Ex. 1003 ¶ 20; Ex. 1008 ¶¶ 86–87).

Claim 7 also requires "a microcontroller to generate an output signal based on the level of the first battery and the type of connection of the load." Ex. 1001, 6:31–33. For this limitation, Petitioner asserts that Richardson discloses that microprocessor 12 generates contact relay control signal 58

based on, at least in part, input from battery level detector 20 and reverse voltage sensor 24. Pet. 22 (citing Ex. 1003, Figure 1; Ex. 1008 ¶ 89).

Finally, claim 7 recites "switching circuitry to selectively connect the first battery to the load based on the output signal." Ex. 1001, 6:34–35. According to Petitioner, "Richardson also discloses that the microprocessor **12** controls the contact relay **34** based upon the reverse polarity sensor determining that the jump starter is correctly connected to the vehicle." Pet. 22–23 (citing Ex. 1003 ¶ 20; Ex. 1008 ¶ 91).

At this stage of the proceeding, Patent Owner does not dispute that Richardson discloses the limitations in claim 7. After reviewing the evidence and arguments Petitioner presents in the Petition regarding claim 7, including the relevant portions of the supporting Kattamis Declaration, we agree that Richardson discloses a charging device comprising a battery level detector (battery voltage sensor 20), load detector (reverse voltage sensor 24), microcontroller (microprocessor 12), and switching circuitry (contact relay 34/contact relay control output 58), as claim 7 requires. Accordingly, we are persuaded Petitioner has established a reasonable likelihood of prevailing on its anticipation challenge with respect to claim 7.

b. Claims 8, 9, 11, 12, 14–18, and 20

Claims 8, 9, 11, 12, and 14–16 depend directly or indirectly from claim 7. Petitioner directs us to portions of Richardson that disclose the additional limitations in these claims. Pet. 23–27.

Independent claim 17 contains limitations similar to those in claim 7, and Petitioner relies on the same arguments for claim 17 as it does for claim 7. Pet. 28–29. Claim 18 depends from claim 17, and claim 20

depends from claim 18. Petitioner directs us to portions of Richardson that disclose the additional limitations in these claims. Pet. 29.

After reviewing the evidence and arguments Petitioner presents in the Petition, including the relevant portions of the supporting Kattamis Declaration, we are persuaded Petitioner has established a reasonable likelihood of prevailing on its anticipation challenge with respect to these claims.

3. Conclusion

For all of the foregoing reasons, we determine Petitioner has demonstrated a reasonable likelihood of prevailing with respect its argument that Richardson anticipates claims 7–9, 11, 12, 14–18, and 20.

III. CONCLUSION

Because Petitioner has demonstrated a reasonable likelihood that at least one challenged claim of the '653 patent is unpatentable over the prior art of record, we institute an *inter partes* review. And because we find some grounds sufficient for institution, we institute on all grounds in the petition. *See SAS Inst., Inc. v. Iancu*, 138 S. Ct. 1348, 1353 (2018) ("The agency cannot curate the claims at issue but must decide them all.").

At this stage of the proceeding, we have not made a final determination with respect to the patentability of any challenged claim or any underlying factual or legal issue.

IV. ORDER

For the reasons given, it is:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1, 3–9, 11–18, and 20 of the '653 patent is instituted with

respect to all grounds of unpatentability asserted in the Petition, commencing on the entry date of this Decision; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of trial.

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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

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.	DATE FILED	U.S. DISTRICT COURT
9:21-cv-81009-DMM	6/7/2021	Southern District

PLAINTIFF	DEFENDANT
PILOT, INC.	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		
2		
3		
4		
5		

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

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Angela E. Noble	s/ Carlos Davis	7/30/2021

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**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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.**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

(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.

DONALD M. MIDDLEBROOKS
UNITED STATES DISTRICT JUDGE

Copies to: Counsel of Record

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

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.):

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PLAINTIFF	DEFENDANT
PILOT, INC.	Baccus Global LLC

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
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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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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Angela E. Noble	s/ Carlos Davis	6/7/2021

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**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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 5th Call out: "Reverse polarity warning to alert when there is an improper connection" 6th Call out: "Backlit digital readout displays battery level and voltage"	 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 6th Call out: "Reverse polarity warning to alert when there is an improper connection"	 https://www.stanley12volt.com/p2g7s

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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.

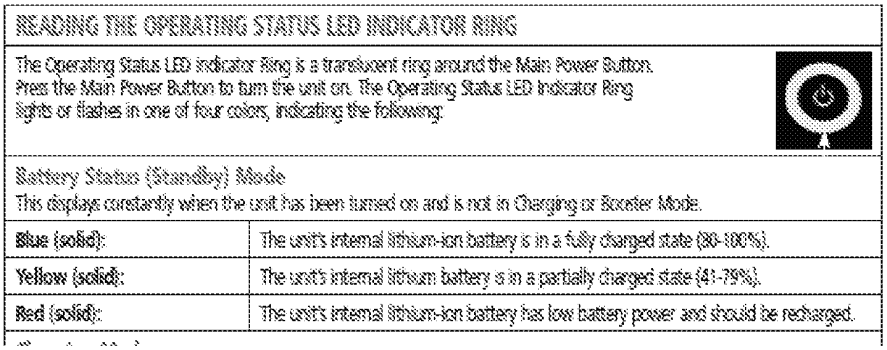
36. Claim 7 of the '653 patent requires as follows:

> 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).



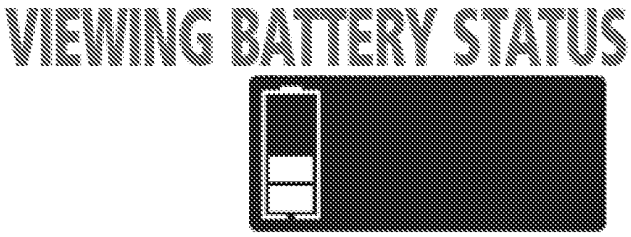
READING THE OPERATING STATUS LED INDICATOR RING

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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 Indictor 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 Indictor 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 Indictor 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 Indictor 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:

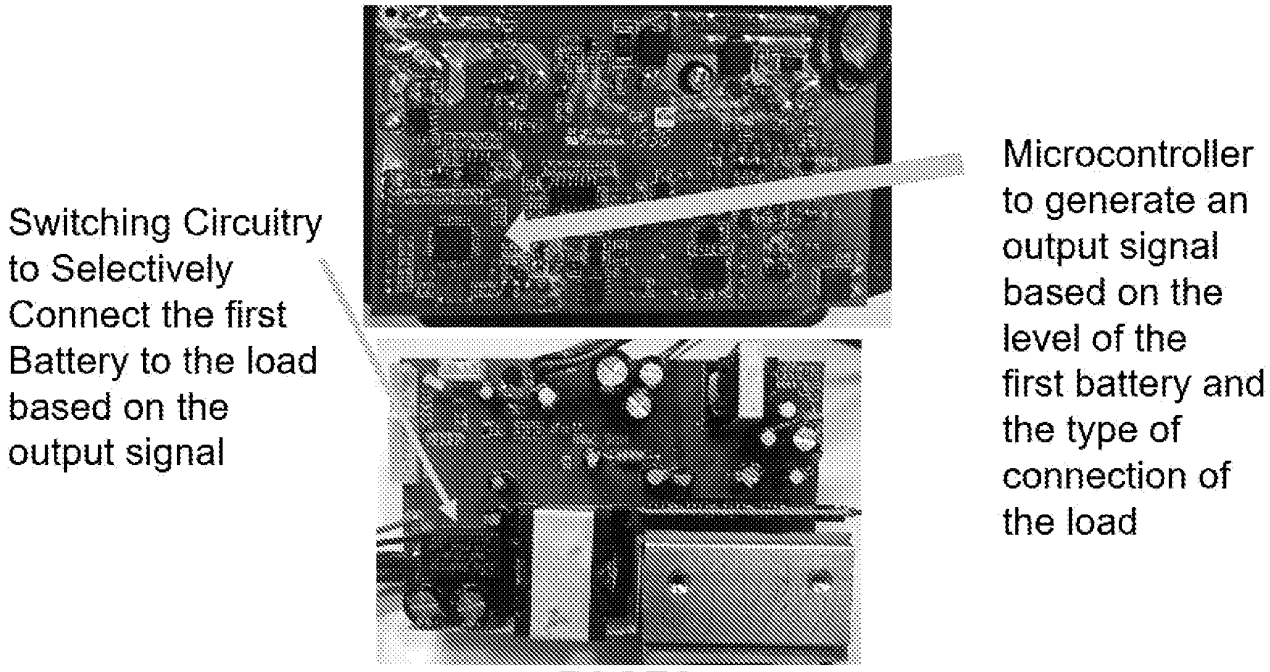
> **10**. The charging device of claim **9**, wherein the proper connection of the load is a polarity match between the second battery and the motor, and
> wherein the improper connection of the load is a polarity reversal between the second battery and the motor or a disconnection of the second battery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

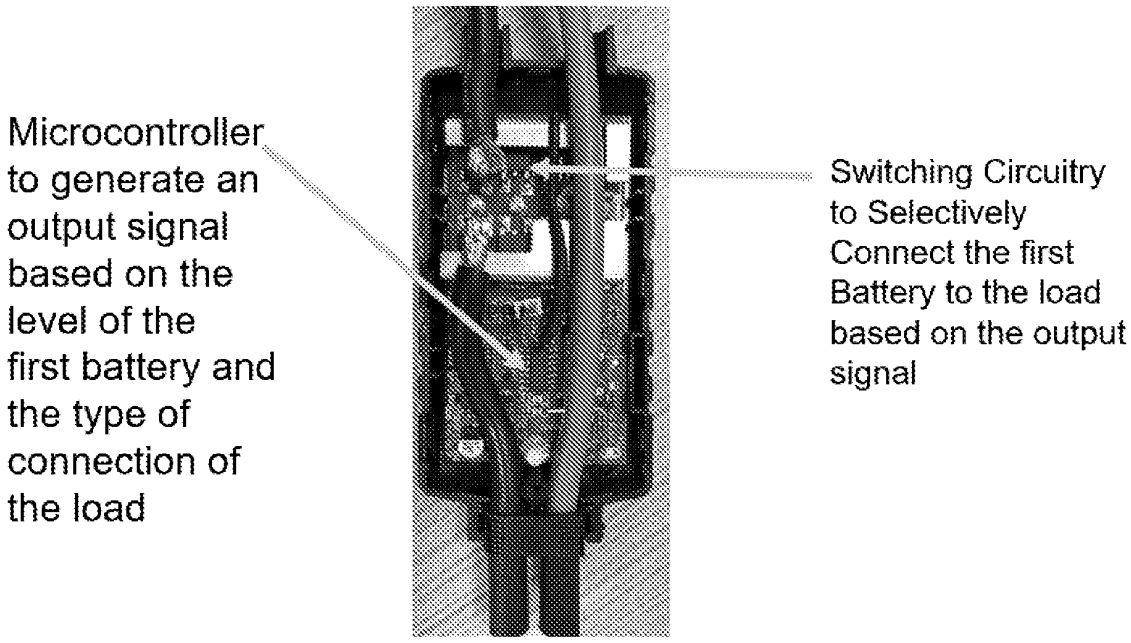
> **8**
> wherein the proper connection of the load is a correct polarity connection between the second power source and the electrical component, and
> wherein the improper connection of the load is an incorrect polarity connection between the second power source and the electrical component or a disconnection 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.



P2G7S



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 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.

54. Claim 20 requires as follows:

> **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.

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 Indictor, 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 Indictor'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.

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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 Indictor. 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 Indictor, 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 Indictor'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 Indictor. 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.

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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

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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

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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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Miami, Florida 33131
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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 alterative 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.

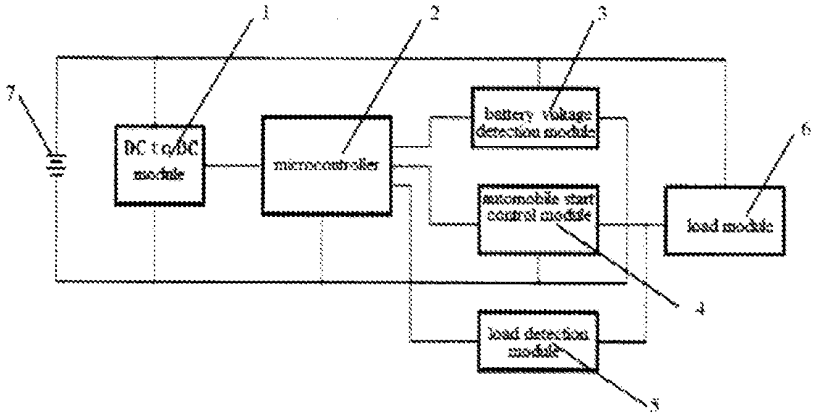
15. Lowes was unwilling to purchase lithium jump starters without the safety mechanisms designed by Pilot. Once satisfied with the technology, Lowes created space in its store for a new product line and ordered $10,000,000 worth of the product, which Lowes marketed under the INSTABOOST brand name. Pilot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

AO 120 (Rev. 08/10)

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

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 District of Arizona on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
CV 20-1452-PHX-SRB	7/23/2020	District of Arizona

PLAINTIFF	DEFENDANT
Pilot, Inc., a California corporation	The NOCO Company, Inc., an Ohio corporation

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	10,046,653	8/14/2018	Pilot, Inc.
2	10,328,806	6/25/2020	Pilot, Inc.
3			
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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
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Debra D. Lucas		7/29/2020

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**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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 for the Central District of California on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT for the Central District of California
PLAINTIFF PILOT, INC.		DEFENDANT BATTERY-BIZ, INC.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 10,046,653	4/28/2014	Pilot, Inc.
2	US 10,328,806	4/28/2014	Pilot, Inc.
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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
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

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

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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 for the Central District of California on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT for the Central District of California
PLAINTIFF PILOT, INC.		DEFENDANT BATTERY-BIZ, INC.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 10,046,653	4/28/2014	Pilot, Inc.
2	US 10,328,806	4/28/2014	Pilot, Inc.
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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
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

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

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

AO 120 (Rev. 08/10)

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

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 for the Southern District of New York on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
1:20-cv-04080-JMF	5/27/2020	for the Southern District of New York

PLAINTIFF	DEFENDANT
UNIVERSITY OF SOUTH FLORIDA RESEARCH FOUNDATION, INC. and UNIVERSITY OF SOUTH FLORIDA BOARD OF TRUSTEES	FUJIFILM MEDICAL SYSTEMS USA, INC.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 6,630,937 B2	10/7/2003	University of South Florida
2			
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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
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

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Copy 2—Upon filing document adding patent(s), mail this copy to Director **Copy 4—Case file copy**

Print Save As... Reset

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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 for the Northern District of Illinois on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
	7/10/2020	for the Northern District of Illinois

PLAINTIFF	DEFENDANT
PILOT, INC., a California corporation,	THE DURACELL COMPANY, a Delaware corporation,

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	10,046,653	8/14/2018	Pilot, Inc.
2	10,328,806	6/25/2020	Pilot, Inc.
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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
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

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**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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 for the Northern District of Illinois on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
1:20-cv-04054	7/10/2020	for the Northern District of Illinois

PLAINTIFF	DEFENDANT
Pilot, Inc.	The Duracell Company

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	10,046,653	8/14/2018	Pilot, Inc
2	8/14/2018	6/25/2020	Pilot, Inc
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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
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE
Thomas Bruton	B. Gudausky	7/13/2020

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**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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 for the Central District of California on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:19-cv-09486	11/4/2019	for the Central District of California

PLAINTIFF	DEFENDANT
PILOT, INC.	AUKEY TECHNOLOGY CO, LTD. and SHENZHEN AUKEY E-BUSINESS CO., LTD.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 10,046,653	8/14/2018	Pilot, Inc.
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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
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

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**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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 for the Central District of California on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:19-cv-09485	11/4/2019	for the Central District of California

PLAINTIFF	DEFENDANT
PILOT, INC.	GOOLOO TECHNOLOGY LLC and SHENZHEN GOOLOO E-COMMERCE CO., LTD.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 10,046,653	8/14/2018	Pilot, Inc.
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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
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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT
see attached

CLERK	(BY) DEPUTY CLERK	DATE
KIRY K. GRAY		1/21/2020

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

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

MATTHEW C. HOLOHAN (SBN 239040)
SHERIDAN ROSS P.C.
1560 Broadway, Suite 1200
Denver, CO 80202
Telephone: (303) 863-9700
Email: mholohan@sheridanross.com

AARON P. BRADFORD
(*To be Admitted Pro Hac Vice*)
BRADFORD, LTD
2701 Lawrence St, Ste. 104
Denver, CO 80205
Telephone: (303) 325-3802
Email: aaron@apb-law.com

Attorneys for PILOT, INC.

UNITED STATES DISTRICT COURT

CENTRAL DISTRICT OF CALIFORNIA

PILOT, INC. Plaintiff(s), v. GOOLOO TECHNOLOGY LLC, and SHENZHEN GOOLOO E-COMMERCE CO., LTD., Defendants.	Case No.: 2:19-CV-09485-PSG-JEM **NOTICE OF VOLUNTARY DISMISSAL WITHOUT PREJUDICE**

Pursuant to Fed. R. Civ. P. 41(a)(1)(A)(i), Plaintiff Pilot, Inc. hereby dismisses all claims asserted against Defendants Gooloo Technology LLC and Shenzhen Gooloo E-Commerce Co., Ltd., without prejudice, with each party to bear its own attorneys' fees and costs. Defendants Gooloo Technology LLC and Shenzhen Gooloo E-Commerce Co., Ltd. have not served either an answer or a motion for summary judgment in this matter.

DATED: January 17, 2020

Respectfully submitted,

By: */s/ Matthew C. Holohan*

MATTHEW C. HOLOHAN (SBN 239040)
SHERIDAN ROSS P.C.
1560 Broadway, Suite 1200
Denver, CO 80202
Telephone: (303) 863-9700
Email: mholohan@sheridanross.com

AARON P. BRADFORD
(To be Admitted Pro Hac Vice)
BRADFORD, LTD
2701 Lawrence St, Ste. 104
Denver, CO 80205
Telephone: (303) 325-3802
Email: aaron@apb-law.com

ATTORNEYS FOR PLAINTIFF
PILOT, INC.

CERTIFICATE OF SERVICE

I hereby certify that on January 17, 2020, I electronically filed the foregoing document with the Clerk of the Court using the CM/ECF system, which will automatically send an e-mail notification of such filing to the attorneys of record who are registered CM/ECF users.

/s/ Matthew C. Holohan

MATTHEW C. HOLOHAN (SBN 239040)
SHERIDAN ROSS P.C.
1560 Broadway, Suite 1200
Denver, CO 80202
Telephone: (303) 863-9700
Email: mholohan@sheridanross.com

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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.	DATE FILED	U.S. DISTRICT COURT
3:19-cv-01676-N	7/12/2019	Northern District of Texas-Dallas

PLAINTIFF	DEFENDANT
Pilot Inc	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
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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
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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	(BY) DEPUTY CLERK	DATE
Karen Mitchell	/s/ N.Taylor	9/6/2019

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

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

Fax Number:

Correspondence will be sent to the e-mail address first; if that is unsuccessful, it will be sent using a fax number, if provided; if that is unsuccessful, it will be sent via US Mail.

Phone: 3128637141
Email: kristen.lange@goldbergkohn.com
Correspondent Name: KRISTEN N. LANGE, PARALEGAL
Address Line 1: C/O GOLDBERG KOHN LTD.
Address Line 2: 55 E. MONROE STREET, SUITE 3300
Address Line 4: CHICAGO, ILLINOIS 60603

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

	This document serves as an Oath/Declaration (37 CFR 1.63).

Total Attachments: 9
source=11. Wingspire Pilot - Patent Security Agreement#page1.tif
source=11. Wingspire Pilot - Patent Security Agreement#page2.tif
source=11. Wingspire Pilot - Patent Security Agreement#page3.tif
source=11. Wingspire Pilot - Patent Security Agreement#page4.tif
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source=11. Wingspire Pilot - Patent Security Agreement#page6.tif
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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

WINGSPIRE CAPITAL LLC, as Administrative Agent

By: _____
Name: _____
Title: _____

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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	

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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 for the Central District of California on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:19-cv-09486	11/4/2019	for the Central District of California

PLAINTIFF	DEFENDANT
PILOT, INC.	AUKEY TECHNOLOGY CO, LTD. and SHENZHEN AUKEY E-BUSINESS CO., LTD.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 10,046,653	8/14/2018	Pilot, Inc.
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		
4		
5		

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

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

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**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

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 for the Central District of California on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
2:19-cv-09485	11/4/2019	for the Central District of California

PLAINTIFF	DEFENDANT
PILOT, INC.	GOOLOO TECHNOLOGY LLC and SHENZHEN GOOLOO E-COMMERCE CO., LTD.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 10,046,653	8/14/2018	Pilot, Inc.
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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In the above—entitled case, the following decision has been rendered or judgement issued:

DECISION/JUDGEMENT

CLERK	(BY) DEPUTY CLERK	DATE

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**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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.
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON	3957

22442 7590 07/27/2018

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202
UNITED STATES OF AMERICA

EXAMINER	
LIN, SUN J	

ART UNIT	PAPER NUMBER
2851	

NOTIFICATION DATE	DELIVERY MODE
07/27/2018	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

Office of the Chief Financial Officer

July 18, 2018

SHERIDAN ROSS PC
ATTN: DAVID KELLIS
1560 BOADWAY
SUITE 1200
DENVER, CO 80202

Dear Sir/Madam,

The United States Patent and Trademark Office (USPTO) has reviewed your refund request for Reference Number **15355409** - Refund Request ID **REFND-20180717-00024**. Below is the current status of your refund request assigned to the following processing area: Office of Patent Examination Support Services

Fee code	Decision	Decision Reason(s)	Refund Amount
1806	Approved	Entity Status Change	$240.00

Generally, approved refunds will be issued in the form that the original payment was provided. You will receive a separate decision letter for any additional fee codes assigned to other processing areas, if applicable. Decisions may be subject to change if an error is identified.

For questions related to this decision, contact the Case Resolution Team at (571) 272-1720 or case.resolution@USPTO.GOV.

Thank you,
Refund Branch

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.
15/355,409	08/14/2018	10046653	8523WANG-1-CON	3957

22442 7590 07/25/2018

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202
UNITED STATES OF AMERICA

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 0 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):

Pilot Inc., City of Industry, CA;
Calvin Shiening Wang, City of Industry, CA;
Chung-Hsin Wang, Shenzhen, CHINA;

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Calvin Shiening Wang	**Examiner Name:**	LIN, SUN J
Application No.:	15/355,409	**Group Art Unit:**	2851
Filing Date:	11/18/2016	**Confirmation No.:**	3957
Attorney Docket No.:	8523WANG-1-CON		
Title:	AUTOMOBILE CHARGER	***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 Notice of Allowability ("Notice") having a mailing date of June 21, 2018.

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

> Claims 7 - 26 are allowed due to allowable subject matters similar to that cited in the *Office Action* mailed *08/31/2016* for application 14/569,352 filed on *12/12/2014*, and subject matters cited in the US Patent 9,525,297.

Applicant assumes the patentability of all independent and dependent claims is based upon the elements as set forth in the allowed claims and that such claims meet all criteria for patentability under §101, §102, §103 and §112. Applicant takes no position regarding the Reasons for Allowance presented by the Examiner other than the positions Applicant may have previously taken during prosecution. Therefore, the Reasons for Allowance should not be attributed to Applicant for any reason or as an indication of the bases for Applicant's belief that the claims are patentable.

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Accordingly, Applicant respectfully asserts that there may be additional or alternative reasons for patentability of the claimed subject matter not explicitly stated in this record and Applicant does not waive its rights to such arguments by not further addressing such reasons herein.

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: July 12, 2018

By: /David B. Kellis/

David B. Kellis
Registration No. 59,377
1560 Broadway, Suite 1200
Denver, CO 80202
Telephone: 303-764-3055
Facsimile: 303-863-0223

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)

22442 7590 06/21/2018
Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202
UNITED STATES OF AMERICA

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.

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.
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON	3957

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	$500	$0	$0	$500	09/21/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
LIN, SUN J	2851	320-109000

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,
(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.

1 Sheridan Ross, P.C.
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: Pilot Inc.

(B) RESIDENCE: (CITY and STATE OR COUNTRY): City of Industry, CA

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 19-1970 (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 /David B. Kellis/ Date 07/12/2018

Typed or printed name David B. Kellis Registration No. 59,377

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Patent Application Fee Transmittal

Application Number:	15355409
Filing Date:	18-Nov-2016
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Filer:	David B. Kellis/Mandi Lamberson
Attorney Docket Number:	8523WANG-1-CON

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:				
UTILITY APPL ISSUE FEE	2501	1	500	500

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**500**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	33164055
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
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-CON
Receipt Date:	12-JUL-2018
Filing Date:	18-NOV-2016
Time Stamp:	18:12:21
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$500
RAM confirmation Number	071318INTEFSW00004829191970
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)

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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	Post Allowance Communication - Incoming	20180712-02_Comments-Stmnt-Reasons-Allowance.pdf	123990 d8d376a050f599fea7420b36a8d8bdcf97c54ebe	no	2
Warnings:					
Information:					
2	Issue Fee Payment (PTO-85B)	20180712-02_IF-Transmittal.pdf	164015 c66a92fb2967f18df7483b31239441633a15dcd5	no	1
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30523 a425a024e003443448fd9192c280a0567402595a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	318528		

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Calvin Shiening Wang	**Examiner Name:**	LIN, SUN J
Application No.:	15/355,409	**Group Art Unit:**	2851
Filing Date:	11/18/2016	**Confirmation No.:**	3957
Attorney Docket No.:	8523WANG-1-CON		
Title:	AUTOMOBILE CHARGER	**REQUEST FOR REFUND**	

Mail Stop 16
Director of the U.S. Patent and Trademark Office
P.O. Box 1450
Alexandria, VA 22313-1450

Director:

In connection with the above-referenced application, Applicant hereby submits this Request for Refund pursuant to 37 C.F.R. 1.26(a) and MPEP 607.02 for a fee paid in excess of that required under 37 CFR 1.17(p).

On April 12, 2018, Applicant filed an Information Disclosure Statement pursuant to 37 CFR 1.97(c) and submitted payment of the fee set forth under 37 CFR 1.17(p). However, Applicant inadvertently paid the fee in the amount of $240 based on a filing by an entity other than small or micro. Applicant asserts and maintains, through its attorney of record, that it is entitled to small entity status for the present application. Therefore, the $240 fee paid was $120 in excess of that required by 37 CFR 1.17(p).

Applicant respectfully requests the Patent Office issue a refund of the overpayment in the amount of $120, and credit it to Deposit Account No. 19-1970 (8523WANG-1-CON).

Respectfully submitted,

SHERIDAN ROSS P.C.

Date: July 12, 2018

By: /David B. Kellis/

David B. Kellis
Registration No. 59,377
1560 Broadway, Suite 1200
Denver, CO 80202
Telephone: 303-764-3055
Facsimile: 303-863-0223

Electronic Acknowledgement Receipt

EFS ID:	33160975
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
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-CON
Receipt Date:	12-JUL-2018
Filing Date:	18-NOV-2016
Time Stamp:	14:23:37
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	Refund Request	20180712-01_Refund-Request.pdf	83227 42fbaa1f5df1a184f6930eeb73ecd847b9bc697f	no	1

Warnings:

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Information:	
Total Files Size (in bytes):	83227

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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
15/355,409	11/18/2016	2851	800	8523WANG-1-CON	20	3

CONFIRMATION NO. 3957

UPDATED FILING RECEIPT

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

OC000000100777438

Date Mailed: 07/06/2018

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;
Chung-Hsin Wang, Shenzhen, CHINA;

Applicant(s)

Pilot Inc., City of Industry, CA;

Power of Attorney: The patent practitioners associated with Customer Number 22442

Domestic Priority data as claimed by applicant

This application is a CON of 14/569,352 12/12/2014 PAT 9525297

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 04/28/2014

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

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.

Projected Publication Date: Not Applicable

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 AssetsControl, 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.

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
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON

CONFIRMATION NO. 3957

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

37 CFR 1.48 ACKNOWLEDGEMENT LETTER

OC000000100777439

Date Mailed: 07/06/2018

NOTICE OF ACCEPTANCE OF REQUEST UNDER 37 CFR 1.48(a)

This is in response to the applicant's request under 37 CFR 1.48(a) submitted on 07/03/2018.

The request under 37 CFR 1.48(a) to correct the inventorship, to correct or update the name of an inventor, or to correct the order of names of joint inventors is accepted.

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**.

/byemane/

Doc Code: R48.REQ
Document Description: Request under Rule 48 correcting inventorship

PTO/AIA/40 (04-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
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.

REQUEST FOR CORRECTION IN A PATENT APPLICATION RELATING TO INVENTORSHIP OR AN INVENTOR NAME, OR ORDER OF NAMES, OTHER THAN IN A REISSUE APPLICATION (37 CFR 1.48)

Application Number	15/355,409
Filing Date	11/18/2016
First Named Inventor	Calvin Shiening Wang
Art Unit	2851
Examiner Name	Sun J Lin
Practitioner Docket Number	8523WANG-1-CON

To: Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Applicant hereby **requests that the inventorship be corrected or changed, or that the name of the inventor or a joint inventor, or the order of the names of joint inventors, be changed,** in the above-identified application. **Note:** 37 CFR 1.48 applies to any request to correct inventorship filed on or after September 16, 2012, regardless of the application filing date. **Do not submit this form after payment of the issue fee or if the application has been patented.** See 37 CFR 1.324 for correction of inventorship in a patent.

Please check the applicable box(es) below.

For a nonprovisional application:

☒ 1. This request is to correct or change the inventorship in a **nonprovisional** application **(under 37 CFR 1.48(a))** and includes:

☒ An application data sheet (ADS) in accordance with 37 CFR 1.76(c) with the corrected or updated information shown with markings (*e.g.*, underlining for insertions, strikethrough for deletions). See the Manual of Patent Examining Procedure (MPEP) section 601.05(a) for information about filing an ADS in an application filed on/after September 16, 2012. For information about filing a Supplemental ADS in an application filed before September 16, 2012, see MPEP 601.05(b).

☒ The processing fee set forth in 37 CFR 1.17(i). $ 70.00

☒ An inventor is being added. An inventor's oath or declaration by any actual inventor who has not yet executed an oath or declaration is required (see 37 CFR 1.48(b)). See MPEP 602.01(a) for information about an inventor's oath or declaration for an application filed on/after September 16, 2012 (*e.g.*, form **PTO/AIA/01**). For information about an inventor's oath or declaration for an application filed before September 16, 2012 (*e.g.*, form **PTO/SB/01**), see MPEP 602.01(b).

☒ This request is being filed after the first Office action on the merits has been given or mailed (see 37 CFR 1.48(c) and 1.17(d)). Check one of the following:

☐ This request to correct or change the inventorship is due solely to the cancellation of claims in the application.

OR

☒ The fee set forth in 37 CFR 1.17(d) is due (in addition to the fee set forth in 37 CFR 1.17(i)). $ 300.00

This collection of information is required by 37 CFR 1.48. 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 hour 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.

PTO/AIA/40 (04-18)
Approved for use through 11/30/2020. OMB 0651-0031
U.S. Patent and Trademark Office, U.S. DEPARTMENT OF COMMERCE
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.

REQUEST FOR CORRECTION IN A PATENT APPLICATION RELATING TO INVENTORSHIP OR AN INVENTOR NAME, OR ORDER OF NAMES, OTHER THAN IN A REISSUE APPLICATION (37 CFR 1.48)

☐ 2. This request is to correct or update the name of the inventor or a joint inventor, or the order of names of joint inventors, in a **nonprovisional** application (**under 37 CFR 1.48(f)**) and includes:

☐ An application data sheet in accordance with 37 CFR 1.76(c) identifying the complete inventive entity, including the corrected or updated name of the inventor, or the new order of names shown with markings (*e.g.*, underlining for insertions, strikethrough for deletions). See the MPEP 601.05(a) for information about filing an ADS in an application filed on/after September 16, 2012. For information about filing a Supplemental ADS in an application filed before September 16, 2012, see MPEP 601.05(b).

☐ The processing fee set forth in 37 CFR 1.17(i). $ _____

For a provisional application:

☐ This request is to change or correct the inventorship, or correct or update the name of the inventor or a joint inventor, in a **provisional** application (**under 37 CFR 1.48(d)**) and includes:

☐ **Attached hereto** is a document that is signed by a party set forth in 37 CFR 1.33(b) and identifies each inventor by his or her legal name, in the preferred order. Note: the document may be an application data sheet in accordance with 37 CFR 1.76(c) that identifies the changes with markings (underlining for insertions, strikethrough for deletions).

☐ The processing fee set forth in 37 CFR 1.17(q). $ _____

Fee Payment Information:

☒ Applicant asserts small entity status. See 37 CFR 1.27.

☐ Applicant certifies micro entity status. See 37 CFR 1.29.
Form PTO/SB/15A or B or equivalent must either be enclosed or have been submitted previously

☐ A check in the amount of the fee is enclosed.

☐ Payment by credit card. Form PTO-2038 is attached.

☒ The Director is hereby authorized to charge any fees which may be required, or credit any overpayment to Deposit Account No. 19-1970.

☒ Payment made via EFS-Web.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

I am the

☐ Applicant*

☒ attorney or agent of record
Registration number 59377

☐ attorney or agent acting under 37 CFR 1.34
Registration number _____

Signature /David B. Kellis/

Typed or printed name David B. Kellis

Date 07/03/2018

NOTE: This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4 for signature requirements and certifications. *Juristic entities must be represented by a patent practitioner (See 37 CFR 1.31, applicable to any paper filed on or after September 16, 2012 that is presented on behalf of a juristic entity, regardless of application filing date). Submit multiple forms if more than one signature is required, see below**.

☐ ** Total of _____ forms are submitted.

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.

PTO/AIA/01 (08-12)
Approved for use through 11/30/2020. OMB 0651-0032
U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE
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-CON

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 15/355,409 filed on November 18, 2016.

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: Chung-Hsin Wang Date (Optional): 2/8/19

Signature: Chung-Hsin Wang

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Pilot Inc.

Application No./Patent No.: 15/355,409 Filed/Issue Date: 11/18/2016

Titled: AUTOMOBILE CHARGER

Pilot 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 044582, Frame 0233, 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 044582, Frame 0376, or for which a copy thereof is attached.

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.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

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: 2018/5/24

Full Name: Chung-Hsin Wang

Address: _____

_____

Electronic Patent Application Fee Transmittal

Application Number:	15355409
Filing Date:	18-Nov-2016
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	
Filer:	David B. Kellis/Mandi Lamberson
Attorney Docket Number:	8523WANG-1-CON

Filed as Small Entity

Filing Fees for Utility under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70
CORRECTION OF INVENTORSHIP ON MERITS	2819	1	300	300
Pages:				
Claims:				
Miscellaneous-Filing:				
Petition:				
Patent-Appeals-and-Interference:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**370**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	33080027
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	
Customer Number:	22442
Filer:	David B. Kellis/Mandi Lamberson
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523WANG-1-CON
Receipt Date:	03-JUL-2018
Filing Date:	18-NOV-2016
Time Stamp:	15:51:42
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$370
RAM confirmation Number	070518INTEFSW00004766191970
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)

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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	Application Data Sheet to update/ correct info	CorrectedADS.pdf	72233 33c9fb4236803485c3ceb76281bd7af36ca76231	no	5
Warnings:					
Information:					
2	Request under Rule 48 correcting inventorship	20180703_Request-Correct-Inventorship.pdf	211733 27452ef16a0498aeca6d23e2910c0a4b6dee989e	no	3
Warnings:					
Information:					
3	Oath or Declaration filed	20180703_Declaration.pdf	308222 48d19ae8fcfa411407ae4be943d58f9b50a5528f	no	1
Warnings:					
Information:					
4	Assignee showing of ownership per 37 CFR 3.73	20180703_373-Statement.pdf	486960 50ef1c140959e631a319e8bedd285e61277bdc50	no	3
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	31999 679a1bcbb1db691fccfc3a439a8756d0b9cb8259	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1111147		

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

CORRECTED ADS FORM

Application Number	15355409
Title of Invention	AUTOMOBILE CHARGER

Inventor Information

****If no data is shown, no data has been corrected****

	Data of Record	Updated Data
Order Number	1	
Name	Calvin Shiening Wang	
Residence Information		
Residency	us-residency	
City	City of Industry	
State	CA	
Country of Residence	US	
Mailing Address of Inventor		
Address 1	13000 Temple Avenue	
Address 2		
City,State/Province, Postal Code	City of Industry CA 91746	
Country	US	

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

	Data of Record	Updated Data
Order Number		2
Name		Chung-Hsin Wang
Residence Information		
Residency		non-us-residency
City		Shenzhen
State		
Country of Residence		CN
Mailing Address of Inventor		
Address 1		5F, Building 2, HuaFeng First Technology Park
Address 2		San Wei Village, XiXiang Town, Bao'an
City,State/Province, Postal Code		Shenzhen OT 518100
Country		CN

Application Information

	Data of Record	Updated Data
Title of Invention	AUTOMOBILE CHARGER	
Attorney Docket Number	8523WANG-1-CON	
Entity Type	Small	

Domestic Benefit/National Stage Information

****If no data is shown, no data has been corrected****

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121,365(c), or 386(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(a).

Corrected ADS 1.0

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

		Data of Record	Updated Data
	Prior Application Status		
	Application Number		
	Continuity Type		
	Prior Application Number		
	Filing Date (YYYY-MM-DD)		
	Patent Number		
	Issue Date (YYYY-MM-DD)		

Foreign Priority Information

****If no data is shown, no data has been corrected****

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. 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(i)(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).

		Data of Record	Updated Data
	Application Number		
	Country		
	Filing Date		
	Access Code		

Applicant Information

****If no data is shown, no data has been corrected****
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.

	Data of Record	Updated Data
Applicant Type		

Corrected ADS 1.0

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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		
Applicant is an Organization		
Name		
Organization Name		
Address 1		
Address 2		
City,State/Province,Postal Code		
Country		
Phone Number		
Fax Number		
Email Address		

Assignee Information including Non-Applicant Assignee Information

****If no data is shown, no data has been corrected****
Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office

	Data of Record	Updated Data
Order		
Applicant is an Organization		
Name		

Corrected ADS 1.0

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Organization Name		
Mailing Address		
Address 1		
Address 2		
City,State/Province,Postal Code		
Country		
Phone Number		
Fax Number		
Email Address		

Signature

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

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

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 06/21/2018

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202
UNITED STATES OF AMERICA

EXAMINER
LIN, SUN J

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 06/21/2018

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON	3957

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	$500	$0	$0	$500	09/21/2018

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: Maintenance fees are due in utility patents issuing on applications filed on or after Dec. 12, 1980. It is patentee's responsibility to ensure timely payment of maintenance fees when due. More information is available at www.uspto.gov/PatentMaintenanceFees.

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)

22442 7590 06/21/2018

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202
UNITED STATES OF AMERICA

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.

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.
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON	3957

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	$500	$0	$0	$500	09/21/2018

EXAMINER	ART UNIT	CLASS-SUBCLASS
LIN, SUN J	2851	320-109000

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,

(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.

1 _____

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

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.

❑ 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.

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. _____

PTOL-85 Part B (10-13) Approved for use through 10/31/2013. OMB 0651-0033 U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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.
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON	3957

22442 7590 06/21/2018

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202
UNITED STATES OF AMERICA

EXAMINER	
LIN, SUN J	

ART UNIT	PAPER NUMBER
2851	

DATE MAILED: 06/21/2018

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Notice of Allowability	Application No. 15/355,409	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 *Response After Final Rejection filed on 05/11/2018*.
   ☐ 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 *7-26, renumbered (37 CFR 1.126)*. 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)
2. ☐ Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date _____
3. ☐ Examiner's Comment Regarding Requirement for Deposit of Biological Material
4. ☐ Interview Summary (PTO-413), Paper No./Mail Date _____ .
5. ☐ Examiner's Amendment/Comment
6. ☒ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

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 *Response to Final Action* filed on *05/11/2018* and *Terminal Disclaimer* filed on *01/23/2018* regarding patent application 15/355,409 and *Preliminary Amendment* concurrently filed on *11/18/2016*. Claims 1 – 6 were originally filed. Claims 1 – 6 have been cancelled, and Claims 7 – 26 have been added in the *Preliminary Amendment*. *The Terminal Disclaimer fielded was approved and recorded*. *Claims 7 – 26 remain pending in the application*.

Reasons for Allowance

2. Claims 7 – 26 are allowed over the prior art of record. An examiner's statement of reasons for allowance is given in the following:

Claims 7 – 26 are allowed due to allowable subject matters similar to that cited in the *Office Action* mailed *08/31/2016* for application 14/569,352 filed on *12/12/2014*, and subject matters cited in the US Patent 9,525,297.

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".

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Conclusion

3. 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.

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

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15355409	WANG, CALVIN SHIENING
	Examiner	Art Unit
	SUN LIN	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	12/07/2017	04/27/2018							
	1	-	-							
	2	-	-							
	3	-	-							
	4	-	-							
	5	-	-							
	6	-	-							
1	7	✓	✓							
2	8	✓	✓							
3	9	✓	✓							
4	10	✓	✓							
5	11	✓	✓							
6	12	✓	✓							
7	13	✓	✓							
8	14	✓	✓							
9	15	✓	✓							
10	16	✓	✓							
11	17	✓	✓							
12	18	✓	✓							
13	19	✓	✓							
14	20	✓	✓							
15	21	✓	✓							
16	22	✓	✓							
17	23	✓	✓							
18	24	✓	✓							
19	25	✓	✓							
20	26	✓	✓							

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15355409	WANG, CALVIN SHIENING
	Examiner	**Art Unit**
	SUN LIN	2851

CPC						
Symbol					**Type**	**Version**
B60L		11	/	1809	F	2013-01-01
H02J		7	/	0029	A	2013-01-01
H02J		7	/	0065	I	2013-01-01
H02J		9	/	005	A	2013-01-01
H02J		7	/	0034	I	2013-01-01
H02J		7	/	0068	I	2013-01-01
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CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
			/					
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NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/SUN LIN/ Primary Examiner.Art Unit 2851	06/04/2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

U.S. Patent and Trademark Office

Part of Paper No. 20180604

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15355409	WANG, CALVIN SHIENING
	Examiner	**Art Unit**
	SUN LIN	2851

US ORIGINAL CLASSIFICATION		INTERNATIONAL CLASSIFICATION										
CLASS	SUBCLASS	CLAIMED					NON-CLAIMED					
320	109	H	0	2	J	7 / 00 (2006.01.01)						
CROSS REFERENCE(S)		B	6	0	L	11 / 18 (2006.01.01)						
CLASS	SUBCLASS (ONE SUBCLASS PER BLOCK)											

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	20	
/SUN LIN/ Primary Examiner.Art Unit 2851	06/04/2018	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	1	2

U.S. Patent and Trademark Office

Part of Paper No. 20180604

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15355409	WANG, CALVIN SHIENING
	Examiner	**Art Unit**
	SUN LIN	2851

☐ Claims renumbered in the same order as presented by applicant ☒ CPA ☒ T.D. ☐ R.1.47

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original
1	7	17	23												
2	8	18	24												
3	9	19	25												
4	10	20	26												
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12	18														
13	19														
14	20														
15	21														
16	22														

NONE (Assistant Examiner)	(Date)	**Total Claims Allowed:** 20	
/SUN LIN/ Primary Examiner.Art Unit 2851 (Primary Examiner)	06/04/2018 (Date)	O.G. Print Claim(s) 1	O.G. Print Figure 2

U.S. Patent and Trademark Office

Part of Paper No. 20180604

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Calvin Shiening Wang	**Examiner Name:**	LIN, SUN J
Application No.:	15/355,409	**Group Art Unit:**	2851
Filing Date:	11/18/2016	**Confirmation No.:**	3957
Attorney Docket No.:	8523WANG-1-CON		
Title:	AUTOMOBILE CHARGER	**RESPONSE AFTER FINAL ACTION**	

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

Dear Sir or Madam:

Applicant submits this Response to address the final Office Action having a mailing date of May 3, 2018. Applicant does not believe that any fees are due with respect to the entry of this Response. However, if any fees are due relating to the entry hereof, please debit those fees from Deposit Account No. 19-1970.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15355409	WANG, CALVIN SHIENING
	Examiner	Art Unit
	SUN LIN	2851

CPC- SEARCHED		
Symbol	Date	Examiner
	11/29/2017	/JSL/
B60L 11/1809; H02J 7/0034; H02J 7/0068		

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
320	109	11/29/2017	/JSL/

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
EAST [US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB]	11/29/2017	/JSL/
EAST [US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB]	12/7/2017	/JSL/

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner
320	109	6/4/2018	/JSL/

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

First Named Inventor:	Calvin Shiening Wang	**Examiner Name:**	LIN, SUN J
Application No.:	15/355,409	**Group Art Unit:**	2851
Filing Date:	11/18/2016	**Confirmation No.:**	3957
Attorney Docket No.:	8523WANG-1-CON		
Title:	AUTOMOBILE CHARGER	**RESPONSE AFTER FINAL ACTION**	

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

Dear Sir or Madam:

Applicant submits this Response to address the final Office Action having a mailing date of May 3, 2018. Applicant does not believe that any fees are due with respect to the entry of this Response. However, if any fees are due relating to the entry hereof, please debit those fees from Deposit Account No. 19-1970.

LISTING OF CLAIMS

1-6. (Cancelled)

7. (Previously Presented) 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.

8. (Previously Presented) The automobile charger according to claim 7, wherein:

the power converter includes a one-way current device, a resistance R1, a capacitance Cl, 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 Cl, 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 Rl2 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 RT;

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;

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 Rl4, wherein the other end of the resistance Rl4 is grounded.

9. (Previously Presented) The automobile charger according to claim 7, 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.

10. (Previously Presented) The automobile charger according to claim 7, wherein the battery level detector is further configured to provide a protection for the first battery.

11. (Previously Presented) The automobile charger according to claim 7, 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.

12. (Previously Presented) The automobile charger according to claim 7, wherein the switching circuit is an electronic switch.

13. (Previously Presented) 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.

14. (Previously Presented) The charging device of claim 13, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

15. (Previously Presented) The charging device of claim 14, wherein the load is a second battery and a motor powered by the second battery.

16. (Previously Presented) The charging device of claim 15, 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.

17. (Previously Presented) The charging device of claim 14, 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.

18. (Previously Presented) The charging device of claim 13, wherein the battery level detector detects a recharging level of the first battery.

19. (Previously Presented) The charging device of claim 18, 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.

20. (Previously Presented) The charging device of claim 13, further comprising:

a power converter to convert power received from the first battery into a stable power source that powers the microcontroller.

21. (Previously Presented) The charging device of claim 20, wherein the power converter is a direct current to direct current (DC-DC) converter.

22. (Previously Presented) The charging device of claim 13, wherein the level of the first battery is a voltage level.

23. (Previously Presented) 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.

24. (Previously Presented) The method of claim 23, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

25. (Previously Presented) The method of claim 24, wherein the load is a second power source and an electrical component powered by the second power source,

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.

26. (Previously Presented) The method of claim 24, 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.

REMARKS

Applicant submits this Response to address the final Office Action of May 3, 2018 ("Office Action"). No claims have been amended, added or cancelled. Therefore, Claims 7-26 are present for examination. Applicant respectfully requests reconsideration of this application in light of the information below.

Interview Summary

Applicant was unable to reach Examiner Sun James Lin after multiple attempts, and therefore contacted Supervisory Examiner Jack Chiang on May 10, 2018. Applicant explained to Examiner Chiang the sequence of events set forth below, including that following disapproval of the January 11, 2018 terminal disclaimer filed by Applicant, Applicant filed a second terminal disclaimer on January 23, 2018, which was approved the same day. Examiner Chiang was unaware of any reason why the terminal disclaimer filed and approved on January 23, 2018 would not be sufficient to overcome the double patenting rejection first set forth in the December 14, 2018 Office Action, and subsequently made final (despite the approved terminal disclaimer) in the May 3, 2018 final Office Action.

Double Patenting

The Office Action finally rejects Claims 7-26[1] on grounds of nonstatutory double patenting in relation to Claims 1-6 of co-owned U.S. Patent No. 9,525,297. Without acquiescing to the propriety of the double-patenting rejection or to the accuracy of the assertions made therein regarding similarities between the current application and the claims of the '297 Patent, Applicant has submitted a Terminal Disclaimer to overcome the rejection and thereby expedite allowance of the subject application. Applicant's Terminal Disclaimer was filed and approved on January 23, 2018.

More specifically, the Office Action notes that a "Terminal Disclaimer filed on 01/11/2018 has been reviewed and disapproved." Office Action, p. 4 (emphasis omitted). While Applicant did file a Terminal Disclaimer on January 11, 2018 that was subsequently disapproved, Applicant

[1] The Office Action indicates that "Claims 1-20 are rejected under the judicially created doctrine of obviousness-type double patenting," but Applicant understands the rejection to apply to pending Claims 7-26, and responds accordingly.

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corrected the issue that led to the disapproval and re-filed a second Terminal Disclaimer, which was both filed and approved on January 23, 2018. Applicant attempted to contact the Examiner upon receipt of the March 30, 2018 Office Communication to ensure that the Examiner was aware of this second, approved Terminal Disclaimer, but was unsuccessful in reaching the Examiner.

Applicant believes that the Terminal Disclaimer filed and approved on January 23, 2018 renders the double patenting rejection moot. Further, Applicant respectfully submits that in light of the approval of the second-filed Terminal Disclaimer on January 23, 2018, there is and was no basis to make the double patenting rejection final. Applicant therefore respectfully requests that the finality of the Office Action be withdrawn.[2]

Indication of Allowable Subject Matter

Applicant thanks the Examiner for indicating that Claims 7-26 contain allowable subject matter, and respectfully requests an early indication of allowance.

Conclusion

Based upon the foregoing, Applicant believes that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

SHERIDAN ROSS P.C.

Date: May 11, 2018

By: /David B. Kellis/

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

[2] Applicant makes this request out of an abundance of caution, recognizing that the practical import thereof may be limited.

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Electronic Acknowledgement Receipt

EFS ID:	32606607
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
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-CON
Receipt Date:	11-MAY-2018
Filing Date:	18-NOV-2016
Time Stamp:	19:21:35
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		20180511_Amend_02-FOA.pdf	117414 bbb7f44a1f7ae6da73bc89a9516807d9b11e0e5b	yes	8

Chic Electrics, Exhibit 1004
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	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Response After Final Action	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	8
Warnings:			
Information:			
	Total Files Size (in bytes):	117414	

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.

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PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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 15/355,409	Filing Date 11/18/2016	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) 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 05/11/2018	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $50 =	0
Independent (37 CFR 1.16(h))	* 3	Minus	***3	= 0	X $230 =	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) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
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
RAMONA WILSON

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.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON	3957

22442 7590 05/03/2018

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

EXAMINER
LIN, SUN J

ART UNIT	PAPER NUMBER
2851	

NOTIFICATION DATE	DELIVERY MODE
05/03/2018	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

Office Action Summary	Application No. 15/355,409	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 *3* 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 *1/11/2018*.

☐ 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) *7-26* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *7-26* 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 *11/18/2016* 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 *1/11/18,4/12/18*.

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

4) ☐ Other: _____.

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 applicants' *Amendment & Remarks* and *Terminal Disclaimer* filed on *01/11/2018* and *IDS* filed on *01/11/2018* and *04/12/2018*, respectively, regarding application 15/355,409 and *Preliminary Amendment* filed on *11/18/2016*. Applicants' *arguments* included in the *Remarks* have been reviewed and fully considered. The *Terminal Disclaimer* was disapproved (*Reasons of Disapproval* are given in *an Office Communication* mailed on *03/30/2018*). The IDS has been reviewed and recorded. Claims 1 – 6 were originally filed. Claims 1 – 6 have been cancelled, and Claims 7 – 26 have been added in the *Preliminary Amendment*. *Claims 7 – 26 remain pending in the application*.

Double Patenting

2. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double

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patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 1 – 20 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 – 6 of U.S. Patent No. 9,525,297 B2. Although the conflicting claims are not all word-to-word identical, they are not patentably distinct from each other because they have similar limitations. Key similarities between the current application and the U.S. Patent No. 9,525,297 B2 are summarized and listed below:

Current Application	U.S. Patent No. 9,525,297 B2
first battery	direct current power supply
first pole	positive pole
second pole	negative pole
power converter	DC to DC module
switching circuit	automobile start control module
battery level detector	battery voltage detection module
load	load module
load detector	load detection module
microcontroller	microcontroller

Examiner's Remarks

4. Based on results of preliminary prior art searches, Claims 7 – 26 contain allowable subject matters. Claims 7 – 26 will be allowed pending on a timely filed *terminal disclaimer* in compliance with 37 CFR 1.321(c) to overcome an actual rejection as explained in the "***Double Patenting***" given above.

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Remarks on Terminal Disclaimer filed on 01/11/2018

5. The Terminal Disclaimer filed on *01/11/2018* has been reviewed and disapproved. Reasons of disapproval are included in an **ATTACHMENT** given in the *Office Communication* mailed on *03/30/2018*. Please prepare and resubmit a terminal disclaimer based on instructions explained in the **ATTACHMENT**.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

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.

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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

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Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	15/355,409
				Filing Date	November 18, 2016
				First Named Inventor	Calvin Shiening Wang
				Art Unit	2851
				Examiner Name	Sun J Lin
Sheet	1	of	1	Attorney Docket Number	8523WANG-1-CON

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	3343057	09/19/1967	Smith	
	2	3590357	06/29/1971	Reid	
	3	3950668	04/13/1976	Sancey et al.	
	4	9007015	04/14/2015	Nook et al.	
	5	9412994	08/09/2016	Koebler	
	6	9496728	11/15/2016	Lei	
	7	2009/0174362	07/09/2009	Richardson et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]; Number[4]; Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON-PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	8	"HT75XX-1 100mA Low Power LDO," Holtek Semiconductor Inc., Jan. 12, 2006, Rev. 1.50, 14 pages
	9	"LM78XX/LM78XXA 3-Terminal 1A Positive Voltage Regulator," Fairchild Semiconductor Corporation, Mar. 2008, Rev. 1.0, 28 pages

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /JSL/

Examiner Signature	/SUN J LIN/	Date Considered	04/17/2018

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	15/355,409
				Filing Date	November 18, 2016
				First Named Inventor	Calvin Shiening Wang
				Art Unit	2851
				Examiner Name	Sun J Lin
Sheet	1	of	2	Attorney Docket Number	8523WANG-1-CON

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	5793185	08/11/1998	Prelec	
	2	6130519	10/10/2000	Whiting et al.	
	3	6262492	07/17/2001	Sheng	
	4	6351102	02/26/2002	Troy	
	5	7199555	04/03/2007	Hung	
	6	7345450	03/18/2008	Krieger et al.	
	7	8692513	04/08/2014	Gaul et al.	
	8	8723477	05/13/2014	Gaul et al.	
	9	9248746	02/02/2016	Wen	
	10	9263907	02/16/2016	Richardson et al.	
	11	9352652	05/31/2016	Cavazos et al.	
	12	9506446	11/29/2016	Xinfang	
	13	2005/0110467	05/26/2005	Thomason	
	14	2009/0008374	01/08/2009	Fosbinder	
	15	2012/0025763	02/02/2012	Hsiao et al.	
	16	2013/0015814	01/17/2013	Kelty et al.	
	17	2015/0032312	01/29/2015	Lambrinos et al.	
	18	2015/0212135	07/30/2015	Jin et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]; Number[4]; Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON-PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	19	"3000A 12/24V High Cranking Sure Start Jumpstarter," Projecta, Oct. 2011, 12 pages

Examiner Signature	/SUN J LIN/	Date Considered	02/27/2018

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /JSL/

Substitute for form 1449/PTO **INFORMATION DISCLOSURE STATEMENT BY APPLICANT** *(Use as many sheets as necessary)*				***Complete if Known***	
				Application Number	15/355,409
				Filing Date	November 18, 2016
				First Named Inventor	Calvin Shiening Wang
				Art Unit	2851
				Examiner Name	Sun J Lin
Sheet	2	of	2	Attorney Docket Number	8523WANG-1-CON

	20	"900 Peak Amp Jump-Starter Model No. PKC0AZ Owner's Manual and Warranty Information," Old World Industries, LLC, © 2014, 8 pages
	21	"Start-It Jump Starter 12 Volt DC Power Supply User's Manual & Warranty Information," Vector Manufacturing, © 2005, 6 pages

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /JSL/

Examiner Signature	/SUN J LIN/	Date Considered	02/27/2018

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15355409	WANG, CALVIN SHIENING
	Examiner	Art Unit
	SUN LIN	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	12/07/2017	04/27/2018							
	1	-	-							
	2	-	-							
	3	-	-							
	4	-	-							
	5	-	-							
	6	-	-							
	7	✓	✓							
	8	✓	✓							
	9	✓	✓							
	10	✓	✓							
	11	✓	✓							
	12	✓	✓							
	13	✓	✓							
	14	✓	✓							
	15	✓	✓							
	16	✓	✓							
	17	✓	✓							
	18	✓	✓							
	19	✓	✓							
	20	✓	✓							
	21	✓	✓							
	22	✓	✓							
	23	✓	✓							
	24	✓	✓							
	25	✓	✓							
	26	✓	✓							

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 07/19/2018

DMARTINO SALE #00000001 Mailroom Dt: 04/12/2018 191970 15355409
01 FC : 2806 120.00 DA

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 07/19/2018

DMARTINO ADJ #00000002 Mailroom Dt: 04/12/2018
Seq No: 4899 Sales Acctg Dt: 04/13/2018 191970 15355409
01 FC : 1806 240.00 CR

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	15/355,409
				Filing Date	November 18, 2016
				First Named Inventor	Calvin Shiening Wang
				Art Unit	2851
				Examiner Name	Sun J Lin
Sheet	1	of	1	Attorney Docket Number	8523WANG-1-CON

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	3343057	09/19/1967	Smith	
	2	3590357	06/29/1971	Reid	
	3	3950668	04/13/1976	Sancey et al.	
	4	9007015	04/14/2015	Nook et al.	
	5	9412994	08/09/2016	Koebler	
	6	9496728	11/15/2016	Lei	
	7	2009/0174362	07/09/2009	Richardson et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]; Number[4]; Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON-PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	8	"HT75XX-1 100mA Low Power LDO," Holtek Semiconductor Inc., Jan. 12, 2006, Rev. 1.50, 14 pages
	9	"LM78XX/LM78XXA 3-Terminal 1A Positive Voltage Regulator," Fairchild Semiconductor Corporation, Mar. 2008, Rev. 1.0, 28 pages

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Patent Application Fee Transmittal

Application Number:	15355409
Filing Date:	18-Nov-2016
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Filer:	David B. Kellis/Robert Roe-Pachirat
Attorney Docket Number:	8523WANG-1-CON

Filed as Large 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:				

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	1806	1	240	240
		Total in USD ($)		**240**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	32327721
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	22442
Filer:	David B. Kellis/Robert Roe-Pachirat
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523WANG-1-CON
Receipt Date:	12-APR-2018
Filing Date:	18-NOV-2016
Time Stamp:	18:15:18
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$240
RAM confirmation Number	041318INTEFSW00004899191970
Deposit Account	191970
Authorized User	Robert Roe-Pachirat

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.17 (Patent application and reexamination processing fees)

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		8523WANG-1-CON_IDS_03.pdf	216994 9eda52306558cd8070b68c74d7340b327e8daebb	yes	4
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Transmittal Letter		1	3	
	Information Disclosure Statement (IDS) Form (SB08)		4	4	
Warnings:					
Information:					
2	Non Patent Literature	HT75XX-1_100mA_Low_Power_LDO_HOLTEK.pdf	141192 178c3b54ea946038495a365de5f1c1c38789e6e3	no	14
Warnings:					
Information:					
3	Non Patent Literature	LM78XX_LM78XXA_3-Terminal_1A_Positive_Voltage_Regulator.pdf	854771 e7778dc0ec8e2df9c5dc0a0336b9748240a401d0	no	28
Warnings:					
Information:					
4	Fee Worksheet (SB06)	fee-info.pdf	30570 ca1e24bf0344b7745c4685a0bf2ad335e5f5a31a	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	1243527		

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:	)	Group Art Unit: 2851
Calvin Shiening Wang	)	Confirmation No.: 3957
Serial No.: 15/355,409	)	Examiner: Sun J Lin
Filed: November 18, 2016	)	SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
Atty. File No.: 8523WANG-1-CON	)	
Entitled: "AUTOMOBILE CHARGER"	)	*Electronically Submitted*

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

Dear Commissioner:

The references cited on attached Form PTO/SB08 are being called to the attention of the Examiner.

☒ Copies of the cited non-patent and/or foreign references are enclosed herewith.

☐ Copies of the cited U.S. patents and/or patent applications are enclosed herewith.

☒ Copies of the cited U.S. patents/patent application publications are not enclosed in accordance with 37 C.F.R. § 1.98(a).

☐ Copies of the cited references are not enclosed, in accordance with 37 C.F.R. § 1.98(d), because the references were cited by or submitted to the U.S. Patent and Trademark Office in prior application Serial No. _____ filed _____, which is relied upon for an earlier filing date under 35 U.S.C. § 120.

☐ To the best of applicants' belief, the pertinence of the foreign-language references is believed to be summarized in the attached English abstracts and/or in the figures, although applicants do not necessarily vouch for the accuracy of the translation.

☒ Examiner's attention is drawn to the following related applications:

- Serial No. 15/923,219 filed 03/16/2018 (Attorney's Ref. No. 8523WANG-1-CON-2)

☐ Other:_____

Submission of the above information is not intended as an admission that any item is citable under the statutes or rules to support a rejection, that any item disclosed represents analogous art, or that those skilled in the art would refer to or recognize the pertinence of any reference without the benefit of hindsight, nor should an inference be drawn as to the pertinence

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of the references based on the order in which they are presented. Submission of this statement should not be taken as an indication that a search has been conducted, or that no better art exists.

It is respectfully requested that the cited information be expressly considered during the prosecution of this application and the references made of record therein.

FEES

☐	**37 CFR 1.97(b)**: No fee is believed due in connection with this submission, because the information disclosure statement submitted herewith is satisfied by one of the following conditions ("X" indicates satisfaction): ☐ Within three months of the filing date of a national application other than a continued prosecution application under 37 CFR 1.53(d), or ☐ Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application, or ☐ Before the mailing date of a first Office Action on the merits, or ☐ Before the mailing of a first Office action after the filing of a request for continued examination under 37 CFR 1.114. Although no fee is believed due, if any fee is deemed due in connection with this submission, please charge such fee to Deposit Account 19-1970.
☒	**37 CFR 1.97(c)**: The information disclosure statement transmitted herewith is being filed after all the above conditions (37 CFR 1.97(b)), but before the mailing date of any one of the following conditions: (1) a final action under 37 C.F.R. 1.113, or (2) a notice of allowance under 37 C.F.R. 1.311, or (3) an action that otherwise closes prosecution in the application. This Information Disclosure Statement is accompanied by: ☐ A Certification (below) as specified by 37 C.F.R. 1.97(e). Although no fee is believed due, if any fee is deemed due in connection with this submission, please charge such fee to Deposit Account 19-1970. OR ☒ Please charge Deposit Account 19-1970 in the amount of $240.00 for the fee set forth in 37 C.F.R. 1.17(p) for submission of an information disclosure statement. Please credit any overpayment or charge any underpayment to Deposit Account 19-1970.
☐	**37 CFR 1.97(d)**: This Information Disclosure Statement is being submitted after the period specified in 37 CFR 1.97(c). ☐ This information Disclosure Statement includes a Certification (below) as specified by 37 C.F.R. 1.97(e) AND ☐ Applicants hereby requests consideration of the reference(s) disclosed herein. Please charge Deposit Account 19-1970 in the amount of $240.00 under 37 C.F.R. 1.17(p). Please credit any overpayment or charge any underpayment to Deposit Account 19-1970. Election to pay the fee should not be taken as an indication that applicant(s) cannot execute a certification.

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Shenzhen Chic Electrics v. Pilot

Certification (37 C.F.R. 1.97(e))
(Applicable only if checked)

☐ The undersigned certifies that:

☐ Each item of information contained in the Information Disclosure Statement submitted herewith was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement. 37 C.F.R. 1.97(e)(1).

☐ A copy of the communication from the foreign patent office is enclosed.

OR

☐ No item of information contained in the Information Disclosure Statement submitted herewith was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement. 37 C.F.R. 1.97(e)(2).

Respectfully submitted,

SHERIDAN ROSS P.C.

By: /David B. Kellis/
David B. Kellis
Registration No. 59377
1560 Broadway, Suite 1200
Denver, Colorado 80202-5141
(303) 863-9700

Date: April 12, 2018

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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.
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON	3957

22442 7590 03/30/2018

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

EXAMINER
LIN, SUN J

ART UNIT	PAPER NUMBER
2851	

NOTIFICATION DATE	DELIVERY MODE
03/30/2018	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 DEPARTMENT OF COMMERCE
U.S. Patent and Trademark Office
Address : COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450

APPLICATION NO./ CONTROL NO.	FILING DATE	FIRST NAMED INVENTOR / PATENT IN REEXAMINATION	ATTORNEY DOCKET NO.
15/355,409	18 November, 2016	WANG, CALVIN SHIENING	8523WANG-1-CON

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

EXAMINER	
SUN LIN	
ART UNIT	PAPER
2851	20180323

DATE MAILED:

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

Commissioner for Patents

(1) Terminal Disclaimer field on 01/11/2018 was disapproved (2) for your reference, attached herein are reasons of approval (3) please prepare and resubmit a terminal disclaimer based on the instuctions explained in the attachment.

ATTACHMENT:

The terminal disclaimer identifies a party who is not the applicant (only for applicants filed on or after September 16, 2012; See FP 14.26.10):

For cases filed on/after 9/16/12, 37 CFR 1.321 specifies that only the applicant can disclaim, and the terminal disclaimer must specify the extent of the applicant's ownship.

Below is what needs to be done to correct the defects:

A request under 37 CFR 1.46(c) to change the applicant needs to be filed, which is (1) a request, signed by a 1.33(b) party, (2) a corrected ADS (37 CFR 1.76(c)) that identifies the "new" applicant in the applicant information, and is underlined since it is new, and (3) a 3.73(c) statement showing chain of title to the new applicant. Along with the 1.46(c) request we need a POA that gives power to the attorney who is signing the TD, along with another copy of the TD, or a TD that is signed by the applicant.

Re-submit the TD with no additional fee required.

/SUN LIN/
Primary Examiner, Art Unit 2851

PTO-90C (Rev.04-03)

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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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

APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON

CONFIRMATION NO. 3957

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

POA ACCEPTANCE LETTER

OC00000096877233

Date Mailed: 01/24/2018

NOTICE OF ACCEPTANCE OF POWER OF ATTORNEY

This is in response to the Power of Attorney filed 01/22/2018.

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**.

/byemane/

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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
15/355,409	11/18/2016	2851	800	8523WANG-1-CON	20	3

CONFIRMATION NO. 3957

CORRECTED FILING RECEIPT

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

OC000000098877250

Date Mailed: 01/24/2018

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)

Pilot Inc., City of Industry, CA;

Power of Attorney: The patent practitioners associated with Customer Number 22442

Domestic Priority data as claimed by applicant

This application is a CON of 14/569,352 12/12/2014 PAT 9525297

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 04/28/2014

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

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: 11/29/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/355,409**

Projected Publication Date: Not Applicable

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 AssetsControl, 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.

Doc Code: DIST.E.FILE Document Description: Electronic Terminal Disclaimer - Filed	PTO/SB/26 U.S. Patent and Trademark Office Department of Commerce

Electronic Petition Request	**TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT**
Application Number	15355409
Filing Date	18-Nov-2016
First Named Inventor	Calvin Wang
Attorney Docket Number	8523WANG-1-CON
Title of Invention	AUTOMOBILE CHARGER

☒ Filing of terminal disclaimer does not obviate requirement for response under 37 CFR 1.111 to outstanding Office Action

☒ This electronic Terminal Disclaimer is not being used for a Joint Research Agreement.

Owner	Percent Interest
Pilot Inc.	100%

The owner(s) with percent interest listed above in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of prior patent number(s)

9525297

as the term of said prior patent is presently shortened by any terminal disclaimer. The owner hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the prior patent are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the owner does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the prior patent, "as the term of said prior patent is presently shortened by any terminal disclaimer," in the event that said prior patent later:
- expires for failure to pay a maintenance fee;
- is held unenforceable;
- is found invalid by a court of competent jurisdiction;
- is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
- has all claims canceled by a reexamination certificate;
- is reissued; or
- is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

◯ Terminal disclaimer fee under 37 CFR 1.20(d) is included with Electronic Terminal Disclaimer request.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

◉ I certify, in accordance with 37 CFR 1.4(d)(4), that the terminal disclaimer fee under 37 CFR 1.20(d) required for this terminal disclaimer has already been paid in the above-identified application.	
THIS PORTION MUST BE COMPLETED BY THE SIGNATORY OR SIGNATORIES 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 is of record in this application Registration Number 59377 ◯ A sole inventor ◯ A joint inventor; I certify that I am authorized to sign this submission on behalf of all of the inventors as evidenced by the power of attorney in the application ◯ A joint inventor; all of whom are signing this request	
Signature	/David B. Kellis/
Name	David B. Kellis

*Statement under 37 CFR 3.73(b) is required if terminal disclaimer is signed by the assignee (owner).
Form PTO/SB/96 may be used for making this certification. See MPEP § 324.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Doc Code: DISQ.E.FILE
Document Description: Electronic Terminal Disclaimer – Approved

Application No.: 15355409

Filing Date: 18-Nov-2016

Applicant/Patent under Reexamination: Wang

Electronic Terminal Disclaimer filed on January 23, 2018

☒ APPROVED

This patent is subject to a terminal disclaimer

☐ DISAPPROVED

Approved/Disapproved by: Electronic Terminal Disclaimer automatically approved by EFS-Web

U.S. Patent and Trademark Office

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	31583866
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
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-CON
Receipt Date:	23-JAN-2018
Filing Date:	18-NOV-2016
Time Stamp:	17:11:20
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	Terminal Disclaimer-Filed (Electronic)	eTerminal-Disclaimer.pdf	32040 79e3ba499aa1348f9dadab858378fedccdf165b5	no	2

Warnings:

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Information:	
Total Files Size (in bytes):	32040

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

CORRECTED ADS FORM

Application Number	15355409
Title of Invention	AUTOMOBILE CHARGER

Inventor Information

****If no data is shown, no data has been corrected****

	Data of Record	Updated Data
Order Number		
Name		
Residence Information		
Residency		
City		
State		
Country of Residence		
Mailing Address of Inventor		
Address 1		
Address 2		
City,State/Province, Postal Code		
Country		

Application Information

	Data of Record	Updated Data
Title of Invention	AUTOMOBILE CHARGER	
Attorney Docket Number	8523WANG-1-CON	
Entity Type	Small	

Domestic Benefit/National Stage Information

****If no data is shown, no data has been corrected****

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121,365(c), or 386(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(a).

		Data of Record	Updated Data
	Prior Application Status		
	Application Number		
	Continuity Type		
	Prior Application Number		
	Filing Date (YYYY-MM-DD)		
	Patent Number		
	Issue Date (YYYY-MM-DD)		

Foreign Priority Information

****If no data is shown, no data has been corrected****

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. 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(i)(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).

		Data of Record	Updated Data
	Application Number		
	Country		
	Filing Date		
	Access Code		

Applicant Information

****If no data is shown, no data has been corrected****
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.

	Data of Record	Updated Data
Applicant Type	ASG	
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		
Applicant is an Organization	Yes	
Name		
Organization Name	~~Wang's International, Inc.~~	Pilot Inc.
Address 1		13000 Temple Boulevard
Address 2		

Corrected ADS 1.0

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

City,State/Province,Postal Code	~~City of Industry CA~~	City of Industry CA 91746
Country		US
Phone Number		
Fax Number		
Email Address		

Assignee Information including Non-Applicant Assignee Information

****If no data is shown, no data has been corrected****
Providing this information in the application data sheet does not substitute for compliance with any requirement of part 3 of Title 37 of the CFR to have an assignment recorded in the Office

	Data of Record	Updated Data
Order		
Applicant is an Organization		
Name		
Organization Name		

Mailing Address

Address 1		
Address 2		
City,State/Province,Postal Code		
Country		
Phone Number		
Fax Number		
Email Address		

Corrected ADS 1.0

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Signature

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b).

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

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

Corrected ADS 1.0

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

PTO/AIA/96 (08-12)
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U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

STATEMENT UNDER 37 CFR 3.73(c)

Applicant/Patent Owner: Pilot Inc.

Application No./Patent No.: 15/355,409 Filed/Issue Date: 11/18/2016

Titled: AUTOMOBILE CHARGER

Pilot 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: Wangs International, Inc.

   The document was recorded in the United States Patent and Trademark Office at
   Reel 044582, Frame 0233, 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 044582, Frame 0376, or for which a copy thereof is attached.

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.

PTO/AIA/96 (08-12)
Approved for use through 01/31/2013. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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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.

/David B. Kellis/	01/22/2018
Signature	Date
David B. Kellis	59,377
Printed or Typed Name	Title or Registration 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.

Electronic Acknowledgement Receipt

EFS ID:	31562060
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	
Customer Number:	22442
Filer:	David B. Kellis/Mandi Lamberson
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523WANG-1-CON
Receipt Date:	22-JAN-2018
Filing Date:	18-NOV-2016
Time Stamp:	13:25:42
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	Application Data Sheet to update/ correct info	CorrectedADS.pdf	64798 cd14a8ec8167afa523ffcf7dbea6ea786824572c	no	5

Warnings:

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Information:					
2	Assignee showing of ownership per 37 CFR 3.73	20180122_373-Statement.pdf	119529 3f641ddeea7fe7cc51f525372d3c9129102136e0	no	3
Warnings:					
Information:					
			Total Files Size (in bytes):	184327	

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.

PTO/AIA/82A (07-13)
Approved for use through 11/30/2014. OMB 0651-0051
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

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	15/355,409
Filing Date	2016-11-18
First Named Inventor	Calvin Shiening Wang
Title	Automobile Charger
Art Unit	2851
Examiner Name	LIN, SUN J
Attorney Docket Number	8523WANG-1-CON

SIGNATURE of Applicant or Patent Practitioner

Signature	/David B. Kellis/	Date (Optional)	01/22/2018
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.

Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
Approved for use through 11/30/2014. OMB 0651-0031
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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

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):

Pilot, 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	Michael Du	Date (Optional)	8/30/16
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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	31564955
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	22442
Filer:	David B. Kellis
Filer Authorized By:	
Attorney Docket Number:	8523WANG-1-CON
Receipt Date:	22-JAN-2018
Filing Date:	18-NOV-2016
Time Stamp:	13:46:13
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	20180122_POA.pdf	449523 e736420666ab35938cfd9825ab37b433011 7b14b	no	2
Warnings:					

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Information:	
Total Files Size (in bytes):	449523

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON

CONFIRMATION NO. 3957

IMPROPER CPOA LETTER

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

OC000000096660908

Date Mailed: 01/16/2018

NOTICE REGARDING POWER OF ATTORNEY

This is in response to the power of attorney filed 01/10/2018. The power of attorney in this application is not accepted for the reason(s) listed below:

- The power of attorney has not been accepted because the party who is giving power 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 party who is not the applicant must become the applicant in accordance with 37 CFR 1.46(c) and appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. For a reissue application, reexamination proceeding, or supplemental examination proceeding, a patent owner who was not the applicant under 37 CFR 1.46 must appoint any power of attorney in compliance with 37 CFR 3.71 and 3.73. See 37 CFR 1.32(b)(4).

/dtdinh/

Office of Data Management, Application Assistance Unit (571) 272-4000, or (571) 272-4200, or 1-888-786-0101

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
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON

CONFIRMATION NO. 3957

IMPROPER CFR REQUEST

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

OC000000096660943

Date Mailed: 01/16/2018

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:

- 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).

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**.

/dtdinh/

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Application Number	Application/Control No.	Applicant(s)/Patent under Reexamination	
	15/355,409	WANG, CALVIN SHIENING	

Document Code - DISQ	Internal Document – DO NOT MAIL

TERMINAL DISCLAIMER	☐ APPROVED	☒ DISAPPROVED
Date Filed : 11 January, 2018	This patent is subject to a Terminal Disclaimer	

Approved/Disapproved by:

CHARRISSA BROWN

Technology Center: PLRC

Telephone: (571)272-1558

The terminal disclaimer identifies a party who is not the applicant (only for applications filed on or after September 16, 2012; See FP 14.26.10):

For cases filed on/after 9/16/12, 37 CFR 1.321 specifies that only the applicant can disclaim, and the terminal disclaimer must specify the extent of the applicant's ownership.

Below is what needs to be done to correct the defects:

A request under 37 CFR 1.46(c) to change the applicant needs to be filed, which is (1) a request, signed by a 1.33(b) party, (2) a corrected ADS (37 CFR 1.76(c)) that identifies the "new" applicant in the applicant information, and is underlined since it is new, and (3) a 3.73(c) statement showing chain of title to the new applicant. Along with the § 1.46(c) request we need a POA that gives power to the attorney who is signing the TD, along with another copy of the TD, or a TD that is signed by the applicant.

Re-submit the TD with no additional fees required.

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	15/355,409
				Filing Date	November 18, 2016
				First Named Inventor	Calvin Shiening Wang
				Art Unit	2851
				Examiner Name	Sun J Lin
Sheet	1	of	2	Attorney Docket Number	8523WANG-1-CON

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	5793185	08/11/1998	Prelec	
	2	6130519	10/10/2000	Whiting et al.	
	3	6262492	07/17/2001	Sheng	
	4	6351102	02/26/2002	Troy	
	5	7199555	04/03/2007	Hung	
	6	7345450	03/18/2008	Krieger et al.	
	7	8692513	04/08/2014	Gaul et al.	
	8	8723477	05/13/2014	Gaul et al.	
	9	9248746	02/02/2016	Wen	
	10	9263907	02/16/2016	Richardson et al.	
	11	9352652	05/31/2016	Cavazos et al.	
	12	9506446	11/29/2016	Xinfang	
	13	2005/0110467	05/26/2005	Thomason	
	14	2009/0008374	01/08/2009	Fosbinder	
	15	2012/0025763	02/02/2012	Hsiao et al.	
	16	2013/0015814	01/17/2013	Kelty et al.	
	17	2015/0032312	01/29/2015	Lambrinos et al.	
	18	2015/0212135	07/30/2015	Jin et al.	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]; Number[4]; Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]

NON-PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	19	"3000A 12/24V High Cranking Sure Start Jumpstarter," Projecta, Oct. 2011, 12 pages

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	15/355,409
				Filing Date	November 18, 2016
				First Named Inventor	Calvin Shiening Wang
				Art Unit	2851
				Examiner Name	Sun J Lin
Sheet	2	of	2	Attorney Docket Number	8523WANG-1-CON

	20	"900 Peak Amp Jump-Starter Model No. PKC0AZ Owner's Manual and Warranty Information," Old World Industries, LLC, © 2014, 8 pages
	21	"Start-It Jump Starter 12 Volt DC Power Supply User's Manual & Warranty Information," Vector Manufacturing, © 2005, 6 pages

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Patent Application Fee Transmittal

Application Number:	15355409
Filing Date:	18-Nov-2016
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Filer:	David B. Kellis/Robert Roe-Pachirat
Attorney Docket Number:	8523WANG-1-CON

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:				

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
SUBMISSION- INFORMATION DISCLOSURE STMT	2806	1	90	90
		Total in USD ($)		**90**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	31479955
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	22442
Filer:	David B. Kellis/Robert Roe-Pachirat
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523WANG-1-CON
Receipt Date:	11-JAN-2018
Filing Date:	18-NOV-2016
Time Stamp:	18:47:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$90
RAM confirmation Number	011218INTEFSW00005972191970
Deposit Account	191970
Authorized User	Robert Roe-Pachirat

The Director of the USPTO is hereby authorized to charge indicated fees and credit any overpayment as follows:

37 CFR 1.17 (Patent application and reexamination processing fees)

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

File Listing:

Document Number	Document Description	File Name	File Size(Bytes)/ Message Digest	Multi Part /.zip	Pages (if appl.)
1		IDS_02.pdf	217957 2159dbbf548c415a03ac71e85e7d34542c6d315f	yes	5
	Multipart Description/PDF files in .zip description				
	Document Description		**Start**	**End**	
	Transmittal Letter		1	3	
	Information Disclosure Statement (IDS) Form (SB08)		4	5	
Warnings:					
Information:					
2	Non Patent Literature	3000A_12_24V_High_Cranking_Sure_Start_Jumpstarter.pdf	289980 326eb306cf8b04c731fd0ecff13ed882ddb338f8	no	12
Warnings:					
Information:					
3	Non Patent Literature	900_Peak_Amp_Jump-Starter.pdf	440237 b5905ba83f1c2fb489918b18465696061dd3aa5e	no	8
Warnings:					
Information:					
4	Non Patent Literature	Start-It_Jump-Starter_12_Volt_DC_Power_Supply.pdf	429934 c6cd29b67083e4529e9e720833b28028d87c37dc	no	6
Warnings:					
Information:					
5	Fee Worksheet (SB06)	fee-info.pdf	30662 219f54eb9d323dfb526a1b5064ee55b3271a38ba	no	2
Warnings:					
Information:					

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Total Files Size (in bytes):	1408770

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:	)	Group Art Unit: 2851
Calvin Shiening Wang	)	Confirmation No.: 3957
Serial No.: 15/355,409	)	Examiner: Sun J Lin
Filed: November 18, 2016	)	SUPPLEMENTAL INFORMATION DISCLOSURE STATEMENT
Atty. File No.: 8523WANG-1-CON	)	
Entitled: "AUTOMOBILE CHARGER"	)	*Electronically Submitted*

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

Dear Commissioner:

The references cited on attached Form PTO/SB08 are being called to the attention of the Examiner.

☒ Copies of the cited non-patent and/or foreign references are enclosed herewith.

☐ Copies of the cited U.S. patents and/or patent applications are enclosed herewith.

☒ Copies of the cited U.S. patents/patent application publications are not enclosed in accordance with 37 C.F.R. § 1.98(a).

☐ Copies of the cited references are not enclosed, in accordance with 37 C.F.R. § 1.98(d), because the references were cited by or submitted to the U.S. Patent and Trademark Office in prior application Serial No. _____ filed _____, which is relied upon for an earlier filing date under 35 U.S.C. § 120.

☐ To the best of applicants' belief, the pertinence of the foreign-language references is believed to be summarized in the attached English abstracts and/or in the figures, although applicants do not necessarily vouch for the accuracy of the translation.

☐ Examiner's attention is drawn to the following related applications:

Serial No. _____ filed _____ (Attorney Ref. No. _____)

Serial No. _____ filed _____ (Attorney Ref. No. _____)

☐ Other:_____

Submission of the above information is not intended as an admission that any item is citable under the statutes or rules to support a rejection, that any item disclosed represents analogous art, or that those skilled in the art would refer to or recognize the pertinence of any reference without the benefit of hindsight, nor should an inference be drawn as to the pertinence

of the references based on the order in which they are presented. Submission of this statement should not be taken as an indication that a search has been conducted, or that no better art exists.

It is respectfully requested that the cited information be expressly considered during the prosecution of this application and the references made of record therein.

FEES

☐	**37 CFR 1.97(b)**: No fee is believed due in connection with this submission, because the information disclosure statement submitted herewith is satisfied by one of the following conditions ("X" indicates satisfaction): ☐ Within three months of the filing date of a national application other than a continued prosecution application under 37 CFR 1.53(d), or ☐ Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application, or ☐ Before the mailing date of a first Office Action on the merits, or ☐ Before the mailing of a first Office action after the filing of a request for continued examination under 37 CFR 1.114. Although no fee is believed due, if any fee is deemed due in connection with this submission, please charge such fee to Deposit Account 19-1970.
☒	**37 CFR 1.97(c)**: The information disclosure statement transmitted herewith is being filed after all the above conditions (37 CFR 1.97(b)), but before the mailing date of any one of the following conditions: (1) a final action under 37 C.F.R. 1.113, or (2) a notice of allowance under 37 C.F.R. 1.311, or (3) an action that otherwise closes prosecution in the application. This Information Disclosure Statement is accompanied by: ☐ A Certification (below) as specified by 37 C.F.R. 1.97(e). Although no fee is believed due, if any fee is deemed due in connection with this submission, please charge such fee to Deposit Account 19-1970. OR ☒ Please charge Deposit Account 19-1970 in the amount of $90.00 for the fee set forth in 37 C.F.R. 1.17(p) for submission of an information disclosure statement. Please credit any overpayment or charge any underpayment to Deposit Account 19-1970.
☐	**37 CFR 1.97(d)**: This Information Disclosure Statement is being submitted after the period specified in 37 CFR 1.97(c). ☐ This information Disclosure Statement includes a Certification (below) as specified by 37 C.F.R. 1.97(e) AND ☐ Applicants hereby requests consideration of the reference(s) disclosed herein. Please charge Deposit Account 19-1970 in the amount of $90.00 under 37 C.F.R. 1.17(p). Please credit any overpayment or charge any underpayment to Deposit Account 19-1970. Election to pay the fee should not be taken as an indication that applicant(s) cannot execute a certification.

Certification (37 C.F.R. 1.97(e))
(Applicable only if checked)

☐ The undersigned certifies that:

☐ Each item of information contained in the Information Disclosure Statement submitted herewith was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement. 37 C.F.R. 1.97(e)(1).

☐ A copy of the communication from the foreign patent office is enclosed.

OR

☐ No item of information contained in the Information Disclosure Statement submitted herewith was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement. 37 C.F.R. 1.97(e)(2).

Respectfully submitted,

SHERIDAN ROSS P.C.

By: /David B. Kellis/
David B. Kellis
Registration No. 59377
1560 Broadway, Suite 1200
Denver, Colorado 80202-5141
(303) 863-9700

Date: January 11, 2018

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of: Calvin Shiening Wang, et al.		**Group Art Unit:**	2851
		Examiner:	LIN, SUN J
Application No.:	15/355,409		
Filed:	11/18/2016		
Atty. Docket No.:	8523WANG-1-CON	**AMENDMENT AND RESPONSE**	
Confirmation No.:	3957		
Title:	AUTOMOBILE CHARGER		

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

Dear Sir or Madam:

Applicant submits this Amendment and Response to address the Office Action having a mailing date of December 14, 2017.

Applicant submits herewith a Terminal Disclaimer together with the requisite fee. Applicant does not believe that any other fees are due with respect to the entry of this Amendment and Response. However, if any fees are due relating to the entry hereof, please debit those fees from Deposit Account No. 19-1970.

Amendments to the Specification, other than the claims, begin on page 2 of this communication.

Amendments to the Claims are reflected in the listing of claims beginning on page 3 of this communication.

Remarks/Arguments begin on page 8 of this communication.

Amendments to the Specification:

Applicant previously amended the Abstract in the Preliminary Amendment filed together with the pending application on November 18, 2016. Please further amend the abstract as follows:

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

Amendments to the Claims:

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

Listing of Claims:

1-6. (Cancelled)

7. (Previously Presented) 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.

8. (Currently Amended) The automobile charger according to claim 7, wherein:

the power converter includes a one-way current device, a resistance R1, a capacitance Cl, a voltage stabilizing device, a capacitance C2 and a capacitance C3;

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

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

a second lead of the capacitance Cl, 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 ~~a~~ 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 Rl2 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 RT;

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;

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 Rl4, wherein the other end of the resistance Rl4 is grounded.

9. (Currently Amended) The automobile charger according to claim 7, 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 ~~the~~ 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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

10. (Previously Presented) The automobile charger according to claim 7, wherein the battery level detector is further configured to provide a protection for the first battery.

11. (Previously Presented) The automobile charger according to claim 7, 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.

12. (Previously Presented) The automobile charger according to claim 7, wherein the switching circuit is an electronic switch.

13. (Previously Presented) 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.

14. (Previously Presented) The charging device of claim 13, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

15. (Previously Presented) The charging device of claim 14, wherein the load is a second battery and a motor powered by the second battery.

16. (Previously Presented) The charging device of claim 15, 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.

17. (Currently Amended) The charging device of claim 14, wherein the microcontroller is configured to:

generate[[s]] 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[[s]] 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.

18. (Previously Presented) The charging device of claim 13, wherein the battery level detector detects a recharging level of the first battery.

19. (Previously Presented) The charging device of claim 18, 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.

20. (Previously Presented) The charging device of claim 13, further comprising:

a power converter to convert power received from the first battery into a stable power source that powers the microcontroller.

21. (Previously Presented) The charging device of claim 20, wherein the power converter is a direct current to direct current (DC-DC) converter.

22. (Currently Amended) The charging device of claim 13, wherein the level of the first battery is a voltage level.

23. (Previously Presented) 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

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

24. (Previously Presented) The method of claim 23, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

25. (Previously Presented) The method of claim 24, wherein the load is a second power source and an electrical component powered by the second power source,

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.

26. (Currently Amended) The method of claim 24, ~~wherein~~ the generating comprising:

~~generates~~ 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

~~generates~~ 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.

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REMARKS

Applicant submits this Amendment and Response to address the Office Action of December 14, 2017 ("Office Action"). No claims have been added or cancelled. Claims 8, 9, 17, 22, and 26 are amended, without adding any new matter and without intending to abandon or dedicate to the public any patentable subject matter. Therefore, Claims 7-26 are present for examination. Applicant respectfully requests reconsideration of this application as amended.

Objections to the Specification

The Office Action objects to the Specification due to a number of identified informalities in the Abstract. Based on the nature of some of the identified informalities, it is not clear whether the changes to the Abstract identified in the November 18, 2016 Preliminary Amendment, which was submitted at the time of filing the present application, have been considered. Applicant respectfully requests that those changes be entered if they have not been entered already.

Applicant has further revised the Abstract in light of the identified informalities, and believes that the objections to the Specification have now been addressed. Accordingly, Applicant respectfully requests that the objections to the Specification be withdrawn.

Objections to the Claims

The Office Action objects to Claims 8, 9, 17, 22, and 26 due to various identified informalities. Applicant has amended the identified Claims to address these informalities, and believes that the objections have been overcome. Accordingly, Applicant respectfully requests that the objections to Claims 8, 9, 17, 22, and 26 be withdrawn.

Double Patenting

The Office Action rejects Claims 7-26 on grounds of nonstatutory double patenting in relation to certain identified claims of co-owned U.S. Patent No. 9,525,297. Without acquiescing to the propriety of the double-patenting rejection or to the accuracy of the assertions made therein regarding similarities between the current application and the claims of the '297 Patent, Applicant submits herewith a Terminal Disclaimer to overcome the rejection and thereby expedite allowance of the subject application.

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Conclusion

Based upon the foregoing, Applicant believes that all pending claims are in condition for allowance and such disposition is respectfully requested. In the event that a telephone conversation would further prosecution and/or expedite allowance, the Examiner is invited to contact the undersigned.

Respectfully submitted,

SHERIDAN ROSS P.C.

Date: January 11, 2018

By: /David B. Kellis/

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

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Shenzhen Chic Electrics v. Pilot

PTO/AIA/26 (04-14)
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TERMINAL DISCLAIMER TO OBVIATE A DOUBLE PATENTING REJECTION OVER A "PRIOR" PATENT	Docket Number (Optional) 8523WANG-1-CON

In re Application of: Calvin Shiening Wang

Application No.: 15/355,409

Filed: 11/18/2016

For: AUTOMOBILE CHARGER

The applicant, Pilot Inc., owner of 100 percent interest in the instant application hereby disclaims, except as provided below, the terminal part of the statutory term of any patent granted on the instant application which would extend beyond the expiration date of the full statutory term of **prior patent** No. 9,525,297 as the term of said **prior patent** is presently shortened by any terminal disclaimer. The applicant hereby agrees that any patent so granted on the instant application shall be enforceable only for and during such period that it and the **prior patent** are commonly owned. This agreement runs with any patent granted on the instant application and is binding upon the grantee, its successors or assigns.

In making the above disclaimer, the applicant does not disclaim the terminal part of the term of any patent granted on the instant application that would extend to the expiration date of the full statutory term of the **prior patent**, "as the term of said **prior patent** is presently shortened by any terminal disclaimer," in the event that said **prior patent** later:

expires for failure to pay a maintenance fee;
is held unenforceable;
is found invalid by a court of competent jurisdiction;
is statutorily disclaimed in whole or terminally disclaimed under 37 CFR 1.321;
has all claims canceled by a reexamination certificate;
is reissued; or
is in any manner terminated prior to the expiration of its full statutory term as presently shortened by any terminal disclaimer.

Check either box 1 or 2 below, if appropriate.

1. ☐ The undersigned is the applicant. If the applicant is an assignee, the undersigned is authorized to act on behalf of the assignee.

I hereby acknowledge that any willful false statements made are punishable under 18 U.S.C. 1001 by fine or imprisonment of not more than five (5) years, or both.

2. ☑ The undersigned is an attorney or agent of record. Reg. No. 59377

/David B. Kellis/ — Signature
01/11/2018 — Date

David B. Kellis — Typed or printed name

Attorney of Record — Title
720-376-6904 — Telephone Number

☑ Terminal disclaimer fee under 37 CFR 1.20(d) included.

WARNING: Information on this form may become public. Credit card information should not be included on this form. Provide credit card information and authorization on PTO-2038.

This collection of information is required by 37 CFR 1.321. 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.

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.

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Electronic Patent Application Fee Transmittal

Application Number:	15355409
Filing Date:	18-Nov-2016
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Filer:	David B. Kellis/Mandi Lamberson
Attorney Docket Number:	8523WANG-1-CON

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:				

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Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Miscellaneous:				
STATUTORY OR TERMINAL DISCLAIMER	2814	1	160	160
		Total in USD ($)		**160**

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Electronic Acknowledgement Receipt

EFS ID:	31480102
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
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-CON
Receipt Date:	11-JAN-2018
Filing Date:	18-NOV-2016
Time Stamp:	19:01:30
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$160
RAM confirmation Number	011218INTEFSW00006123191970
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)

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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		20180111_Amend_01-NFOA.pdf	120282 50e3419578f9ea5a82643ca26870cb13fc0989b5	yes	9

	Multipart Description/PDF files in .zip description		
	Document Description	Start	End
	Amendment/Req. Reconsideration-After Non-Final Reject	1	1
	Specification	2	2
	Claims	3	7
	Applicant Arguments/Remarks Made in an Amendment	8	9

Warnings:					
Information:					
2	Terminal Disclaimer Filed	20180111_Terminal-Disclaimer.pdf	160419 3a836fedde7c6efc99df8a12058405c0fa964412	no	2
Warnings:					
Information:					
3	Fee Worksheet (SB06)	fee-info.pdf	30558 31154be76618ad8ac60acf70979b3b53ada76ed7	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	311259		

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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

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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 15/355,409	Filing Date 11/18/2016	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) 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	01/11/2018	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $40 =	0
	Independent (37 CFR 1.16(h))	* 3	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) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
	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
RENEE M. COLLINS

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PTO/AIA/82A (07-13)
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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	15/355,409
Filing Date	2016-11-18
First Named Inventor	Calvin Shiening Wang
Title	Automobile Charger
Art Unit	2851
Examiner Name	LIN, SUN J
Attorney Docket Number	8523WANG-1-CON

SIGNATURE of Applicant or Patent Practitioner

Signature	/David B. Kellis/	Date (Optional)	01/10/2018
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.**

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Doc Code: PA..
Document Description: Power of Attorney

PTO/AIA/82B (07-13)
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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):

Pilot, 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	Michael Du	Date (Optional)	8/30/16
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.**

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Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	31465096
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
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-CON
Receipt Date:	10-JAN-2018
Filing Date:	18-NOV-2016
Time Stamp:	17:27:40
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	20180110_POA.pdf	405382 a89012221ab1e2fa8456918d772de9e772c346fa	no	2
Warnings:					

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Shenzhen Chic Electrics v. Pilot

Information:	
Total Files Size (in bytes):	405382

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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P.O. Box 1450
Alexandria, Virginia 22313-1450
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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON	3957

22442 7590 12/14/2017

Sheridan Ross PC
1560 Broadway
Suite 1200
Denver, CO 80202

EXAMINER
LIN, SUN J

ART UNIT	PAPER NUMBER
2851	

NOTIFICATION DATE	DELIVERY MODE
12/14/2017	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

Office Action Summary	Application No. 15/355,409	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 *3* 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 *11/18/2016*.

☐ 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) *7-26* is/are pending in the application.

5a) Of the above claim(s) _____ is/are withdrawn from consideration.

6)☐ Claim(s) _____ is/are allowed.

7)☒ Claim(s) *7-26* 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 *11/18/2016* 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 *6/9/17*.

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

4) ☐ Other: _____.

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 15/355,409 and *Preliminary Amendment* concurrently filed on *011/18/2016*. Claims 1 – 6 were originally filed. Claims 1 – 6 have been cancelled and Claims 7 – 26 have been added in the *Preliminary Amendment*. *Claims 7 – 26 remain pending in the application*.

Specification Objections

2. The specification is objected to because of following informalities:

ABSTRACT, line 1, change "which comprise" to —**comprises**—.
ABSTRACT, line 1, change "a direct current voltage" to —**a direct current (DC) voltage**—.
ABSTRACT, line 2, change "the direct current voltage" to —**the DC voltage**—.
ABSTRACT, line 2, change "one end or lead" to —**a first end or a first lead**—.
ABSTRACT, line 2 – 3, change "a DC to DC module" to —**a DC-to-DC module**—.
ABSTRACT, line 3, change "one end" to —**a first end**—.
ABSTRACT, line 4, change "simultaneously, while" to —**simultaneously while**—.
ABSTRACT, line 4, change "the battery" to —**a battery**—.
ABSTRACT, line 4, change "the other end" to —**a second end**—.
ABSTRACT, line 4 – 5, change "the DC to DC module" to —**the DC-to-DC module**—.
ABSTRACT, line 5 – 6, change "the automobile start control module" to —**an automobile start control module**—.
ABSTRACT, line 6, change "the other end" to —**a second end**—.
ABSTRACT, line 7, change "the DC to DC module" to —**the DC-to-DC module**—.
ABSTRACT, line 8, change "the third end" to —**a third end**—.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

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

Appropriate corrections are required.

Claim Objections

3. Claims listed below are objected to because of the following informalities:

Claim 8, line 22, after "the fourth port" insert —**of the microcontroller U2**—.
Claim 9, line 3, before "corresponding control" insert —**a**—.
Claim 9, line 4, change "the voltage" to —**a voltage**—.
Claim 17, line 1, change "the microcontroller:" to —**the microcontroller is configured to:**—.
Claim 22, line 1, change "the battery" to —**the first battery**—.
Claim 26, line 1, after "the generating" insert —**comprising**—.
Claim 26, line 2, change "generates" to —**generating**—.
Claim 26, line 5, change "generates" to —**generating**—.

Appropriate corrections are required.

Double Patenting

4. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

5. Claims 7 – 26 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1 – 6 of U.S. Patent No. 9,525,297 B2. Although the conflicting claims are not all word-to-word identical, they are not patentably distinct from each other because they have similar limitations. Key similarities between the current application and the U.S. Patent No. 9,525,297 B2 are summarized and listed below:

Current Application	U.S. Patent No. 9,525,297 B2
first battery	direct current power supply
first pole	positive pole
second pole	negative pole
power converter	DC to DC module
switching circuit	automobile start control module
battery level detector	battery voltage detection module
load	load module
load detector	load detection module
microcontroller	microcontroller

Examiner's Remarks

6. Based on results of preliminary prior art searches, Claims 7 – 26 contain allowable subject matters. Claims 7 – 26 will be allowed pending on a timely filed *terminal disclaimer* in compliance with 37 CFR 1.321(c) to overcome an actual rejection as explained in the "***Double Patenting***" given above.

Chic Electrics, Exhibit 1004
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Conclusion

7. 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.

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

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	15/355,409
				Filing Date	November 18, 2016
				First Named Inventor	Calvin Shiening Wang
				Art Unit	2851
				Examiner Name	Sun J Lin
Sheet	1	of	1	Attorney Docket Number	8523WANG-1-CON

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	5487002	01/23/1996	Diller et al.	
	2	6803743	10/12/2004	George et al.	
	3	8183821	05/22/2012	Sakurai	
	4	8253376	08/28/2012	Gale et al.	
	5	8447543	05/21/2013	Dickinson et al.	
	6	8565930	10/22/2013	Miwa	
	7	9333865	05/10/2016	Kawasaki et al.	
	8	9525297	12/20/2016	Wang	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]; Number[4]; Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
	9	CN 201947042	08/24/2011	SHENZHEN SBASE ELECTRONICS TECHNOLOGY CO LTD		(English translation)
	10	CN 203522157	04/02/2014	SHENZHEN SBASE ELECTRONICS TECHNOLOGY CO LTD		(English translation)

NON-PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	11	Official Action for U.S. Patent Application No. 14/569,352, mailed Aug. 31, 2016, 8 pages
	12	Notice of Allowance for U.S. Patent Application No. 14/569,352, mailed Oct. 13, 2016, 7 pages

Examiner Signature	/SUN J LIN/	Date Considered	11/14/2017

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /JSL/

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Shenzhen Chic Electrics v. Pilot

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BIB DATA SHEET

CONFIRMATION NO. 3957

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
15/355,409	11/18/2016	320	2851	8523WANG-1-CON

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

INVENTORS
Calvin Shiening Wang, City of Industry, CA;

**** CONTINUING DATA ***************************
This application is a CON of 14/569,352 12/12/2014 PAT 9525297

**** FOREIGN APPLICATIONS ***************************
CHINA 201420212173 04/28/2014

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
11/29/2016

Foreign Priority claimed ☑ Yes ☐ No 35 USC 119(a-d) conditions met ☑ Yes ☐ No Verified and Acknowledged /SUN J LIN/ Examiner's Signature	☐ Met after Allowance Initials	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
		CA	2	20	3

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

BIB (Rev. 05/07).

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15355409	WANG, CALVIN SHIENING
	Examiner	Art Unit
	SUN LIN	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	12/07/2017								
	1	-								
	2	-								
	3	-								
	4	-								
	5	-								
	6	-								
	7	✓								
	8	✓								
	9	✓								
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	22	✓								
	23	✓								
	24	✓								
	25	✓								
	26	✓								

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	4	("5487002").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/12/07 06:53
L2	5	("6803743").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/12/07 06:54
L3	2	("8183821").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/12/07 06:54
L4	3	("8253376").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/12/07 06:55
L5	3	("8447543").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/12/07 06:56
L6	2	("8565930").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/12/07 06:57
L7	3	("9333865").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/12/07 06:58
L8	6	("9525297").PN.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/12/07 06:58
S1	4538	320/109	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 09:43
S2	0	(320/109).ccls. and ((battery adj level) adj detector) and (load adj detctor) and (microcontroller) and (switching adj circuitry)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 09:46

S3	0	(320/109).ccls. and ((battery adj level) adj detector) and (load adj detector) and (microcontroller) and (switching adj circuitry)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 09:47
S4	0	(320/$).ccls. and ((battery adj level) adj detector) and (load adj detector) and (microcontroller) and (switching adj circuitry)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 09:47
S5	1	((battery adj level) adj detector) and (load adj detector) and (microcontroller) and (switching adj circuitry)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 09:48
S6	1	S5 AND ((B60L11/1809 OR H02J7/0034 OR H02J7/0068).CPC.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 09:49
S7	0	((battery adj level) adj detector) AND (load adj detector) AND (microcontroller) AND (switcher) AND ((B60L11/1809 OR H02J7/0034 OR H02J7/0068).CPC.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 09:52
S8	1	((battery adj level) adj detector) AND (load adj detector) AND (microcontroller) AND (switching) AND ((B60L11/1809 OR H02J7/0034 OR H02J7/0068).CPC.)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 09:53
S9	0	(microcontroller) with (output adj signal) with (level adj battery) with ((type adj connection) adj load)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 10:43
S10	0	(microcontroller) same (output adj signal) same (level adj battery) same ((type adj connection) adj load)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 10:44
S11	0	(microcontroller) same (output adj signal) same (level adj battery) same ((type with connection) with load)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 10:46
S12	1	(microcontroller) same (output adj signal) same (level with battery) same ((type with connection) with load)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	OFF	2017/11/29 10:47

12/7/2017 6:59:43 AM
C:\Users\slin1\Documents\EAST\Workspaces\CASE1230.wsp

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	15355409	WANG, CALVIN SHIENING
	Examiner	Art Unit
	SUN LIN	2851

CPC- SEARCHED		
Symbol	Date	Examiner
	11/29/2017	/JSL/
B60L 11/1809; H02J 7/0034; H02J 7/0068		

CPC COMBINATION SETS - SEARCHED		
Symbol	Date	Examiner

US CLASSIFICATION SEARCHED			
Class	Subclass	Date	Examiner
320	109	11/29/2017	/JSL/

* See search history printout included with this form or the SEARCH NOTES box below to determine the scope of the search.

SEARCH NOTES		
Search Notes	Date	Examiner
EAST [US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB]	11/29/2017	/JSL/
EAST [US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB]	12/7/2017	/JSL/

INTERFERENCE SEARCH			
US Class/ CPC Symbol	US Subclass / CPC Group	Date	Examiner

Substitute for form 1449/PTO				Complete if Known	
INFORMATION DISCLOSURE STATEMENT BY APPLICANT *(Use as many sheets as necessary)*				Application Number	15/355,409
				Filing Date	November 18, 2016
				First Named Inventor	Calvin Shiening Wang
				Art Unit	2851
				Examiner Name	Sun J Lin
Sheet	1	of	1	Attorney Docket Number	8523WANG-1-CON

U.S. PATENT DOCUMENTS					
Examiner Initials*	Cite No.[1]	Document Number Number-kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	1	5487002	01/23/1996	Diller et al.	
	2	6803743	10/12/2004	George et al.	
	3	8183821	05/22/2012	Sakurai	
	4	8253376	08/28/2012	Gale et al.	
	5	8447543	05/21/2013	Dickinson et al.	
	6	8565930	10/22/2013	Miwa	
	7	9333865	05/10/2016	Kawasaki et al.	
	8	9525297	12/20/2016	Wang	

FOREIGN PATENT DOCUMENTS						
Examiner Initials*	Cite No.[1]	Foreign Patent Document Country Code[3]; Number[4]; Kind Code[5] *(if known)*	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T[6]
	9	CN 201947042	08/24/2011	SHENZHEN SBASE ELECTRONICS TECHNOLOGY CO LTD		(English translation)
	10	CN 203522157	04/02/2014	SHENZHEN SBASE ELECTRONICS TECHNOLOGY CO LTD		(English translation)

NON-PATENT LITERATURE DOCUMENTS		
Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.
	11	Official Action for U.S. Patent Application No. 14/569,352, mailed Aug. 31, 2016, 8 pages
	12	Notice of Allowance for U.S. Patent Application No. 14/569,352, mailed Oct. 13, 2016, 7 pages

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant. [1] Applicant's unique citation designation number (optional). [2] See Kinds Codes of USPTO Patent Documents at www.uspto.gov or MPEP 901.04. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). [4] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [6] Applicant is to place a check mark here if English language Translation is attached.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	29448287
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Customer Number:	22442
Filer:	David B. Kellis/Robert Roe-Pachirat
Filer Authorized By:	David B. Kellis
Attorney Docket Number:	8523WANG-1-CON
Receipt Date:	09-JUN-2017
Filing Date:	18-NOV-2016
Time Stamp:	13:22:32
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		IDS_01.pdf	214278 c86fc1e6e672e0e8588d7ab86ce82a1aa05e635a	yes	4

Chic Electrics, Exhibit 1004
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	Multipart Description/PDF files in .zip description				
	Document Description	**Start**	**End**		
	Transmittal Letter	1	3		
	Information Disclosure Statement (IDS) Form (SB08)	4	4		
Warnings:					
Information:					
2	Foreign Reference	CN201947042.pdf	2089380 18c8a5d027265c2c95f4a7421b4d4b0c51b0348d	no	25
Warnings:					
Information:					
3	Foreign Reference	CN203522157.pdf	1195037 93036bd4080fd463470ca681fcc88242c80fe4ae	no	25
Warnings:					
Information:					
4	Non Patent Literature	8523WANG-1_OA_08-31-2016.pdf	257135 6d16b13a098249a5101547a97b2fac4eaffa4166	no	8
Warnings:					
Information:					
5	Non Patent Literature	8523WANG-1_NOA_10-13-2016.pdf	406315 32eaf2c713168754 6d8c374d67cb8dba71f5b23d	no	7
Warnings:					
Information:					
		Total Files Size (in bytes):	4162145		

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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.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of:	)	Group Art Unit: 2851
Calvin Shiening Wang	)	Confirmation No.: 3957
Serial No.: 15/355,409	)	Examiner: Sun J Lin
Filed: November 18, 2016	)	INFORMATION DISCLOSURE STATEMENT
Atty. File No.: 8523WANG-1-CON	)	*Electronically Submitted*
Entitled: "AUTOMOBILE CHARGER"	)	

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

Dear Commissioner:

The references cited on attached Form PTO/SB08 are being called to the attention of the Examiner.

☒ Copies of the cited non-patent and/or foreign references are enclosed herewith.

☐ Copies of the cited U.S. patents and/or patent applications are enclosed herewith.

☒ Copies of the cited U.S. patents/patent application publications are not enclosed in accordance with 37 C.F.R. § 1.98(a).

☐ Copies of the cited references are not enclosed, in accordance with 37 C.F.R. § 1.98(d), because the references were cited by or submitted to the U.S. Patent and Trademark Office in prior application Serial No. _____ filed _____, which is relied upon for an earlier filing date under 35 U.S.C. § 120.

☒ To the best of applicants' belief, the pertinence of the foreign-language references is believed to be summarized in the attached English abstracts and/or in the figures, although applicants do not necessarily vouch for the accuracy of the translation.

☒ Examiner's attention is drawn to the following related applications:

- Serial No. 14/569,352 filed 12/12/2014 now U.S. Patent No. 9,525,297 (Attorney's Ref. No. 8523WANG-1)

☐ Other:_____

Submission of the above information is not intended as an admission that any item is citable under the statutes or rules to support a rejection, that any item disclosed represents analogous art, or that those skilled in the art would refer to or recognize the pertinence of any reference without the benefit of hindsight, nor should an inference be drawn as to the pertinence

of the references based on the order in which they are presented. Submission of this statement should not be taken as an indication that a search has been conducted, or that no better art exists.

It is respectfully requested that the cited information be expressly considered during the prosecution of this application and the references made of record therein.

FEES

☒	**37 CFR 1.97(b)**: No fee is believed due in connection with this submission, because the information disclosure statement submitted herewith is satisfied by one of the following conditions ("X" indicates satisfaction): ☐ Within three months of the filing date of a national application other than a continued prosecution application under 37 CFR 1.53(d), or ☐ Within three months of the date of entry of the national stage as set forth in § 1.491 in an international application, or ☒ Before the mailing date of a first Office Action on the merits, or ☐ Before the mailing of a first Office action after the filing of a request for continued examination under 37 CFR 1.114. Although no fee is believed due, if any fee is deemed due in connection with this submission, please charge such fee to Deposit Account 19-1970.
☐	**37 CFR 1.97(c)**: The information disclosure statement transmitted herewith is being filed after all the above conditions (37 CFR 1.97(b)), but before the mailing date of any one of the following conditions: (1) a final action under 37 C.F.R. 1.113, or (2) a notice of allowance under 37 C.F.R. 1.311, or (3) an action that otherwise closes prosecution in the application. This Information Disclosure Statement is accompanied by: ☐ A Certification (below) as specified by 37 C.F.R. 1.97(e). Although no fee is believed due, if any fee is deemed due in connection with this submission, please charge such fee to Deposit Account 19-1970. OR ☐ Please charge Deposit Account 19-1970 in the amount of $90.00 for the fee set forth in 37 C.F.R. 1.17(p) for submission of an information disclosure statement. Please credit any overpayment or charge any underpayment to Deposit Account 19-1970.
☐	**37 CFR 1.97(d)**: This Information Disclosure Statement is being submitted after the period specified in 37 CFR 1.97(c). ☐ This information Disclosure Statement includes a Certification (below) as specified by 37 C.F.R. 1.97(e) AND ☐ Applicants hereby requests consideration of the reference(s) disclosed herein. Please charge Deposit Account 19-1970 in the amount of $90.00 under 37 C.F.R. 1.17(p). Please credit any overpayment or charge any underpayment to Deposit Account 19-1970. Election to pay the fee should not be taken as an indication that applicant(s) cannot execute a certification.

Certification (37 C.F.R. 1.97(e))
(Applicable only if checked)

☐ The undersigned certifies that:

☐ Each item of information contained in the Information Disclosure Statement submitted herewith was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of this statement. 37 C.F.R. 1.97(e)(1).

☐ A copy of the communication from the foreign patent office is enclosed.

OR

☐ No item of information contained in the Information Disclosure Statement submitted herewith was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the undersigned after making reasonable inquiry, no item of information contained in the Information Disclosure Statement was known to any individual designated in 37 C.F.R. 1.56(c) more than three months prior to the filing of this statement. 37 C.F.R. 1.97(e)(2).

Respectfully submitted,

SHERIDAN ROSS P.C.

By: /David B. Kellis/
David B. Kellis
Registration No. 59377
1560 Broadway, Suite 1200
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Date: June 09, 2017

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

PTO/AIA/01 (06-12)
Approved for use through 01/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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

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 14/569,352 filed on December 12, 2014.

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: Calvin Shiening Wang Date (Optional): 9/18/15

Signature: [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.

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Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	28627470
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
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-CON
Receipt Date:	14-MAR-2017
Filing Date:	18-NOV-2016
Time Stamp:	17:14:24
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	Oath or Declaration filed	Original_Declaration.pdf	144749 72e6218dc9cec4ac0e7831af5a6dcfd9ec992ac2	no	2

Warnings:

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Information:	
Total Files Size (in bytes):	144749

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New Applications Under 35 U.S.C. 111
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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
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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
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON

CONFIRMATION NO. 3957

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

PUBLICATION NOTICE

OC000000089781429

Title:AUTOMOBILE CHARGER

Publication No.US-2017-0066338-A1
Publication Date:03/09/2017

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 (571) 272-3150 or (800) 972-6382, by facsimile at (571) 273-3250, by mail addressed to the United States Patent and Trademark Office, Office of Public Records, Alexandria, VA 22313-1450 or via the Internet.

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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

Chic Electrics, Exhibit 1004
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2014202121735

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

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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。

2014202121735

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。

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Shenzhen Chic Electrics v. Pilot

[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

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

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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

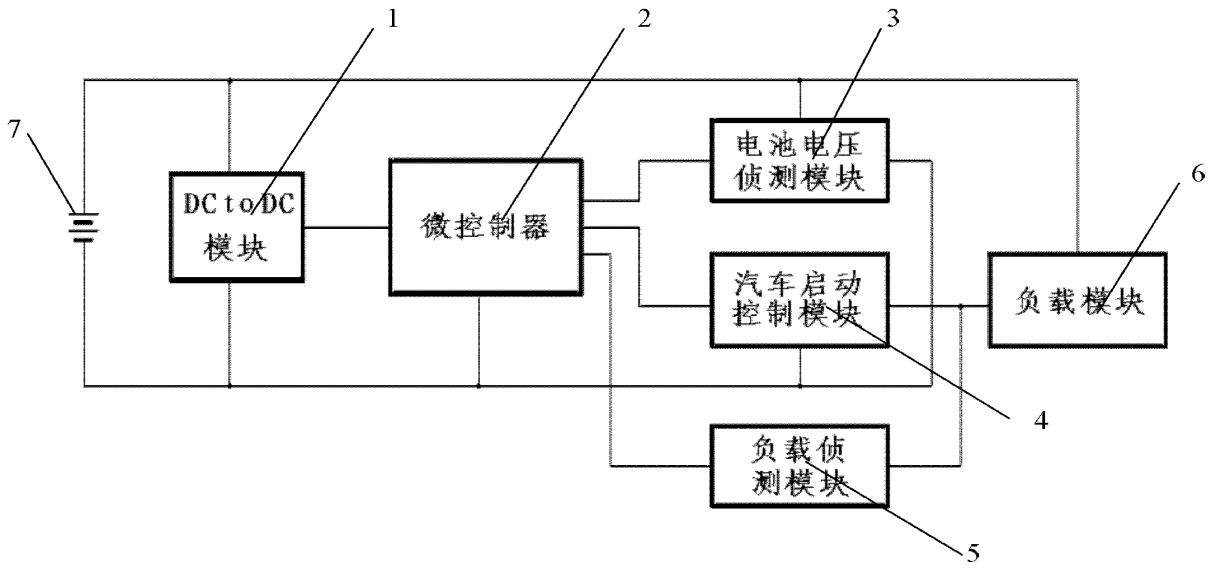


图 1

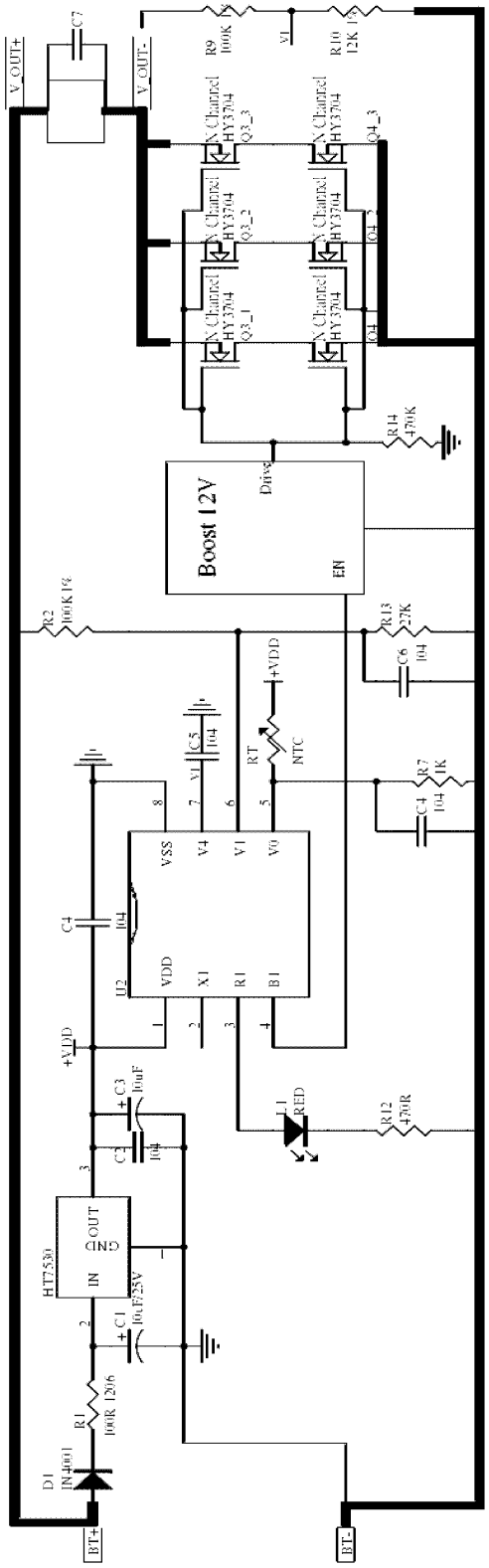

V_OUT+
V_OUT-
C7
R9 100K
R10 12K
V1
N Channel HY3704
Q3_3
Q4_3
Q3_2
Q4_2
Q3_1
Q4_1
R14 470K
Drive
Boost 12V
EN
R2 100K 1%
R13 27K
C6 104
+VDD
RT NTC
C5 104
R7 1K
C4 104
VSS V4 V1 V0
U2
VDD X1 R1 B1
C4 104
C3 10uF
C2 104
L1 RED
R12 470R
HT7530
OUT GND IN
C1 10uF/25V
R1 100R 1206
D1 IN4001
BT+
BT-

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
15/355,409	11/18/2016	Calvin Shiening Wang	8523WANG-1-CON

CONFIRMATION NO. 3957

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

INFORMAL NOTICE

OC000000087517076

Date Mailed: 12/01/2016

INFORMATIONAL NOTICE TO APPLICANT

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).

The item(s) indicated below are also required and should be submitted with any reply to this notice to avoid further processing delays.

- A properly executed inventor's oath or declaration has not been received for the following inventor(s):
  Calvin Shiening Wang

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**.

/amanalac/

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 15/355,409

APPLICATION AS FILED - PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY FEE($)
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))	20 minus 20 =	*	x 40 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 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			
* If the difference in column 1 is less than zero, enter "0" in column 2.			TOTAL	730		TOTAL	

APPLICATION AS AMENDED - PART II

AMENDMENT A

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	SMALL ENTITY RATE($)	SMALL ENTITY ADDITIONAL FEE($)	OR	OTHER THAN SMALL ENTITY RATE($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
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))									
FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							OR		
					TOTAL ADD'L FEE		OR	TOTAL ADD'L FEE	

AMENDMENT B

	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) 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))									
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 or 371(c) DATE	GRP ART UNIT	FIL FEE REC'D	ATTY.DOCKET.NO	TOT CLAIMS	IND CLAIMS
15/355,409	11/18/2016	2836	800	8523WANG-1-CON	20	3

CONFIRMATION NO. 3957

FILING RECEIPT

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



Date Mailed: 12/01/2016

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: None

Domestic Priority data as claimed by applicant

This application is a CON of 14/569,352 12/12/2014 PAT 9525297

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 04/28/2014

Permission to Access Application via Priority Document Exchange: Yes

Permission to Access Search Results: Yes

Applicant may provide or rescind an authorization for access using Form PTO/SB/39 or Form PTO/SB/69 as appropriate.

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: 11/29/2016

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 15/355,409**

Projected Publication Date: 03/09/2017

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

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In Re the Application of: Calvin Shiening Wang	Group Art Unit: TBD
Application No.: TBD	Examiner: TBD
Filed: November 18, 2016	Confirmation No.: TBD
Atty. File No.: 8523WANG-1-CON	

For: "AUTOMOBILE CHARGER"

PRELIMINARY AMENDMENT

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

Commissioner:

Applicant submits this Preliminary Amendment to make certain corrections to Specification and Drawings of the present Application, and to provide an amended set of claims. No fees are believed to be due with this filing. Please credit any overpayment or charge any underpayment to Deposit Account No. 19-1970.

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Amendments to the Specification:

Please amend the Abstract as follows:

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

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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-.

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Amendment to the Claims:

1-6. (Cancelled)

7. (New) 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.

8. (New) The automobile charger according to claim 7, wherein:

the power converter includes a one-way current device, a resistance R1, a capacitance Cl, a voltage stabilizing device, a capacitance C2 and a capacitance C3;

a first terminal of the one-way current device is connected with a 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 Cl, 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 a 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 Rl2 in series connection;

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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 RT;

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 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 resistance 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;

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 Rl4, wherein the other end of the resistance Rl4 is grounded.

9. (New) The automobile charger according to claim 7, wherein:

the power converter is operably configured to provide a stable voltage for the microcontroller which collects relevant data to conduct corresponding control;

the battery level detector conducts a measurement of the 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.

10. (New) The automobile charger according to claim 7, wherein the battery level detector is further configured to provide a protection for the first battery.

11. (New) The automobile charger according to claim 7, 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.

12. (New) The automobile charger according to claim 7, wherein the switching circuit is an electronic switch.

13. (New) 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.

14. (New) The charging device of claim 13, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

15. (New) The charging device of claim 14, wherein the load is a second battery and a motor powered by the second battery.

16. (New) The charging device of claim 15, 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.

17. (New) The charging device of claim 14, wherein the microcontroller:

generates 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

generates 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.

18. (New) The charging device of claim 13, wherein the battery level detector detects a recharging level of the first battery.

19. (New) The charging device of claim 18, 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.

20. (New) The charging device of claim 13, further comprising:

a power converter to convert power received from the first battery into a stable power source that powers the microcontroller.

21. (New) The charging device of claim 20, wherein the power converter is a direct current to direct current (DC-DC) converter.

22. (New) The charging device of claim 13, wherein the level of the battery is a voltage level.

23. (New) 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.

24. (New) The method of claim 23, wherein the type of connection includes a proper connection of the load and an improper connection of the load.

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25. (New) The method of claim 24, wherein the load is a second power source and an electrical component powered by the second power source,

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.

26. (New) The method of claim 24, wherein the generating:

generates 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

generates 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.

REMARKS/ARGUMENTS

This Preliminary Amendment makes certain corrections to the Drawings and the Specification, which corrections are based on objections raised to the Drawings and Specification in the parent application. Additionally, Claims 1-6 are cancelled and new Claims 7-26 are newly presented. No new matter is added by these amendments, nor are the amendments intended to abandon or dedicate to the public any patentable subject matter.

CONCLUSION

In view of the foregoing, Applicant believes that the application is now in condition for allowance.

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: November 18, 2016

By: /David B. Kellis /
David B. Kellis
Reg. No. 59,377
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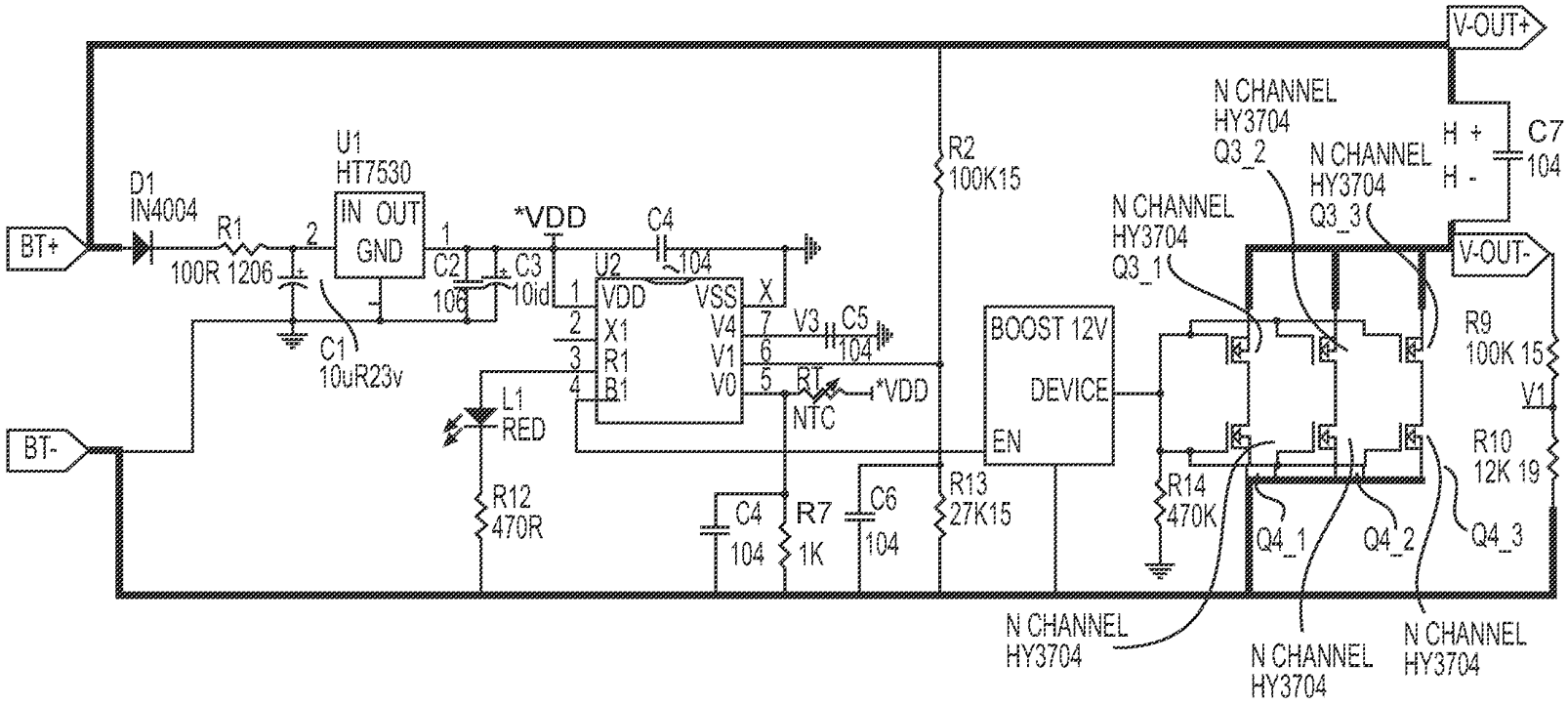


Figure 2

REPLACEMENT SHEET

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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

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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 batter 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.

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[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.

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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-

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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

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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,

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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.

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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 batter 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.

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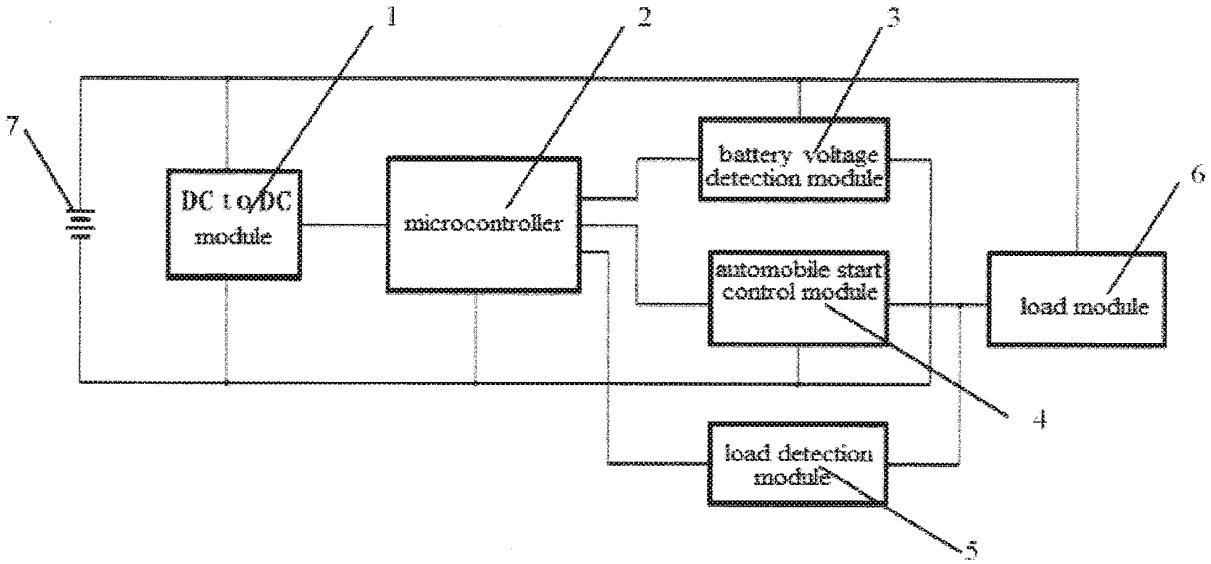


Figure 1

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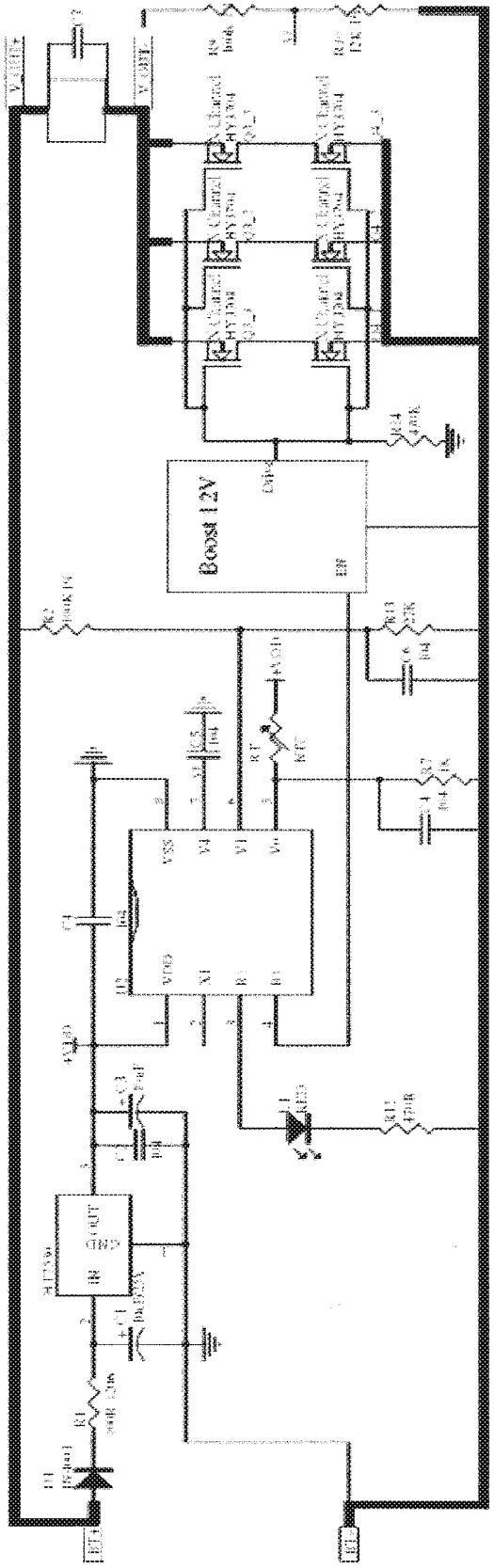


Figure 2

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Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	AUTOMOBILE CHARGER
First Named Inventor/Applicant Name:	Calvin Shiening Wang
Filer:	David B. Kellis/Kathy Johnston
Attorney Docket Number:	8523WANG-1-CON

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:				
Petition:				
Patent-Appeals-and-Interference:				

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Post-Allowance-and-Post-Issuance:				
Extension-of-Time:				
Miscellaneous:				
		Total in USD ($)		**730**

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

Electronic Acknowledgement Receipt

EFS ID:	27555120
Application Number:	15355409
International Application Number:	
Confirmation Number:	3957
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-CON
Receipt Date:	18-NOV-2016
Filing Date:	
Time Stamp:	13:18:17
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	DA
Payment was successfully received in RAM	$730
RAM confirmation Number	111816INTEFSW00010403191970
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 1.16 (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	Application Data Sheet	aia0014_ADS_.pdf	1822932 cda174e2040f9b2ef486eac5a29b6a8a3ee6e1ff	no	8
Warnings:					
Information:					
2		Preliminary_Amendment_8523 WANG-1-CON.pdf	142434 17880a4fc76a4b25fcccaf2954d5332d0895606e	yes	9

Multipart Description/PDF files in .zip description

Document Description	Start	End
Preliminary Amendment	1	1
Specification	2	2
Drawings-only black and white line drawings	3	3
Claims	4	8
Applicant Arguments/Remarks Made in an Amendment	9	9

Warnings:					
Information:					
3	Drawings-only black and white line drawings	Replacement_Fig_2.pdf	62245 884794446656e72a9873a3644a7cd33bc6352b9a	no	1
Warnings:					
Information:					
4		8523WANG-1-CON_Application.pdf	11174537 ae9458a34bd033b8006840f371b845cd130bab0c	yes	10

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Specification	1	6
	Claims	7	9
	Abstract	10	10

Warnings:					
Information:					
5	Drawings-only black and white line drawings	FIGS.pdf	128463 cb7e0b8a890c8b207fe9df7c53b2a24e9381a65c	no	2
Warnings:					
Information:					
6	Fee Worksheet (SB06)	fee-info.pdf	35001 19264dfb9eb3d65b5589dc4884542314cb18ec4d	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	13365612		

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

PTO/AIA/14 (11-15)
Approved for use through 04/30/2017. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	8523WANG-1-CON
	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
	Calvin	Shiening	Wang	

Residence Information (Select One) ● US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
City of Industry	CA	US

Mailing Address of Inventor:

Address 1	13000 Temple Avenue
Address 2	

City	State/Province	Postal Code	Country
City of Industry	CA	91746	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	22442		
Email Address	e-docket@sheridanross.com	Add Email	Remove Email

Application Information:

Title of the Invention	AUTOMOBILE CHARGER		
Attorney Docket Number	8523WANG-1-CON	Small Entity Status Claimed	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	2	Suggested Figure for Publication (if any)	

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	8523WANG-1-CON
	Application Number	
Title of Invention	AUTOMOBILE CHARGER	

Filing By Reference:

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	22442		

Domestic Benefit/National Stage Information:

This section allows for the applicant to either claim benefit under 35 U.S.C. 119(e), 120, 121, 365(c), or 386(c) or indicate National Stage entry from a PCT application. Providing benefit claim 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" field blank.

Prior Application Status	Pending		Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)
	Continuation of	14/569352	2014-12-12

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	8523WANG-1-CON
	Application Number	
Title of Invention	AUTOMOBILE CHARGER	

Foreign Priority Information:

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. When priority is claimed to a foreign application that is eligible for retrieval under the priority document exchange program (PDX)[i] the information will be used by the Office to automatically attempt retrieval pursuant to 37 CFR 1.55(i)(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[i] (if applicable)
201420212173	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.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	8523WANG-1-CON
	Application Number	
Title of Invention	AUTOMOBILE CHARGER	

Authorization or Opt-Out of Authorization to Permit Access:

When this Application Data Sheet is properly signed and filed with the application, applicant has provided written authority to permit a participating foreign intellectual property (IP) office access to the instant application-as-filed (see paragraph A in subsection 1 below) and the European Patent Office (EPO) access to any search results from the instant application (see paragraph B in subsection 1 below).

Should applicant choose not to provide an authorization identified in subsection 1 below, applicant **must opt-out** of the authorization by checking the corresponding box A or B or both in subsection 2 below.

NOTE: This section of the Application Data Sheet is **ONLY** reviewed and processed with the **INITIAL** filing of an application. After the initial filing of an application, an Application Data Sheet cannot be used to provide or rescind authorization for access by a foreign IP office(s). Instead, Form PTO/SB/39 or PTO/SB/69 must be used as appropriate.

1. Authorization to Permit Access by a Foreign Intellectual Property Office(s)

A. Priority Document Exchange (PDX) - Unless box A in subsection 2 (opt-out of authorization) is 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 State Intellectual Property Office of the People's Republic of China (SIPO), the World Intellectual Property Organization (WIPO), and any other foreign intellectual property office participating with the USPTO in a bilateral or multilateral priority document exchange agreement in which a foreign application claiming priority to the instant patent application is filed, access to: (1) the instant patent application-as-filed and its related bibliographic data, (2) any foreign or domestic application to which priority or benefit is claimed by the instant application and its related bibliographic data, and (3) the date of filing of this Authorization. See 37 CFR 1.14(h)(1).

B. Search Results from U.S. Application to EPO - Unless box B in subsection 2 (opt-out of authorization) is checked, the undersigned hereby **grants the USPTO authority** to provide the EPO access to the bibliographic data and search results from the instant patent application when a European patent application claiming priority to the instant patent application is filed. See 37 CFR 1.14(h)(2).

The applicant is reminded that the EPO's Rule 141(1) EPC (European Patent Convention) requires applicants to submit a copy of search results from the instant application without delay in a European patent application that claims priority to the instant application.

2. Opt-Out of Authorizations to Permit Access by a Foreign Intellectual Property Office(s)

☐ A. Applicant **DOES NOT** authorize the USPTO to permit a participating foreign IP office access to the instant application-as-filed. If this box is checked, the USPTO will not be providing a participating foreign IP office with any documents and information identified in subsection 1A above.

☐ B. Applicant **DOES NOT** authorize the USPTO to transmit to the EPO any search results from the instant patent application. If this box is checked, the USPTO will not be providing the EPO with search results from the instant application.

NOTE: Once the application has published or is otherwise publicly available, the USPTO may provide access to the application in accordance with 37 CFR 1.14.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	8523WANG-1-CON
	Application Number	
Title of Invention	AUTOMOBILE CHARGER	

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. ☒

Organization Name	Wang's International, Inc.

Mailing Address Information For Applicant:

Address 1	13000 Temple Avenue		
Address 2			
City	City of Industry	**State/Province**	CA
Country	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.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	8523WANG-1-CON
	Application Number	
Title of Invention	AUTOMOBILE CHARGER	

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

Signature:

Remove

NOTE: This Application Data Sheet must be signed in accordance with 37 CFR 1.33(b). **However, if this Application Data Sheet is submitted with the INITIAL filing of the application and either box A or B is not checked in subsection 2 of the "Authorization or Opt-Out of Authorization to Permit Access" section, then this form must also be signed in accordance with 37 CFR 1.14(c).**

This Application Data Sheet **must** be signed by a patent practitioner if one or more of the applicants is a **juristic entity** (e.g., corporation or association). If the applicant is two or more joint inventors, this form must be signed by a patent practitioner, **all** joint inventors who are the applicant, or one or more joint inventor-applicants who have been given power of attorney (e.g., see USPTO Form PTO/AIA/81) on behalf of **all** joint inventor-applicants.

See 37 CFR 1.4(d) for the manner of making signatures and certifications.

Signature	/David B. Kellis/			Date (YYYY-MM-DD)	2016-11-18
First Name	David B.	Last Name	Kellis	Registration Number	59377

Additional Signature may be generated within this form by selecting the Add button. Add

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	8523WANG-1-CON
	Application Number	
Title of Invention	AUTOMOBILE CHARGER	

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.**

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 CooperationTreaty.

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.

Document code: WFEE

United States Patent and Trademark Office
Sales Receipt for Accounting Date: 11/29/2016

SDUONG SALE #00000017 Mailroom Dt: 11/18/2016 191970 15355409
01 FC : 2051 70.00 DA

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot

PTO/SB/06 (09-11)
Approved for use through 1/31/2014. OMB 0651-0032
U.S. Patent and Trademark Office; U.S. DEPARTMENT OF COMMERCE
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 15/355,409	Filing Date 11/18/2016	☐ To be Mailed

ENTITY: ☐ LARGE ☒ SMALL ☐ MICRO

APPLICATION AS FILED – PART I

FOR	(Column 1) NUMBER FILED	(Column 2) NUMBER EXTRA	RATE ($)	FEE ($)
☒ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A	N/A	**140**
☐ 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	**140**

APPLICATION AS AMENDED – PART II

AMENDMENT 11/18/2016	(Column 1) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
Total (37 CFR 1.16(i))	* 20	Minus	** 20	= 0	X $40 =	0
Independent (37 CFR 1.16(h))	* 3	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) CLAIMS REMAINING AFTER AMENDMENT		(Column 2) HIGHEST NUMBER PREVIOUSLY PAID FOR	(Column 3) PRESENT EXTRA	RATE ($)	ADDITIONAL FEE ($)
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
FELICIA JENKINS

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.

Chic Electrics, Exhibit 1004
Shenzhen Chic Electrics v. Pilot