UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

CHARGE FUSION TECHNOLOGIES, LLC,
Patent Owner.

IPR2022-01217
Patent 10,998,753 B2

Before MEREDITH C. PETRAVICK, JEREMY M. PLENZLER, and CARL M. DEFRANCO, *Administrative Patent Judges*.

PLENZLER, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining No Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. Background and Summary

Tesla, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–10 of U.S. Patent No. 10,998,753 B2 (Ex. 1001, "the '753 patent"). Paper 2 ("Pet."). Charge Fusion Technologies, LLC ("Patent

Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp."). Pursuant to our request, Petitioner filed a reply to Patent Owner's Preliminary Response (Paper 8, "Pet. Prelim. Reply"), and Patent Owner filed a response to that reply (Paper 9, "Prelim. Sur-Reply").

We instituted an *inter partes* review of claims 1–10 of the '753 patent on all grounds of unpatentability alleged in the Petition. Paper 11 ("Institution Decision" or "Inst. Dec.").

After institution of trial, Patent Owner filed a Response (Paper 16, "PO Resp."), Petitioner filed a Reply (Paper 19, "Pet. Reply"), and Patent Owner filed a Sur-Reply (Paper 23, "PO Sur-Reply").

An oral hearing was held on November 1, 2023, and the record includes a transcript of the hearing. Paper 28 ("Transcript" or "Tr.").

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision is issued pursuant to 35 U.S.C. § 318(a). For the reasons that follow, we determine that Petitioner has not shown by a preponderance of the evidence that any claim of the '753 patent is unpatentable.

B. Related Matters

The parties indicate that the '753 patent is involved in *Charge Fusion Technologies, LLC v. Tesla, Inc.*, No. 1:22-cv-00488-LY (W.D. Tex. 2021). Pet. 1[1]; Paper 4, 1. The '753 patent is a continuation filing of U.S. Pat. No. 10,819,135 B2 ("the '135 patent"), which is continuation of U.S. Patent No. 9,853,488 B2 ("the '488 patent").

The '135 and '488 patents are also involved in the litigation noted above. The '135 patent is challenged in IPR2023-00063 and the '488 patent

[1] Petitioner indicates the case number is "6:22-cv-00488-LY," which appears to be a typographical error.

is challenged in IPR2023-00062. Trial has been instituted for both proceedings, and both proceedings are pending.

C. The '753 Patent

The '753 patent relates to "[s]ystems and methods for charging electric vehicles and for quantitative and qualitative load balancing of electrical demand." Ex. 1001, Abstract. The '753 patent explains that "the owner of an electrical automobile must often times adhere to a schedule of charging that renders the automobile unusable for protracted stretches of time." *Id.* at 1:34–37. The schedule may be based on user preferences. *See id.* at 10:31–34.

According to the '753 patent, "the processor 446 may utilize the identification and/or preference data to determine, select, calculate, and/or otherwise derive a charging schedule for the vehicle 460." Ex. 1001, 10:31–34. The '753 patent explains that "the processor 446 may determine . . . available market rates (e.g., a time-of-day and/or usage-based rate schedule) for purchasing electrical energy from the PSE [(Power Supplying Entity)]." *Id.* at 10:41–45. "The processor 446 may utilize such rate information in combination with the identification and/or preference information, for example, to determine the most cost-effective schedule for charging the vehicle 460." *Id.* at 10:45–49. The '753 patent explains:

> In the case that the preference information includes an indication of how much energy is desired to be stored by the vehicle 460 by a certain time, the processor 446 may calculate an estimated time to achieve the desired charge and may identify when, during the available charging window (e.g., a time window bounded by the current time and the desired total charge end time) would be most cost effective (e.g., cheapest) to acquire the desired estimated charge.

Id. at 10:49–57.

According to the '753 patent, "[t]he operator of the vehicle 660 may, for example, select a first menu option 668a to define settings regarding desired charge levels, charging times, desired travel distances and/or itineraries, etc." Ex. 1001, 14:1–4. "The user may also or alternatively view and/or change the desired charge range level 720." *Id.* at 14:54–55. "An estimate of how far the vehicle can travel on a given charge amount . . . can be determined, for example, and utilized to express the desired charge level in terms of distance capable of being traveled." *Id.* at 14:55–60. "[A] user may determine a desired distance to travel (e.g., how far it is from home to work or vice versa) and may set the desired charge range level 720 to match the desired distance." *Id.* at 14:61–64.

The '753 patent provides an example where "a user may have specified that the car is not to be charged if the cost of electricity is over $0.10/kWh" and "that the automobile needs to be 80% charged at the end of eight hours." Ex. 1001, 19:32–35. "[T]he user may indicate a desired charging level (and/or a desired charging level may be automatically calculated) based on a desired distance of travel." *Id.* at 19:35–38. In the example provided, "the vehicle/charging facility is located 20 miles from the driver's home" and "the driver (and/or the vehicle or charging station) may determine that the vehicle should be charged to have enough power to travel the 20 miles home." *Id.* at 19:39–43.

"In the above example, the information may be entered into a central server for retrieval by the electrical charging system (ECS)," and "the ECS operates to determine an appropriate charging schedule." Ex. 1001, 19:45–58. The '753 patent explains:

> For example, a driver parks his car in a space having an ECS. The driver knows that his car will sit in the space all work day,

> hence the chosen charging duration of eight hours. The ECS, perhaps relying on other retrieved information specifying the charging characteristics of the automobile, computes that it will take approximately three hours of charging to charge the automobile to a minimum of 80% charged. The ECS, via communication with the power supplier, determines that the present cost of electricity is $0.12/kWh but will fall to $0.09/kWh in two hours. The system therefore waits for two hours before charging the automobile for approximately three hours.

Id. at 19:58–20:3.

In the above examples, the charging schedule determines when to start charging during an available time window. Throughout the Specification, the control for initiating vehicle charging is actively controlled by the software. It is not simply the user manually starting and stopping the charging. The Specification explains that "the methods described herein may be performed by hardware, software (including microcode), firmware, or any combination thereof. For example, a storage medium may store thereon instructions that when executed by a machine result in performance according to any of the embodiments described herein." Ex. 1001, 16:12–17. The Specification explains that the "Electrical Charging System (ECS) 340 . . . may comprise . . . a processor 346" and "may also comprise or be associated with a power management device 348." *Id.* at 7:61–66. As noted in the example discussed above, "[t]he *system* . . . waits for two hours before charging the automobile." *Id.* at 20:1–2 (emphasis added).

In each of the examples provided in the Specification, the system controls initiating charging *after* the vehicle is plugged in to an electrical source or in sufficient proximity to allow wireless charging. That is, with this system, the vehicle does not simply charge immediately when the user

plugs in the vehicle. Rather, it is an "intelligent" system. *See, e.g.*, *id.* at 2:5–45.

D. Illustrative Claim

1. An electrical charging system, comprising:

one or more processing devices; and

a non-transitory memory device in communication with the one or more processing devices, the non-transitory memory storing instructions that when executed by the one or more processing devices, result in:

receiving information indicative of a starting location of an electric vehicle;

receiving information indicative of a desired destination of the electric vehicle;

receiving information indicative of a charging location of each of a plurality of electric charge providers;

computing, based at least in part on the starting location, the desired destination, and the charging locations of one or more of the plurality of electric charge providers, a charging schedule for the electric vehicle[,] the charging schedule comprising a scheduled start time and an indication of a scheduled stop time for charging the electric vehicle at each of one or more of the plurality of charging locations and a sequence defining an order in which the electric vehicle is to be charged at each of the one or more of the plurality of charging locations, wherein a first charging location of the sequence is computed based, at least in part, on an ability of the electric vehicle to travel to the first charging location utilizing a charge amount stored in a battery of the electric vehicle;

displaying a charging status of the electric vehicle via a graphical user interface forming a part of the electric vehicle; and

increasing, in accordance with the charging schedule, a level of charge of the battery of the electric vehicle;

> wherein the desired destination information is defined by a user of the electric vehicle via the graphical user interface adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

Ex. 1001, 29:16–57.

E. Evidence and Asserted Ground

Petitioner asserts that claims 1–10 would have been unpatentable on the following ground:

Claim(s) Challenged	35 U.S.C. §[2]	Reference(s)/Basis
1–10	103	Kato[3], Tesla Roadster Manual[4], Eberhard[5]

Petitioner submits declarations from Christopher Wilson (Ex. 1002, "Wilson I Declaration"; Ex. 1020; "Wilson II Declaration") and Lis Fraser (Ex. 1010, "Fraser I Declaration"; Ex. 1015, "Fraser II Declaration"). Patent Owner submits two declarations from Steven Goldberg, Ph.D. (Ex. 2001, "Goldberg Declaration I"; Ex. 2009, "Goldberg Declaration II").

[2] The Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112-29, 125 Stat. 284 (2011), amended 35 U.S.C. § 103, effective March 16, 2013. Because the application from which the '753 patent issued was filed before this date, the pre-AIA version of § 103 applies.
[3] US Patent Pub. 2008/0243331 A1, Oct. 2, 2008 (Ex. 1008).
[4] 2008 Tesla Roadster Touch Screen User's Manual (Ex. 1005).
[5] US Patent No. 7,671,567 B2, Mar. 2, 2010 (Ex. 1009).

II. ANALYSIS

A. Legal Standards

Petitioner bears the burden of persuasion to prove unpatentability, by a preponderance of the evidence, of the claims challenged in the Petition. 35 U.S.C. § 316(e). This burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015).

Petitioner's challenge is based on obviousness. 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 invention as a whole would have been obvious at the time of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved based on 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 in the record, objective evidence of non-obviousness. *Graham v. John Deere Co. of Kan. City*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

The level of ordinary skill in the art is "a prism or lens" through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The person of ordinary skill in the art is a hypothetical person presumed to have known the relevant art at the time of the invention. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In determining the level of ordinary skill in the art, we may consider certain factors, including the "type of problems encountered in the art; prior art

solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field." *Id.*

Petitioner's declarant, Mr. Wilson, testifies that one skilled in the art during the relevant time frame "would have had at least a bachelor's degree in electrical engineering, mechanical engineering, or physics (or an equivalent field) and at least two years of work experience involving automotive systems, including vehicle information systems, vehicle sensors, and vehicle controllers (ECUs)," but "[m]ore education can supplement practical experience and vice versa." Pet. 9–10 (citing Ex. 1002 ¶ 27). Patent Owner does not contest Petitioner's articulation of the level of skill in the art. *See* PO Resp. 16 ("Because the proposed level of ordinary skill does not affect the ultimate analysis, Patent Owner takes no position with respect to Petitioner's proposed level of ordinary skill in the art.").

We analyze the asserted prior art with respect to the level of skill set forth by Petitioner because it is consistent with the prior art.

C. Claim Construction

In an *inter partes* review, we construe a patent claim "using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b)." 37 C.F.R. § 42.100(b) (2021). Under this standard, the words of a claim generally are given their "ordinary and customary meaning," which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc).

According to Petitioner, "all claim terms should be given their plain and ordinary meaning." Pet. 10. Similarly, "for all claim terms, Patent

Owner requests that the Board adopt the ordinary and customary meaning of the claim terms as understood by one of ordinary skill in the art." PO Resp. 14. And after institution, Petition made clear that "[t]he Parties agree the Challenged Claims should be given their ordinary and customary meaning for purposes of this IPR." Pet. Reply 1.

We do not need to construe any terms expressly to reach our decision. *See Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Petitioner's Challenge

Petitioner asserts that claims 1–10 are unpatentable under 35 U.S.C. § 103 as obvious over Kato, the Tesla Manual, and Eberhard. Pet. 19–57. Based on the evidence of record, we conclude Petitioner has failed to establish that claims 1–10 are unpatentable.

The dispositive issue in this case is whether Kato teaches claim 1's recitation of

> instructions that when executed by the one or more processing devices, result in . . . *computing*, based at least in part on the starting location, the desired destination, and the charging locations of one or more of the plurality of electric charge providers, *a charging schedule* for the electric vehicle . . . comprising *a scheduled start time* and an indication of *a scheduled stop time* for charging the electric vehicle at each of one or more of the plurality of charging locations and a sequence defining an order in which the electric vehicle is to be charged at each of the one or more of the plurality of charging locations.

Ex. 1001, 29:20–38 (emphasis added) ("the charging schedule limitation").[6] As seen in the claim language reproduced above, the plain language of the claim requires that the processor executes instructions that compute the charging schedule and, as discussed further below, the processor also executes instructions that control vehicle charging in accordance with that schedule. Both Petitioner and Patent Owner agree that the charging schedule limitation does not invoke 35 U.S.C. § 112 ¶ 6. Pet. Reply 1; PO Resp. 14.

1. Kato

Kato is a U.S. patent application titled "Stop-Off Facility Guidance Systems, Methods, and Programs." Ex. 1008, code (54). It describes a navigation system that determines charging points for a vehicle along a planned route. *Id.* ¶¶ 49–60. Kato explains, for example, that "target battery remaining amounts SOC* at each of [the] points are calculated in such a way that the battery remaining amount SOC becomes 0% at the arrival to the next planned charging point." *Id.* ¶ 55. Kato provides an example where "the first starting point and the last destination are both the home" and "[t]he battery 18 is full-charged at the departure at the home, so that the battery remaining amount SOC at that time is 100%, and the battery remaining amount SOC becomes 0% at the arrival at the home." *Id.* ¶ 59. "Each of the battery remaining amounts SOC at each of the planned charging points is nearly 0% so as to charge the battery of the vehicle at the planned charging points." *Id.* Kato further explains "when the time which can be spent at the

[6] A similar recitation is found in independent claim 6. *See* Ex. 1001, 30:33–48. Our discussion of claim 1 below applies equally to claim 6. This limitation corresponds to what Petitioner refers to as limitations 1(g) and 1(h), as well as 6(g) and 6(h) in the Petition. *See* Pet. iv., vi.

planned charging point is shorter than the time required for charging, . . . although the battery remaining amount SOC does not reach 100%, the vehicle goes to the next destination." *Id.*

Kato explains that its "battery remaining amount SOC . . . 100% and 0% do not indicate the physical remaining amount," but, rather, "100% and 0% of SOC indicate the highest remaining amount and the lowest remaining amount based on the economical repeated use of the battery 18." Ex. 1008 ¶ 60. For example, "when the battery 18 is an alkaline battery, the battery may be used until the SOC becomes very low," but "when the battery 18 is a zinc battery, using the zinc battery until the SOC becomes excessively low causes the battery life to be shortened." *Id.* Accordingly, "a state which a predetermined amount of charge is still remaining in the zinc battery is set as 0% of the battery remaining amount SOC for the zinc battery." *Id.*

2. Claim 1

Petitioner cites Kato as teaching the charging schedule limitation. *See* Pet. 24–29. And with respect to "computing . . . a scheduled start time and an indication of a scheduled stop time for charging the electric vehicle," Petitioner relies solely on paragraphs 53–55 of Kato teaching this feature. *See* 24–26 (citing Ex. 1008; Ex. 1002 ¶¶ 75–82[7]); *see also* PO Resp. 17 (noting the same); Tr. 5:9–15, 6:20–7:4 (Petitioner confirming the same at oral hearing).

Petitioner contends that "the route reflected in Kato's 'charging schedule setting processing' includes 'a scheduled start time and an indication of a scheduled stop time for charging the electric vehicle at each

[7] The testimony from Dr. Wilson is identical to the statements in the Petition. *Compare* Pet. 24–26 *with* Ex. 1002 ¶¶ 75–82.

of one or more of the plurality of charging locations.'" Pet. 25. Petitioner cites Kato's paragraph 55 for the disclosure related to "charging schedule setting processing." *Id.* at 24–25. We reproduce paragraph 55 from Kato in its entirety below.

> The CPU 31 executes an energy control determination processing as a charging schedule setting processing. As charging conditions, the battery remaining amount SOC as the charging capacity at the first starting point, the distance from the starting point at which the hybrid vehicle can be charged to the planned charging point, a time spent on charging at each planned charging point between the arrival at the point and the departure from the point (that is, a time period which can be spent at the charging point), a time necessary for full-charging the battery 18 (that is, a time required for charging), and the like are read in and the travel distance from the starting point at which the vehicle can be charged is calculated based on the charging conditions. Next, the target battery remaining amounts SOC* at each of points are calculated in such a way that the battery remaining amount SOC becomes 0% at the arrival to the next planned charging point. In this way, the charging schedule including the target battery remaining amounts SOC* at each of points is set.

Ex. 1008 ¶ 55. According to Petitioner, the "scheduled start time" is simply the minute the vehicle arrives at the planned destination in Kato. *See* Pet. 24–26; *see also* Tr. 7:15–8:7, 8:22–9:6, 13:20–14:17, 15:25–16:10, 59:3.

Patent Owner responds that "Claim [1] specifically require[s] the charge schedule to comprise both a ***scheduled start time*** and an ***estimated stop time*** as a result of the charging schedule which is computed." PO Resp. 17. Patent Owner contends that "Petitioner all but glosses over the requisite limitations of a scheduled start time and indication of a scheduled stop time based upon a computation conducted by an aspect of the electric charging system," and "appears [to] rel[y] on Kato's disclosure of the 'time period

which ***can*** be spent at the charging point.'" *Id.* Patent Owner further notes that "Petitioner . . . relies on Kato's disclosure of 'target battery remaining amount SOC*' and equates this as a calculation of time to spend charging which Petitioner states is a start time and stop time." *Id.* at 17–18. According to Patent Owner, "[a]t best, Kato only shows the time required to charge, but does not ***compute*** a charging schedule with a ***scheduled start time***." *Id.* at 19 (citing Ex. 2009 ¶¶ 90–97).

Petitioner responds that "PO's arguments do not engage with key disclosures in Kato on which Petitioner relies." Pet. Reply 5. But this is not a fair characterization of the Patent Owner Response. As Petitioner makes clear in its Reply, "[a]s explained in the Petition, Kato's charging conditions include a time spent on charging at each planned charging point between the arrival at the point (start time) and the departure from the point (stop time)." *Id.* at 6. Petitioner concludes: "Thus, Kato's charge schedule includes a calculation of the time to spend charging (start time and stop time) at the charging point that is needed to recharge the vehicle battery to the target level (SOC*) so the vehicle can get to the next charging point with 0% battery remaining (SOC)." *Id.* at 7. Petitioner does not rely on the Wilson II Declaration in support of its response to Patent Owner's contentions noted above. *See id.* at 5–8 (citing the same portions of the Wilson I Declaration (Ex. 1002) cited in the Petition).

As explained above, Patent Owner's Response disputes Petitioner's reliance on the time period that can be spent at a charging location corresponding to the recited calculated scheduled start time. Petitioner's testimony from Dr. Wilson does little to help, as it simply parrots the contentions laid out in the Petition. And, like the contentions in the Petition, that testimony does not offer persuasive explanation as to why one skilled in

the art would understand the disclosure in Kato's paragraphs 53–55 as teaching "computing . . . a charging schedule . . . comprising a scheduled start time and an indication of a scheduled stop time" as required by the claims. Contrary to Petitioner's representations, we see nothing in paragraphs 53–55 of Kato teaching a specific time that is computed as a scheduled start time.

Absent persuasive explanation and evidence from Petitioner, the preponderance of the evidence before us does not support Petitioner's assertion that the beginning of an available time window for charging is a scheduled start time or that the end of that window is a scheduled stop time for charging. We note, again, that Petitioner relies on the express teachings of Kato. The Petition does not assert that it would have been obvious to employ a scheduled start time based on any modification to Kato's teachings. Our decision is limited to the particular basis for the challenge advanced by Petitioner.

Although this, alone, is sufficient basis to find in favor of Patent Owner, our decision that Petitioner has failed to establish unpatentability of any claim in the '753 patent is additionally supported by Petitioner's failure related to the claim recitation of "instructions that when executed by the one or more processing devices, result in . . . increasing, in accordance with the charging schedule, a level of charge of the battery of the electric vehicle." Ex. 1001, 29:46–47 ("the charging control limitation")[8].

[8] A similar recitation is found in independent claim 6. *See* Ex. 1001, 30:33–48. Our discussion of claim 1 below applies equally to claim 6. This limitation corresponds to what Petitioner refers to as limitations 1(l) and 6(l) in the Petition. *See* Pet. iv., vi.

Like the charging schedule limitation, Petitioner relies on Kato teaching this limitation. *See* Pet. 31–32. Petitioner treats this limitation in a cursory manner and does nothing to address the requirement that it is the instructions executed by the processor that control charging, not simply the user manually initiating the charging. The portions of the Petition reproduced below are the entirety of Petitioner's contentions related to the charging control limitation.

> Petitioner contends that Kato teaches this limitation because
>
> Kato's "charging schedule setting processing" calculates a level of charge such that "the target battery remaining amounts SOC* at each of [the charging] points are calculated in such a way that the battery remaining amount SOC becomes 0% at the arrival to the next planned charging point. In this way, the charging schedule including the target battery remaining amounts SOC* at each of [the charging] points is set." EX1008 at [0055].

Pet. 31. Petitioner additionally explains:

> Stated differently, the charge level upon leaving one charging location (SOC*) is set and will be increased to that level at the charging location so that the vehicle arrives at the subsequent charging station with 0% charge (SOC=0). EX1002, ¶99. Kato's charging schedule setting process is thus predicated on *increasing, in accordance with the charging schedule, a level of charge of the battery of the electric vehicle* in order to charge the battery sufficiently at each charging location to get to the subsequent location via a route using the minimum total link cost. EX1008, [0050].

Id. And, finally, Petitioner explains:

> In addition, a POSITA would understand that accurately calculating the "TIME OF END OF CHARGING" or the "time required for vehicle maintenance" (that is, to finish the charge according to the planned schedule) so that appropriate "stop-off facilities" can be recommended to the user is an important element to Kato's system. EX1008, Abstract, FIG. 6, [0010], EX1002, ¶¶ 98-101.

Id. at 31–32. We see no explanation, or even allegation, that Kato teaches "instructions that when executed by the one or more processing devices, result in . . . increasing, in accordance with the charging schedule, a level of charge of the battery of the electric vehicle."

Rather, as noted above, Petitioner relies on a user simply plugging a vehicle in (or otherwise manually initiating charging) to meet the charging control limitation. *See* Pet. 31–32; Tr. 61:3–63:18. Indeed, at oral hearing, Petitioner clearly stated: "I think the assumption of Kato is that you are going to start charging when you arrive and plug in." Tr. 63:16–18. Petitioner provides no reason for us to believe that Kato includes the instructions executed by the processor in the charging control limitation.

For at least the reasons set forth above, Petitioner fails to establish by the preponderance of the evidence that claims 1–10 of the '753 patent are unpatentable over the combined teachings of Kato, Tesla Roadster Manual, and Eberhard.

III. CONCLUSION

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–10	103	Kato, Tesla Roadster Manual, Eberhard		1–10

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–10 of the '753 patent are not proven unpatentable; and

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

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IPR2022-01217
Patent 10,998,753 B2

Before JEREMY M. PLENZLER, CARL M. DEFRANCO, and PAUL J. KORNICZKY, *Administrative Patent Judges.*

Opinion for the Board filed by Administrative Patent Judge KORNICZKY.

Opinion Dissenting filed by Administrative Patent Judge PLENZLER.

DECISION
Granting Institution of *Inter Partes* Review
35 U.S.C. § 314

I. INTRODUCTION

A. Background and Summary

Tesla, Inc. ("Petitioner") filed a Petition requesting *inter partes* review of claims 1–10 of U.S. Patent No. 10,998,753 B2 (Ex. 1001, "the '753 patent"). Paper 2 ("Pet."). Charge Fusion Technologies, LLC ("Patent Owner") filed a Preliminary Response. Paper 6 ("Prelim. Resp."). Upon request of the parties and pursuant to our authorization (Paper 7, "Briefing Order"), Petitioner filed a reply to Patent Owner's Preliminary Response (Paper 8; "Pet. Reply"), and Patent Owner filed a sur-reply (Paper 9; "PO Sur-Reply"). A conference call was held on Friday, January 13, 2023, and a transcript of that call is included in the record. Ex. 1017 ("Tr.").

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the petition "shows that 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 stated below, we determine that Petitioner has established a reasonable likelihood that it would prevail with respect to at least one of the challenged claims. Thus, we institute an *inter partes* review in this proceeding. 37 C.F.R. § 42.108(a) (2022) ("When instituting inter partes review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim."). Specifically, we grant Petitioner's request to institute an *inter partes* review of claims 1–10 of the '753 patent.

B. Related Matters

The parties indicate that the '753 patent is involved in *Charge Fusion Technologies, LLC v. Tesla, Inc.*, No. 1:22-cv-00488-LY (W.D. Tex. 2021). Pet. 1[1]; Paper 4, 1.

C. The '753 Patent

The '753 patent relates to "[s]ystems and methods for charging electric vehicles and for quantitative and qualitative load balancing of electrical demand." Ex. 1001, Abstract. The '753 patent explains that "the owner of an electrical automobile must often times adhere to a schedule of charging that renders the automobile unusable for protracted stretches of time." *Id.* at 1:34–37. The schedule may be based on user preferences. *See id.* at 10:31–34.

According to the '753 patent, "[t]he operator of the vehicle 660 may, for example, select a first menu option 668a to define settings regarding desired charge levels, charging times, desired travel distances and/or itineraries, etc." Ex. 1001, 14:1–4. "The user may also or alternatively view and/or change the desired charge range level 720." *Id.* at 14:54–55. An estimate of how far the vehicle can travel on a given charge amount . . . can be determined, for example, and utilized to express the desired charge level in terms of distance capable of being traveled. *Id.* at 14:55–60. "[A] user may determine a desired distance to travel (e.g., how far it is from home to work or vice versa) and may set the desired charge range level 720 to match the desired distance." *Id.* at 14:61–64.

[1] Petitioner indicates the case number is "6:22-cv-00488-LY," which appears to be a typographical error.

In one example, "the user may indicate a desired charging level (and/or a desired charging level may be automatically calculated) based on a desired distance of travel." Ex. 1001, 19:36–39. "In the case that the vehicle/charging facility is located 20 miles from the driver's home, for example, the driver (and/or the vehicle or charging station) may determine that the vehicle should be charged to have enough power to travel the 20 miles home (with or without a factor of safety and/or reserve travel capacity)." *Id.* at 40–44.

D. Illustrative Claim

Petitioner challenges all ten claims of the '753 patent. Ex. 1001, 29–16–32:17. Claims 1 and 6 are independent. Claim 1 is reproduced below.

1. An electrical charging system, comprising:

one or more processing devices; and

a non-transitory memory device in communication with the one or more processing devices, the non-transitory memory storing instructions that when executed by the one or more processing devices, result in:

receiving information indicative of a starting location of an electric vehicle;

receiving information indicative of a desired destination of the electric vehicle;

receiving information indicative of a charging location of each of a plurality of electric charge providers;

computing, based at least in part on the starting location, the desired destination, and the charging locations of one or more of the plurality of electric charge providers, a charging schedule for the electric vehicle[,] the charging schedule comprising a scheduled start time and an indication of a scheduled stop time for charging the electric vehicle at each of one or more of the plurality of charging locations and a sequence defining an order in which the electric vehicle is to be charged at each of the

one or more of the plurality of charging locations, wherein a first charging location of the sequence is computed based, at least in part, on an ability of the electric vehicle to travel to the first charging location utilizing a charge amount stored in a battery of the electric vehicle;

displaying a charging status of the electric vehicle via a graphical user interface forming a part of the electric vehicle; and

increasing, in accordance with the charging schedule, a level of charge of the battery of the electric vehicle;

wherein the desired destination information is defined by a user of the electric vehicle via the graphical user interface adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

Ex. 1001, 29:16–57.

E. Evidence and Asserted Grounds

Petitioner asserts that claims 1–10 would have been unpatentable on the following ground:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–10	103	Kato[2], Tesla Roadster Manual[3], Eberhard[4]

Petitioner submits declarations from Christopher Wilson (Ex. 1002, "Wilson Declaration") and Lis Fraser (Ex. 1010, "Fraser I Declaration";

[2] US Patent Pub. 2008/0243331 A1, Oct. 2, 2008 (Ex. 1008).
[3] 2008 Tesla Roadster Touch Screen User's Manual (Ex. 1005).
[4] US Patent No. 7,671,567 A1, Jan. 29, 2009 (Ex. 1009).

Ex. 1015, "Fraser II Declaration"). Patent Owner submits a declaration from Steven Goldberg, Ph.D. (Ex. 2001, "Goldberg Declaration").

II. ANALYSIS

A. Legal Standards

Petitioner bears the burden of persuasion to prove unpatentability, by a preponderance of the evidence, of the claims challenged in the Petition. 35 U.S.C. § 316(e). This burden never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat'l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). The Board may authorize an *inter partes* review if we determine that the information presented in the Petition and Patent Owner's Preliminary Response shows that there is a reasonable likelihood that Petitioner will prevail with respect to at least one of the claims challenged in the Petition. 35 U.S.C. § 314(a).

B. Level of Ordinary Skill in the Art

Petitioner's declarant, Mr. Wilson, testifies that one skilled in the art during the relevant time frame "would have had at least a bachelor's degree in electrical engineering, mechanical engineering, or physics (or an equivalent field) and at least two years of work experience involving automotive systems, including vehicle information systems, vehicle sensors, and vehicle controllers (ECUs)," but "[m]ore education can supplement practical experience and vice versa." Pet. 9–10 (citing Ex. 1002 ¶ 27). Patent Owner does not contest Petitioner's articulation of the level of skill in the art. *See* Prelim. Resp. 14 ("Because the proposed level of ordinary skill does not affect the ultimate analysis, Patent Owner takes no position with respect to Petitioner's proposed level of ordinary skill in the art.").

For purposes of this decision, we analyze the asserted prior art with respect to the level of skill set forth by Petitioner.

C. Claim Construction

In an *inter partes* review, we construe a patent claim "using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. § 282(b)." 37 C.F.R. § 42.100(b) (2021). Under this standard, the words of a claim generally are given their "ordinary and customary meaning," which is the meaning the term would have to a person of ordinary skill at the time of the invention, in the context of the entire patent including the specification. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc).

Petitioner contends that "for the issues presented here, all claim terms should be given their plain and ordinary meaning." Pet. 10. Similarly, "Patent Owner requests that the Board adopt the ordinary and customary meaning of the claim terms as understood by one of ordinary skill in the art." Prelim. Resp. 13. Neither party articulates the asserted plain and ordinary meaning of any claim terms in their initial briefing.

In our Briefing Order, we required that "each party shall clearly state the requirements of 'computing . . . a charging schedule . . .' and the 'vehicle charge indicator element . . . .'" Briefing Order 2. Petitioner and Patent Owner provided further discussion of claim construction in their subsequent Reply and Sur-Reply, respectively. *See* Pet. Reply 1–3; PO Sur-Reply 1–3.

As discussed below, however, our determination to institute trial does not require an express construction of any particular claim terms. *See Realtime Data LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) ("The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'" (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

D. Provisional Priority

In an *inter partes* review, although Petitioner has the ultimate burden of persuasion to prove unpatentability, Patent Owner must demonstrate entitlement to a priority date when Patent Owner relies on that priority date to overcome an anticipation or obviousness argument. *See Dynamic Drinkware*, 800 F.3d at 1379–80; *see also In re NTP, Inc.*, 654 F.3d 1268, 1276 (Fed. Cir. 2011) ("[A] patent's claims are not entitled to an earlier priority date because the patentee claims priority. Rather, for a patent's claims to be entitled to an earlier priority date, the patentee must demonstrate that the claims meet the requirements of 35 U.S.C. § 120." (citations omitted)).

On the current record, and for purposes of this Decision, we find Patent Owner has not shown sufficiently that the claims of the '753 patent are entitled to the July 11, 2008 filing date of Provisional Application No. 61/134,646 (Ex. 1012, "Provisional Application"). Each claim of the '753 patent requires "a slider by which the amount of charge may be specified." Ex. 1001, 29:56–57, 30:66–67. Whether the Provisional Application provides support for that limitation is dispositive for the priority determination.

A patent is only entitled to claim the benefit of the filing date of its provisional application if the disclosure of the provisional application provides support for the claims in the patent in compliance with 35 U.S.C. § 112(a). *See Dynamic Drinkware*, 800 F.3d at 1381.

Patent Owner contends that "[w]ith respect to the purported 'slider' requirement, this requirement is also met, as the provisional provides a GUI to enter data." PO Sur-Reply 2 (citing Ex. 1012, 8; Ex. 2001 ¶ 67). According to Patent Owner, "[t]he slider element was well known to a

[person of ordinary skill in the art], as the iPhone, which was disclosed in the Provisional, allows users to employ a slider element to specify the amount of volume while playing music." *Id.* (citing Ex. 2001 ¶ 68); *see also* Prelim. Resp. 31–33.

Petitioner contends that the Provisional Application "does not . . . however, provide any disclosure of *how* to indicate a desired charging level, let alone to do so via the use of a 'slider.'" Pet. 14. According to Petitioner, "[a]t best, [Patent Owner] is arguing the claimed features would have been obvious based on background knowledge of the iPhone interface, which is insufficient for written description support." Pet. Reply 2 (citing *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997)).

Based on the record before us, we agree with Petitioner. The only purported support for the "slider" in the Provisional Application identified by Patent Owner is:

> Any other well known method incorporating a graphical user interface (GUI) may be employed to enter data into the automobile based memory or server. For example, an iPhone® interface may communicate via Bluetooth® with a memory device and processor resident in the automobile to make and/or change parameter selections. [Microsoft Sync ...]

Ex. 1012, 8. This evidence does not contain a reference to a "slider" feature of the iPhone, let alone "a slider by which the amount of charge may be specified," as recited in the claims. Patent Owner offers no explanation as to how the passage from the Provisional Application reproduced above provides support for the "slider," other than "the iPhone . . . allows users to employ a slider element to specify the amount of volume while playing music." PO Sur-Reply 2.

The Provisional Application simply references use of a GUI of an iPhone in a general manner. This does not provide written description support of any and all GUI features in the particular manner described in the '753 patent when there is no discussion whatsoever in the Provisional Application. As Petitioner notes, whether the "slider" would have been obvious based on the iPhone interface does not provide the requisite written description support for the claims. *See Lockwood*, 107 F.3d at 1572 ("One shows that one is 'in possession' of *the invention* by *describing the invention*, with all its claimed limitations, not that which makes it obvious.").

For at least these reasons, Patent Owner fails to establish that the claims of the '753 patent are entitled to the July 11, 2008 filing date of the Provisional Application.

E. Tesla Manual—Printed Publication

Petitioner contends that "[t]he 2008 Tesla Roadster Touch Screen Users Manual was publicly available and distributed before the priority date of the '753 patent." Pet. 8. Petitioner further explains that "[i]t bears a 2008 copyright date, was published in the first quarter of 2008, and was included with all Roadsters." *Id.* at 8–9 (citing Ex. 1010, Ex. 1015). In its Reply, Petitioner elaborates on the public availability and distribution of the manual, explaining that "a physical copy of the Tesla Manual as well as PDF copies of the Tesla Manual on tablets were available to anyone who went to the Tesla Showroom in Menlo Park, CA, which opened around July 2008." Pet. Reply 5–6 (citing Ex. 1015; Ex. 1016). Petitioner provides testimony from Lis Fraser that, based on her personal knowledge as an employee of Tesla, "the Tesla Roadster, and a hard copy version of the 2008 Tesla Roadster Touch Screen Users Manual, was available for the public to inspect

at Tesla's Menlo Park, California showroom starting in 2008 when the showroom was opened." Ex. 1015 ¶ 7.

Patent Owner disputes whether the Tesla Manual qualifies as a printed publication. Prelim. Resp. 35–46.

"Because there are many ways in which a reference may be disseminated to the interested public, 'public accessibility' has been called the touchstone in determining whether a reference constitutes a 'printed publication' bar under 35 U.S.C. § 102(b)." *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1348 (Fed. Cir. 2016) (quoting *In re Hall*, 781 F.2d at 898–99). "A given reference is 'publicly accessible' upon a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it." *SRI Int'l, Inc. v. Internet Sec. Sys., Inc.*, 511 F.3d 1186, 1194 (Fed. Cir. 2008) (quoting *Bruckelmyer v. Ground Heaters, Inc.*, 445 F.3d 1374, 1378 (Fed. Cir. 2006)).

We focus on the availability of copies of the Tesla Manual at Tesla's Menlo Park, California showroom because, for purposes of this decision, that availability provides sufficient basis to establish the Tesla Manual as a printed publication.

Patent Owner's contentions regarding the actual release date of the Tesla Manual (i.e., when it was released in 2008) are premised on Patent Owner establishing priority for the '753 patent claims to the Provisional Application. *See* Prelim. Resp. 37–38. Those contentions are unpersuasive because, as noted above, Patent Owner has not established entitlement to the filing date of the Provisional Application.

Patent Owner additionally contends that the assertion by Petitioner that the Tesla Manual was available in the Menlo Park showroom is a new theory presented for the first time in Petitioner's Sur-Reply and should not be considered. We disagree. Petitioner's further explanation is responsive to the dispute presented in Patent Owner's Preliminary Response, and elaborates on Petitioner's contention that "[t]he 2008 Tesla Roadster Touch Screen Users Manual was publicly available and distributed before the priority date of the '753 patent." Pet. 8.

At this stage of the proceeding, the dispute as to the public availability of the Tesla Manual appears to be based on the testimony of Lis Fraser. *See* PO Sur-Reply 7 ("Ms. Fraser has not demonstrated nor attempted to claim personal knowledge that the hard copy version of the 2008 Tesla Manual was publicly accessible before the priority date of the '753 patent."). Any issues with respect to the testimony of Lis Fraser can be addressed after institution of trial.

For purposes of this decision, we determine that Petitioner has sufficiently established availability of the Tesla Manual at the Menlo Park showroom and that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence could have located it. *See, e.g.*, Ex. 1016 (announcing 2008 opening of Menlo Park showroom).

F. Petitioner's Challenge

Petitioner asserts that claims 1–10 are unpatentable under 35 U.S.C. § 103 as obvious over Kato, the Tesla Manual, and Eberhard. Pet. 19–57. Based on the evidence of record, we conclude Petitioner has shown a reasonable likelihood of prevailing on its challenge.

1. Kato

Kato is a U.S. patent application titled "Stop-Off Facility Guidance Systems, Methods, and Programs." Ex. 1008, code (54). It describes a navigation system that determines charging points for a vehicle along a planned rote. *Id.* ¶¶ 49–60. Kato explains, for example, that "target battery remaining amounts SOC at each of points are calculated in such a way that the battery remaining amount SOC becomes 0% at the arrival to the next planned charging point." *Id.* ¶ 55. Kato provides an example where "the first starting point and the last destination are both the home" and "[t]he battery 18 is full-charged at the departure at the home, so that the battery remaining amount SOC at that time is 100%, and the battery remaining amount SOC becomes 0% at the arrival at the home." *Id.* ¶ 59. "Each of the battery remaining amounts SOC at each of the planned charging points is nearly 0% so as to charge the battery of the vehicle at the planned charging points." *Id.* Kato further explains "when the time which can be spent at the planned charging point is shorter than the time required for charging, . . . although the battery remaining amount SOC does not reach 100%, the vehicle goes to the next destination." *Id.*

Kato explains that its "battery remaining amount SOC . . . 100% and 0% do not indicate the physical remaining amount," but, rather, "100% and 0% of SOC indicate the highest remaining amount and the lowest remaining amount based on the economical repeated use of the battery 18." Ex. 1008 ¶ 60. For example, "when the battery 18 is an alkaline battery, the battery may be used until the SOC becomes very low," but "when the battery 18 is a zinc battery, using the zinc battery until the SOC becomes excessively low causes the battery life to be shortened." *Id.* Accordingly, "a state which a

predetermined amount of charge is still remaining in the zinc battery is set as 0% of the battery remaining amount SOC for the zinc battery." *Id.*

2. Tesla Manual

The Tesla Manual describes the touch screen user interface for the Tesla Roadster. The Tesla Manual describes and illustrates a charge screen, which "displays charging status" and provides "access [to] charge settings." Ex. 1005, 4. The charge screen can be "[t]ouch[ed] to adjust charge settings." *Id.* at 10. The charge settings include "[t]iming of charge (charging can begin either when the vehicle is plugged in, or at a specifically scheduled time)." *Id.*

3. Eberhard

Eberhard is a U.S. patent titled "Multi-Mode Charging System for an Electric Vehicle." Ex. 1009, code (54). It relates to "charging and cooling modes for the battery pack of an electric vehicle." *Id.*, 1:17–18. Eberhard provides one example where a "dial, menu based system on a visual display, buttons, etc.[] are provided that allow the user to select the charging cut-off voltage" or "allow the user to select the average charge." *Id.* 8:18–24. Eberhard further explains that "any of a variety of charging/operational mode means" can be used, such as "a display system . . . with a touch sensitive screen" only or in combination with "switching means (e.g., toggle switches, push button switches, slide switches, etc.)." *Id.* at 8:51–56.

4. Petitioner's Challenge

Petitioner contends that Kato teaches the majority of the features recited in claim 1, other than

> the graphical user interface [being] adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the

> battery of the electric vehicle and wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

See Pet. 19–32 (addressing limitations taught by Kato), 32–39 (addressing what Kato does not expressly teach).

We have reviewed Petitioner's contentions regarding the limitations recited in claim 1 purportedly taught by Kato, which Patent Owner does not dispute at this time, and determine that Petitioner has established sufficiently that Kato teaches those limitations. Our discussion below is directed to the disputed issues, specifically the graphical user interface features noted above and Petitioner's rationale for the proposed combined teachings.

Petitioner contends that, although Kato teaches a GUI,

> [t]here is no express disclosure in Kato that the GUI shows the vehicle's "battery remaining amount SOC" against the capacity of its "battery 18," such that it is "adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle."

Pet. 32–33. Petitioner relies on modifications to the teachings of Kato based on teachings from the Tesla Manual and Eberhard for these GUI features, as well as the slider element recited in the claims. *Id.* at 32–38.

Patent Owner's disputes whether Petitioner has provided sufficient rationale for the proposed combination and whether Petitioner has established a reasonable expectation of success. Prelim. Resp. 15–27. The GUI features noted above are illustrated in Figure 7 of the '753 patent, reproduced below.

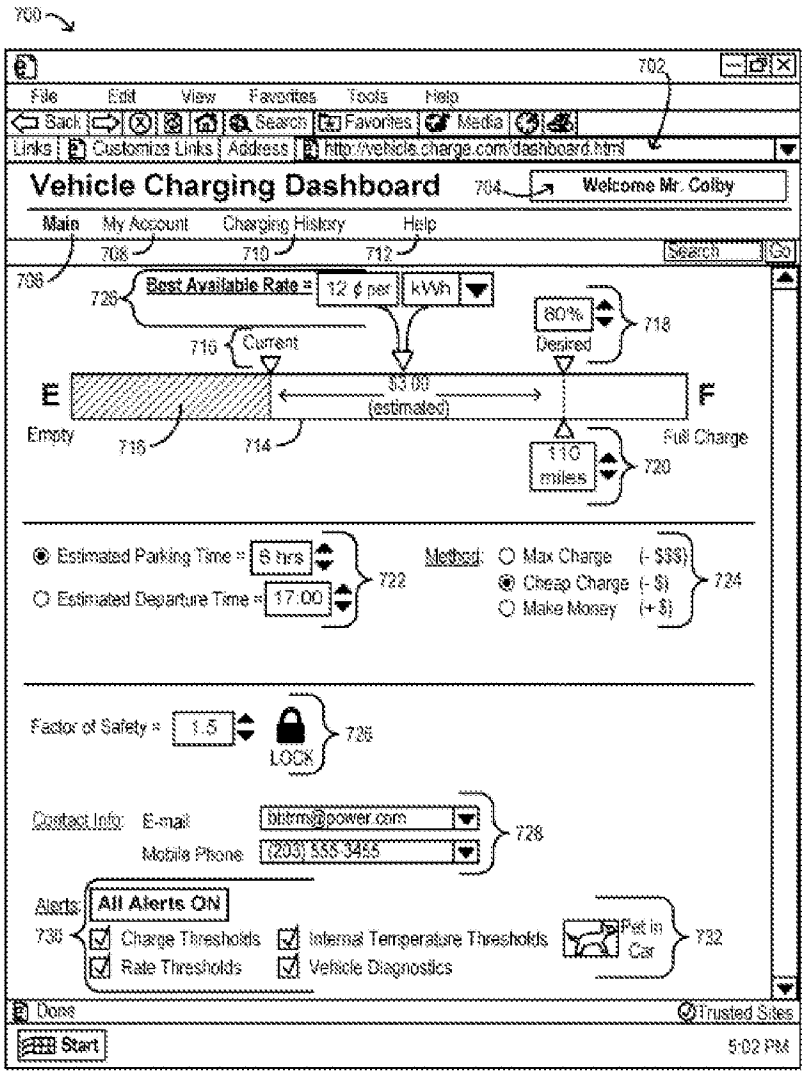


FIG. 7

Figure 7 is an illustration of a graphical user interface. The '753 patent explains:

> In some embodiments, the "main" menu item 706 may comprise a "dashboard" and/or primary screen via which vehicle charging parameters may be established, stored, viewed, and/or changed. The "main" menu item 706 may comprise, for example, a vehicle charge indicator 714 that visually indicates a current charge level 716 of the vehicle. Similarly, a desired charge percent level 718 may be both shown and alterable. A user may select the desired charge percent level 718, for

> example, and may slide the marker on the vehicle charge indicator 714 to a new described location and/or may utilize the exemplary up/down arrow controls to increase or decrease the desired charge percent level 718.
>
> The user may also or alternatively view and/or change the desired charge range level 720. An estimate of how far the vehicle can travel on a given charge amount (which may be a general average and/or may be computed based on a specific itinerary and/or past driving habits) can be determined, for example, and utilized to express the desired charge level in terms of distance capable of being traveled. In such a manner, for example, a user may determine a desired distance to travel (e.g., how far it is from home to work or vice versa) and may set the desired charge range level 720 to match the desired distance.

Ex. 1001, 14:42–64. That is, the disputed GUI features are simply a visual indication of an amount of battery charge relative to total charge capacity, along with a slider element to specify how much charge a user desires. Patent Owner, itself, characterizes implementation of these features as "well-known GUI methods." Prelim. Resp. 30; *see also id.* at 31–33 (addressing slider features).

Patent Owner contends that Kato and Eberhard propose different solutions to different problems. Prelim. Resp. 16–19. That argument does not identify any issue with Petitioner's challenge because, as Petitioner notes, Kato and Eberhard are in the same field as Patent Owner's purported invention (Pet. 39), which Patent Owner does not dispute. In addition, Kato and Eberhard do not need to expressly disclose Petitioner's motivation to combine. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 418 (2007). Instead, as discussed above and below, we find that Petitioner sufficiently articulates a reason to combine the references with some rational underpinning to support the legal conclusion of obviousness. *Id.*

Patent Owner additionally contends that Petitioner's reason to combine lacks merit because it is based on hindsight reasoning that uses the claims as a roadmap to find the claim elements. Prelim. Resp. 19–23. That, too, is not persuasive because even Patent Owner acknowledges that such GUI features were well-known in art, as noted above.

Patent Owner's contention that Petitioner has not shown a reasonable expectation of success in reconfiguring Kato with Eberhard and the Tesla Manual (Prelim. Resp. 23–27) is also unpersuasive. Petitioner explains that "adding Eberhard's slider with the charging indicator shown in the Tesla Manual into the display of Kato's navigation apparatus is simply a matter of changing software functionality." Pet. 44 (citing Ex. 1002 ¶ 139). This is consistent with Patent Owner's own representations, noted above, that these are simply "well-known GUI methods."

Petitioner sufficiently provides a variety of reasons as to why one skilled in the art would have combined the teachings of Kato, the Tesla Manual, and Eberhard to arrive at the system of claim 1. One such reason we find persuasive at this stage of the proceeding is that

> as Eberhard explains, there were many known means to input a user's selection (EX1009, 8:50-60), so, for a POSITA, the use of Eberhard's slider with the charge indicator of the Tesla Manual and within Kato's navigation apparatus display would be a matter of a routine design choice for vehicle interfaces among various ways to display graphical elements and for users to interact with them. EX1002, ¶141.

Pet. 45. Again, this is consistent with Patent Owner's own representations, noted above, that these are simply "well-known GUI methods."

Based on the record before us at this stage of the proceeding, Petitioner has established a reasonable likelihood of success on at least its challenge to independent claim 1.

III. CONCLUSION

After considering the evidence and arguments presented in the current record, we determine that Petitioner demonstrates a reasonable likelihood of prevailing in establishing that at least independent claim 1 of the '753 patent is unpatentable. We, therefore, institute trial on all challenged claims and grounds raised in the Petition.

At this stage of the proceeding, we have not made a final determination as to the patentability of any challenged claim or as to the construction of any claim term. Any final determination will be based on the record developed during trial. We place Patent Owner on express notice that any argument not asserted in a timely-filed Response to the Petition, or in another manner permitted during trial, shall be deemed waived, even if that argument was presented in the Preliminary Response. Similarly, if the parties do not present their proposed claim constructions in their briefs, or in another manner permitted during trial, they will be precluded from presenting such arguments and their arguments shall be deemed waived. The parties should (1) explain why the "charging schedule limitation" should not be construed under 35 U.S.C § 112(f) as discussed in the dissent, and (2) where written description exists for this limitation in the Specification of the '753 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–10 in the '753 patent is instituted on all challenges included in the Petition; and

FURTHER ORDERED that, according to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial that commences on the entry date of this Decision.

PLENZLER, *Administrative Patent Judge*, DISSENTING.

I agree with the majority that express construction of "computing . . . a charging schedule" (hereinafter "the charging schedule limitation") is not necessary to resolve the dispute presented in the Petition and Patent Owner's Preliminary Response regarding whether Patent Owner has established that the '753 patent is entitled to priority to the provisional filing date. I also agree that, in its Preliminary Response, Patent Owner does not yet dispute that Kato teaches the charging schedule limitation.

Nevertheless, as explained below, because I determine that the charging schedule limitation should be construed under 35 U.S.C § 112(f), and because Petitioner believes that no written description exists for that limitation in the Specification of the '753 patent, I would deny institution.

Although neither party alleges that 35 U.S.C § 112(f) should apply, as discussed in more detail below, their express statements make clear that a construction pursuant to that section of the statute is the appropriate construction. *See* Tr., *generally*. Because this claim construction issue may arise during trial[5], I would address it now. Patent Owner acknowledges the controversy surrounding the charging schedule limitation and lack of meaningful construction of that limitation from Petitioner. *See* Tr. 26:12–27:2, 27:20–28:7.

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[5] In a footnote in its Reply Petitioner notes: "Neither limitation invokes 35 U.S.C. § 112(f)." Pet. Reply 1 n1. In the Claim Construction section, the Petition states: "Petitioner expressly reserves the right to challenge in district court litigation one or more claims of the '753 Patent for failure to satisfy the requirements of 35 U.S.C. §112." Pet. 10 n5. Patent Owner states: "If trial is instituted . . . Patent Owner reserves the right to propose more specific constructions of one or more claim terms." Prelim. Resp. 13.

Section 112(f) states:

> An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

The standard for determining whether a limitation is a means-plus-function term is not based merely on the presence or absence of the word "means," but, rather, is based on "whether the words of the claim are understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure." *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1349 (Fed. Cir. 2015). Although there is a presumption that a limitation lacking the word "means" is not subject to § 112(f), that presumption is overcome when it is "demonstrate[d] that the claim term fails to 'recite sufficiently definite structure' or else recites 'function without reciting sufficient structure for performing that function.'" *Id.*

Petitioner contends that "there's nothing here that rebuts th[e] presumption" that the charging schedule limitation is not subject to § 112(f). Tr. 17:22–23, 19:22–20:6. But as a tribunal with the authority to decide whether a challenger has met its burden to demonstrate the unpatentability of the challenged claims, which depends on the resolution of a claim construction issue, the Board necessarily can decide that claim construction issue based on record evidence. *See Markman v. Westlaw Inst., Inc.*, 52 F.3d 967, 996 n.7 ("A claim must be construed before determining its validity.") Claim construction is a question of law with evidentiary underpinnings. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 135 S. Ct. 831, 838 (2015). We are simply performing our duty when construing a claim term. *Cf. ACTV, Inc. v.*

Walt Disney Co., 346 F.3d 1082, 1090 (Fed. Cir. 2003) (the appellate court construing terms the constructions of which were not appealed from the trial court); *Exxon Chem. Patents, Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555 (Fed. Cir. 1995) ("[T]he trial judge has an independent obligation to determine the meaning of the claim, notwithstanding the views asserted by the adversary parties.").

The charging schedule limitation requires computer instructions (i.e., computer code), as the claim recites "[a]n electrical charging system" including "non-transitory memory storing instructions that when executed by the one or more processing devices, result in . . . computing . . . a charging schedule." Ex. 1001, 29:19–31; *see also* Tr. 14:17–18 (Patent Owner explaining that "it would just be based on conventional coding techniques"). There is no meaningful structure associated with that limitation.

Although the claim recites "instructions," those instructions are merely a black box that manipulate inputs in some unspecified way to provide outputs that result in the charging schedule and are no different than a generic "module," which has been held to be a well-known nonce word. *Williamson*, 792 F.3d 1350. Both Petitioner and Patent Owner agree that there is no detail regarding the charging schedule instructions required by the claim.

Petitioner acknowledges that the claim "has inputs and outputs and doesn't necessarily provide detail as to how to get from the beginning to the end . . . the claim does not provide that information." Tr. 16:2–7. Patent Owner contends that "one or more processing devices" and "a non-transitory memory device" are the structure recited in the claims, without identifying any particular instructions in the claims. Tr. 12:14–16. Patent Owner

contends that "conventional coding techniques . . . could be applied." *Id.* 13:9–10; *see also id.* at 14:4–10 ("a person of ordinary skill in the art could use the information in the specification, along with these inputs, and the one or more processing devices and the computer code to determine -- to compute the charging schedule"). Patent Owner's reference to "conventional coding techniques" refers to known computer programming languages, not off the shelf code, as explained below. It is not enough, however, that one skilled in the art would be able to write a program that generates the charging schedule. *See Blackboard, Inc. v. Desire2Learn, Inc.*, 574 F.3d 1371, 1385 (Fed. Cir. 2009).

Patent Owner points us *to Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003 (2018). Tr. 25:1–7. The situation before us, however, is easily distinguished from *Zeroclick*. In *Zeroclick*, the terms "program" and "user interface code" were at issue and determined not to be nonce words in that particular case. *Zeroclick*, 891 F.3d at 1008. The decision in *Zeroclick* held that "a person of ordinary skill in the art could reasonably discern from the claim language that the words 'program[]' and 'user interface code[]' as used in [the] claim[s] . . . are used not as generic terms or black box recitations of structure or abstractions, but rather as specific references to conventional graphical user interface programs or code, existing in prior art at the time of the inventions." *Id.* The opposite is true in this case.

Both Petitioner and Patent Owner agree that the charging schedule limitation is not a specific reference to a conventional program or code existing in prior art at the time of the invention. When asked if "there exists code off the shelf that you just plug these inputs into" (Tr. 13:18–20), Patent Owner responded that they are "not aware of anything that existed at the time of the invention that would do this that you could pull off-the-shelf type

computer software" (*id.* at 13:24–14:3). Similarly, Petitioner explained that "the set of instructions is a specific reference to non-conventional programming or code." *Id.* at 16:16–18. Moreover, both Petitioner and Patent Owner agree that there is nothing simple about the programming required. *See id.* at 14:25–15:2 (Patent Owner explained that they are "not aware of any sort of basic algorithm or anything that could do that."), 16:19–22 (Petitioner explained that "it's not just simple programming, it's not just a simple equation. It's quite sophisticated to be able to create that.").

For at least these reasons, I would determine that § 112(f) applies to the charging schedule limitation, as the charging schedule limitation would not have been understood by persons of ordinary skill in the art to have a sufficiently definite meaning as the name for structure.

Once it is determined that § 112(f) applies, the next step is to "determine whether the specification discloses sufficient structure that corresponds to the claimed function." *Williamson*, 792 F.3d at 1351. For computer-related inventions so construed, "the specification [must] disclose an algorithm for performing the claimed function," which "may be expressed as a mathematical formula, in prose, or as a flow chart, or in any other manner that provides sufficient structure." *Id.* (citations omitted). "Where there are multiple claimed functions . . . the patentee must disclose adequate corresponding structure to perform all of the claimed functions." *Id.* at 1351–52 (citation omitted); *see also Finisar Corp. v. DirecTV Group, Inc.*, 523 F.3d 1323, 1341 (Fed. Cir. 2008); *see also Aristocrat Techs. Australia Pty Ltd. v. Int'l Game Tech.*, 521 F.3d 1328, 1333 (Fed. Cir. 2008).

Petitioner does not identify corresponding structure or equivalents for the charging schedule limitation, and therefore, has not shown where the asserted art teaches the charging schedule limitation. Instead, Petitioner has

taken the position that there is no corresponding structure in the Specification. *See* Tr. 16:6–14 ("[T]he claim does not provide that information" on how to get from the inputs to the outputs. "As far as whether it's in the specification, you know, the specification does make a few passing references to a charging schedule, but the exact detail of what's recited in the claim we do not believe is in the spec."), 18:7–9 ("that the specification does not provide additional detail in the instructions"), 21:6–9 ("It's our view that there is no written description support[] in the specification for this limitation."). Accordingly, I would deny the Petition. *See Samsung Elecs. Am., Inc. v. Prisua Eng'g Corp.*, 948 F.3d 1342, 1353 (Fed. Cir. 2020) (finding "the proper course for the Board to follow, if it cannot ascertain the scope of a claim with reasonable certainty for purposes of assessing patentability, is to decline the IPR or, if the indefiniteness issue affects only certain claims, to conclude that it could not reach a decision on the merits with respect to whether petitioner had established the patentability of those claims under sections 102 or 103.").

For at least these reasons, I respectfully dissent.

FOR PETITIONER:

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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 Delaware on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
		District of Delaware

PLAINTIFF	DEFENDANT
CHARGE FUSION TECHNOLOGIES, LLC	POLESTAR AUTOMOTIVE USA, INC.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	10,998,753 B2	5/4/2021	Charge Fusion Technologies, LLC
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

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 Western District of Texas on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:21-cv-01078	10/15/2021	Western District of Texas

PLAINTIFF	DEFENDANT
Charge Fusion Technologies, LLC	Tesla, Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 9,853,488 B2	12/26/2017	Charge Fusion Technologies, LLC
2	US 10,819,135 B2	10/27/2020	Charge Fusion Technologies, LLC
3	US 10,998,753 B2	5/4/2021	Charge Fusion Technologies, LLC
4			
5			

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

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

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

DECISION/JUDGEMENT
5/11/2022 - Order on Transfer to Austin Division

CLERK	(BY) DEPUTY CLERK	DATE
Jeannette Clack	A. Miles	May 11, 2022

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

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 Western District of Texas on the following

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

DOCKET NO.	DATE FILED	U.S. DISTRICT COURT
6:21-cv-01078	10/15/2021	Western District of Texas

PLAINTIFF	DEFENDANT
Charge Fusion Technologies, LLC	Tesla, Inc.

	PATENT OR TRADEMARK NO.	DATE OF PATENT OR TRADEMARK	HOLDER OF PATENT OR TRADEMARK
1	US 9,853,488 B2	12/26/2017	Charge Fusion Technologies, LLC
2	US 10,819,135 B2	10/27/2020	Charge Fusion Technologies, LLC
3	US 10,998,753 B2	5/4/2021	Charge Fusion Technologies, LLC
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**

UNITED STATES PATENT AND TRADEMARK OFFICE

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

APPLICATION NO.	ISSUE DATE	PATENT NO.	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/012,325	05/04/2021	10998753	CF01-001-02-02	1035

89411 7590 04/14/2021

RowanTree Law Group, PLLC
90 Grove Street
Suite 205
Ridgefield, CT 06877

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):

Jeffrey R. Ambroziak, Guilford, CT;
Charge Fusion Technologies, LLC, Ridgefield, CT;
Carson C.K. Fincham, Ridgefield, CT;

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.

PART B – FEE(S) TRANSMITTAL

Complete and send this form, together with the applicable fee(s), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

By fax, send to: (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)

RowanTree Law Group PLLC
90 Grove Street - Suite 205
Ridgefield, CT 06877

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO	CONFIRMATION NO
17/012,325	09/04/2020	Jeffrey R. Ambroziak	CF01-001-02-02	1035

TITLE OF INVENTION:

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0	$0	$600	06/14/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS

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 03-09 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. RowanTree Law Group PLLC
2. Carson C.K. Fincham
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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE	(B) RESIDENCE: (CITY and STATE or COUNTRY)
Charge Fusion Technologies, LLC	Ridgefield, CT

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

4a. Fees Submitted: ☑ Issue Fee ☑ Publication Fee (if required) ☐ Advance Order - # of Copies _____

4b. Method of Payment (*Please first reapply any previously paid fee shown above*):

☑ Electronic Payment via EFS-Web ☐ Enclosed check ☐ Non-electronic payment by credit card (Attach form PTO-2038)

☑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. 50-5363

5. Change of 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 as a notification of loss of entitlement to micro entity status.

☐ Applicant changing to regular undiscounted fee status. NOTE: Checking this box will be taken as 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 /Carson C.K. Fincham, Reg.#54096/ Date April 2, 2021

Typed or printed name Carson C.K. Fincham Registration No. 54096

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 30 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.

Electronic Patent Application Fee Transmittal

Application Number:	17012325
Filing Date:	04-Sep-2020
Title of Invention:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES
First Named Inventor/Applicant Name:	Jeffrey R. Ambroziak
Filer:	Carson C K Fincham/Limor Bredmehl
Attorney Docket Number:	CF01-001-02-02

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	600	600

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Extension-of-Time:				
Miscellaneous:				
			Total in USD ($)	**600**

Electronic Acknowledgement Receipt

EFS ID:	42368253
Application Number:	17012325
International Application Number:	
Confirmation Number:	1035
Title of Invention:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES
First Named Inventor/Applicant Name:	Jeffrey R. Ambroziak
Customer Number:	89411
Filer:	Carson C K Fincham/Limor Bredmehl
Filer Authorized By:	Carson C K Fincham
Attorney Docket Number:	CF01-001-02-02
Receipt Date:	05-APR-2021
Filing Date:	04-SEP-2020
Time Stamp:	16:06:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$600
RAM confirmation Number	E202145G07161568
Deposit Account	505363
Authorized User	Limor Bredmehl

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	Issue Fee Payment (PTO-85B)	CF01-001-02-02_IFEE_2021-04-05.pdf	334242 9c7343de5e21d9d6a3242353ece5117f6fd4099a	no	2
Warnings:					
Information:					
2	Fee Worksheet (SB06)	fee-info.pdf	30590 8199314e1b9b39e49cf4aa3c65fac7d59d60c294	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	364832		

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

New Applications Under 35 U.S.C. 111

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

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

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

New International Application Filed with the USPTO as a Receiving Office

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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

NOTICE OF ALLOWANCE AND FEE(S) DUE

89411 7590 03/12/2021

Fincham Downs, LLC
90 Grove St.
Suite 205
Ridgefield, CT 06877

EXAMINER
BORISSOV, IGOR N

ART UNIT	PAPER NUMBER
3649	

DATE MAILED: 03/12/2021

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/012,325	09/04/2020	Jeffrey R. Ambroziak	CF01-001-02-02	1035

TITLE OF INVENTION: SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	06/14/2021

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), by mail or fax, or via EFS-Web.

By mail, send to: Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450

By fax, send to: (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)

89411 7590 03/12/2021

Fincham Downs, LLC
90 Grove St.
Suite 205
Ridgefield, CT 06877

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 transmitted to the USPTO via EFS-Web or by facsimile to (571) 273-2885, on the date below.

(Typed or printed name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/012,325	09/04/2020	Jeffrey R. Ambroziak	CF01-001-02-02	1035

TITLE OF INVENTION: SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES

APPLN. TYPE	ENTITY STATUS	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	SMALL	$600	$0.00	$0.00	$600	06/14/2021

EXAMINER	ART UNIT	CLASS-SUBCLASS
BORISSOV, IGOR N	3649	705-007360

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 03-09 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 must have been previously recorded, or filed for recordation, as set forth in 37 CFR 3.11 and 37 CFR 3.81(a). 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. Fees submitted: ❑ Issue Fee ❑ Publication Fee (if required) ❑ Advance Order - # of Copies _____

4b. Method of Payment: *(Please first reapply any previously paid fee shown above)*

❑ Electronic Payment via EFS-Web ❑ Enclosed check ❑ Non-electronic payment by credit card (Attach form PTO-2038)

❑ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment to Deposit Account No. _____

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

❑ Applicant certifying micro entity status. See 37 CFR 1.29

❑ Applicant asserting small entity status. See 37 CFR 1.27

❑ Applicant changing to regular undiscounted fee status.

NOTE: Absent a valid certification of Micro Entity Status (see forms PTO/SB/15A and 15B), issue fee payment in the micro entity amount will not be accepted at the risk of application abandonment.
NOTE: If the application was previously under micro entity status, checking this box will be taken to be a notification of loss of entitlement to micro entity status.
NOTE: Checking this box will be taken to be a notification of loss of entitlement to small or micro entity status, as applicable.

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

Authorized Signature _____ Date _____

Typed or printed name _____ Registration No. _____

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
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.
17/012,325	09/04/2020	Jeffrey R. Ambroziak	CF01-001-02-02	1035

89411 7590 03/12/2021

Fincham Downs, LLC
90 Grove St.
Suite 205
Ridgefield, CT 06877

EXAMINER	
BORISSOV, IGOR N	
ART UNIT	PAPER NUMBER
3649	

DATE MAILED: 03/12/2021

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 30 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450. Under the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless it displays a valid OMB control number.

Privacy Act Statement

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

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

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

Notice of Allowability	Application No. 17/012,325	Applicant(s) Ambroziak et al.	
	Examiner IGOR N BORISSOV	Art Unit 3649	AIA (FITF) Status No

-- 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 Interview summary of 3/08/2021.
   ☐ 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 17 and 19-27 . 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. 3/08/2021.
5. ☑ Examiner's Amendment/Comment
6. ☑ Examiner's Statement of Reasons for Allowance
7. ☐ Other _____.

/IGOR N BORISSOV/
Primary Examiner, Art Unit 3649

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

The current application filed 09/04/2020 is a continuation of 15/848,017, filed 12/20/2017, now U.S. Patent #10,819,135

15/848,017 is a continuation of 12/502,041, filed 07/13/2009, now U.S. Patent 9,853,488

12/502,041 Claims Priority from Provisional Application 61/134,646, filed 07/11/2008

EXAMINER'S AMENDMENT

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

The Examiner's amendment introduces the following changes to the claims: claims 1-8, 14-16 and 18 have been cancelled, claims 17, 19 and 20 have been amended. New claims 19-27 have been added.

Authorization for this examiner's amendment was given in a personal interview with an Applicant Mr. Ambroziak (Reg. No.: 47387) on 03/08/2021.

The application has been amended as follows:

IN THE CLAIMS

1-16. (Cancelled)

17. (Currently amended) An electrical charging system, comprising:

one or more processing devices; and

a non-transitory memory device in communication with the one or more processing devices, the non-transitory memory storing instructions that when executed by the one or more processing devices, result in:

receiving information indicative of a starting location of an electric vehicle;

receiving information indicative of a desired destination of the electric vehicle;

receiving information indicative of a charging location of each of a plurality of electric charge providers;

computing, based at least in part on the starting location, the desired destination, and the charging locations of one or more of the plurality of electric charge providers, a charging schedule for the electric vehicle the charging schedule comprising a scheduled start time and an indication of a scheduled stop time for charging the electric vehicle at each of ~~a subset~~ one or more of the plurality of charging locations and a sequence defining an order in which the electric vehicle is to be charged at each of ~~the subset~~ the one or more of the plurality of charging locations, wherein a first charging location of the sequence is computed based, at least in part, on an ability of the electric vehicle to travel to the first charging location utilizing a charge amount stored in a battery of the electric vehicle;

displaying a charging status of the electric vehicle via a graphical user interface forming a part of the electric vehicle; and

increasing, in accordance with the charging schedule, a level of charge of the battery of the electric vehicle;

wherein the desired destination information is defined by a user of the electric vehicle via the graphical user interface adapted to display a vehicle charge indicator

element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

18. (Canceled)

19. (Currently Amended) The electrical charging system of claim [[18]] 17, wherein the instructions, when executed by the one or more processing devices, further result in:

outputting, via the graphical user interface, the charging schedule.

20. (Currently Amended) The electrical charging system of claim [[18]] 17, wherein the instructions, when executed by the one or more processing devices, further result in:

identifying, after the computing and based on the level of charge of the battery and an updated value descriptive of a distance to at least one charging location of ~~the subset~~ at least one of the plurality of charging locations, that the level of charge of the battery cannot be increased in accordance with the charging schedule; and

outputting, via the graphical user interface and in response to the identifying, an alert that the level of charge of the battery cannot be increased in accordance with the charging schedule.

21. (New) The electrical charging system of claim 17, wherein the instructions, when executed by the one or more processing devices, further result in:

identifying, after computing the charging schedule, that the level of charge of the battery cannot be increased in accordance with the charging schedule; and

outputting, via the graphical user interface and in response to the identifying, an alert that the level of charge of the battery cannot be increased in accordance with the charging schedule.

22. (New) The electrical charging system of claim 21, wherein the instructions, when executed by the one or more processing devices, further result in repeating the steps of receiving information indicative of a starting location of an electric vehicle, receiving

information indicative of a desired destination of the electric vehicle, receiving information indicative of a charging location of each of a plurality of electric charge providers and computing a charging schedule.

23. (New) An electrical charging system, comprising:

one or more processing devices; and

a non-transitory memory device in communication with the one or more processing devices, the non-transitory memory storing instructions that when executed by the one or more processing devices, result in:

receiving information indicative of a starting location of an electric vehicle;

receiving information indicative of a desired destination of the electric vehicle; receiving information indicative of a charging location of each of a plurality of

electric charge providers;

computing, based at least in part on the starting location, the desired destination, and the charging locations of one or more of the plurality of electric charge providers, a charging schedule for the electric vehicle the charging schedule comprising a scheduled start time and an indication of a scheduled stop time for charging the electric vehicle at each of one or more of the plurality of charging locations, wherein a first charging location is computed based, at least in part, on an ability of the electric vehicle to travel to the first charging location utilizing a charge amount stored in a battery of the electric vehicle;

displaying a charging status of the electric vehicle via a graphical user interface forming a part of the electric vehicle; and

increasing, in accordance with the charging schedule, a level of charge of the battery of the electric vehicle;

wherein the desired destination information is defined by a user of the electric vehicle via the graphical user interface adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and

wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

24. (New) The electrical charging system of claim 23, wherein the instructions, when executed by the one or more processing devices, further result in:

outputting, via the graphical user interface, the charging schedule.

25. (New) The electrical charging system of claim 23, wherein the instructions, when executed by the one or more processing devices, further result in:

identifying, after the computing and based on the level of charge of the battery and an updated value descriptive of a distance to at least one charging location of at least one of the plurality of charging locations, that the level of charge of the battery cannot be increased in accordance with the charging schedule; and

outputting, via the graphical user interface and in response to the identifying, an alert that the level of charge of the battery cannot be increased in accordance with the charging schedule.

26. (New) The electrical charging system of claim 23, wherein the instructions, when executed by the one or more processing devices, further result in:

identifying, after computing the charging schedule, that the level of charge of the battery cannot be increased in accordance with the charging schedule; and

outputting, via the graphical user interface and in response to the identifying, an alert that the level of charge of the battery cannot be increased in accordance with the charging schedule.

27. (New) The electrical charging system of claim 26, wherein the instructions, when executed by the one or more processing devices, further result in repeating the steps of receiving information indicative of a starting location of an electric vehicle, receiving information indicative of a desired destination of the electric vehicle, receiving information indicative of a charging location of each of a plurality of electric charge providers and computing a charging schedule.

Allowable Subject Matter

Claim rejections under 35 USC §§ 112, 102 and 103 have been withdrawn due to the Examiner's amendment.

Claims 17 and 19-27 are allowed.

The following is an examiner's statement of reasons for allowance:

As per independent claims 17 and 23, the best prior art of record, *Hafner et al., Straubel,* and *Scalisi et al.* (US 2009/0189807 A1) (See: IDS of 09/22/2020, #11) neither anticipates, nor, alone or combined, renders obvious as a whole, the specific combination of the inventive features as currently recited in the Examiner's amendment.

Further, for the patent-eligibility issue under 35 USC 101 the Examiner understands the limitation of: "*increasing, in accordance with the charging schedule, a level of charge of the battery of the electric vehicle*" in independent claims 17 and 23 as "*charging, in accordance with the charging schedule, the battery of the electric vehicle.*"

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 submission should be clearly labeled "Comments on Statement of Reason for Allowance".

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igor Borissov whose telephone number is 571-272-6801. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darnell M. Jayne can be reached on 571-272-7723. 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).

/IGOR N BORISSOV/
Primary Examiner, Art Unit 3649
3/08/2021

Applicant-Initiated Interview Summary	**Application No.** 17/012,325	**Applicant(s)** Ambroziak et al.		
	Examiner IGOR N BORISSOV	**Art Unit** 3649	**AIA (First Inventor to File) Status** No	**Page** 1 of 1

All Participants (applicant, applicants representative, PTO personnel)	**Title**	**Type**
IGOR N BORISSOV	Primary Examiner	Telephonic
Jeffrey R. Ambroziak	Inventor	

Date of Interview: 08 March 2021

Issues Discussed:

35 U.S.C. 112

The examiner's amendment removes the limitations "a subset of a plurality of charging location", thereby resolving 35 USC 112(1) issue.

35 U.S.C. 102

The examiner's amendment introduces "wherein" clause, which is an allowable limitation. Please see parent 15/848,017, now US patent 10,819,135

35 U.S.C. 103

The examiner's amendment introduces "wherein" clause, which is an allowable limitation. Please see parent 15/848,017, now US patent 10,819,135

/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	

Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	**Art Unit**
	IGOR N BORISSOV	3649

CPC								
Symbol							**Type**	**Version**
H02J	/	7	/	1446			F	2013-01-01
B60L	/	3	/	12			I	2013-01-01
B60L	/	8	/	003			I	2013-01-01
G06Q	/	30	/	0283			I	2013-01-01
G06Q	/	30	/	04			I	2013-01-01
G06Q	/	50	/	06			I	2013-01-01
B60L	/	53	/	64			I	2019-02-01
B60L	/	53	/	14			I	2019-02-01
B60L	/	53	/	65			I	2019-02-01
B60L	/	53	/	665			I	2019-02-01
B60L	/	55	/	00			I	2019-02-01
B60L	/	53	/	305			I	2019-02-01
B60L	/	53	/	126			I	2019-02-01
B60L	/	2210	/	40			A	2013-01-01
B60L	/	2240	/	72			A	2013-01-01
B60L	/	2240	/	80			A	2013-01-01
B60L	/	2250	/	10			A	2013-01-01
B60L	/	2250	/	16			A	2013-01-01
B60L	/	2260	/	52			A	2013-01-01
B60L	/	2260	/	54			A	2013-01-01
B60L	/	2260	/	58			A	2013-01-01
B60L	/	2270	/	32			A	2013-01-01
Y02T	/	10	/	92			A	2013-01-01
Y02T	/	90	/	14			A	2013-01-01
B60L	/	2200	/	26			A	2013-01-01
Y04S	/	10	/	126			A	2013-01-01
Y04S	/	30	/	14			A	2013-01-01
Y04S	/	50	/	12			A	2013-01-01
Y04S	/	50	/	14			A	2013-01-01
Y02E	/	60	/	00			A	2013-01-01
Y02T	/	10	/	70			A	2013-01-01

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	10	
/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	08 March 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	23	7

U.S. Patent and Trademark Office

Part of Paper No.: 20210308

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	**Art Unit**
	IGOR N BORISSOV	3649

CPC						
Symbol					**Type**	**Version**
Y02T	/	10	/	72	A	2013-01-01
Y02T	/	10	/	7072	A	2013-01-01
Y02T	/	90	/	12	A	2013-01-01
Y02T	/	90	/	16	A	2013-01-01
Y02T	/	90	/	167	A	2013-01-01

CPC Combination Sets							
Symbol					**Type**	**Set**	**Ranking**	**Version**
	/		/					

NONE		Total Claims Allowed:	
(Assistant Examiner)	(Date)	10	
/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	08 March 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	23	7

U.S. Patent and Trademark Office

Part of Paper No.: 20210308

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	**Art Unit**
	IGOR N BORISSOV	3649

INTERNATIONAL CLASSIFICATION				
CLAIMED				
H02J	/	7	/	14

NON-CLAIMED				
	/		/	

US ORIGINAL CLASSIFICATION	
CLASS	**SUBCLASS**
705	7.35

CROSS REFERENCES(S)						
CLASS	**SUBCLASS (ONE SUBCLASS PER BLOCK)**					

NONE		**Total Claims Allowed:**	
(Assistant Examiner)	(Date)	10	
/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	08 March 2021	O.G. Print Claim(s)	O.G. Print Figure
(Primary Examiner)	(Date)	23	7

U.S. Patent and Trademark Office

Part of Paper No.: 20210308

Issue Classification	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	**Art Unit**
	IGOR N BORISSOV	3649

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

CLAIMS

Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original	Final	Original

NONE (Assistant Examiner) (Date)	**Total Claims Allowed:** 10	
/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649 (Primary Examiner) (Date) 08 March 2021	O.G. Print Claim(s) 23	O.G. Print Figure 7

U.S. Patent and Trademark Office Part of Paper No.: 20210308

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	Art Unit
	IGOR N BORISSOV	3649

CPC - Searched*		
Symbol	**Date**	**Examiner**
H04L67/306; G06Q50/01; H04L67/30; G06Q30/0282; G06Q30/0201;	03/08/2021	IB
G06Q30/0214; G06Q30/0217; G06Q30/0218; G06Q30/0224;	03/08/2021	IB
G06Q30/02	03/08/2021	IB

CPC Combination Sets - Searched*		
Symbol	**Date**	**Examiner**

US Classification - Searched*			
Class	**Subclass**	**Date**	**Examiner**
705	7.36	03/08/2021	IB

* 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**
Key terms search on EAST	03/08/2021	IB
Classification search in combination with key terms on EAST	03/08/2021	IB
Inventor search	03/08/2021	IB
NPL search	03/08/2021	IB

/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	Art Unit
	IGOR N BORISSOV	3649

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner
705/H02J	7.36/7/1446	03/08/2021	IB

/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	

Index of Claims	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	Art Unit
	IGOR N BORISSOV	3649

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

CLAIMS

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

CLAIM		DATE								
Final	Original	03/08/2021								
	1	-								
	2	-								
	3	-								
	4	-								
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	16	-								
1	17	=								
	18	-								
2	19	=								
3	20	=								
4	21	=								
5	22	=								
6	23	=								
7	24	=								
8	25	=								
9	26	=								
10	27	=								

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BIB DATA SHEET

CONFIRMATION NO. 1035

SERIAL NUMBER	FILING or 371(c) DATE RULE	CLASS	GROUP ART UNIT	ATTORNEY DOCKET NO.
17/012,325	09/04/2020	705	3649	CF01-001-02-02

APPLICANTS

Charge Fusion Technologies, LLC, Ridgefield, CT;

INVENTORS

Jeffrey R. Ambroziak, Guilford, CT;
Carson C.K. Fincham, Ridgefield, CT;

**** CONTINUING DATA ***************************

This application is a CON of 15/848,017 12/20/2017 PAT 10819135
which is a CON of 12/502,041 07/13/2009 PAT 9853488
which claims benefit of 61/134,646 07/11/2008

**** FOREIGN APPLICATIONS ***************************

**** IF REQUIRED, FOREIGN FILING LICENSE GRANTED **** ** SMALL ENTITY **
09/17/2020

Foreign Priority claimed	35 USC 119(a-d) conditions met	Verified and Acknowledged	Met after Allowance	STATE OR COUNTRY	SHEETS DRAWINGS	TOTAL CLAIMS	INDEPENDENT CLAIMS
❑ Yes ☑ No	❑ Yes ☑ No	/IGOR N BORISSOV/ Examiner's Signature	❑ Initials	CT	10	16	3

ADDRESS

Fincham Downs, LLC
90 Grove St.
Suite 205
Ridgefield, CT 06877
UNITED STATES

TITLE

SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES

FILING FEE RECEIVED		
785	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

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"20200403437".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:17
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L3	1	"20200403437".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
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L6	0	L1 and (plurality with (charge or electric) with provider$1)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
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L16	2	L15 and dynamic	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19

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L20	19	L13 and (distanc$3 or location$1 or charg$3 or preference$1 or attribut$4 or time or schedul$4 or desired or travel$4 or duration$1)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
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L22	1	L20 and "20090313174".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
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L26	3	L23 and ((cost$1 with rate$1))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
L27	1	L26 and ((predict$3 or expect$3 or future) with load)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
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L29	0	(park$3 with (car or vehicle or truck)) and (maintain$3 with internal with temperature with battery with (threshold or level))	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L30	36,279	tesla	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L31	1,061	tesla.as.	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L32	85	L31 and climate	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L33	77,017	battery with (state or charg$3) with (level or threshold)	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19

L34	19	L32 and L33	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L35	66	L32 not L34	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L36	18	L35 and park$3	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L37	0	(L35 not L36) and L33	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L38	1	"20170124634".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
L39	23,620	(G06Q40/06).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L40	6,451	705/1.1.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L41	1	L38 and (computer$1 or microprocessor$1 or processor$1 or microchip$1 or chip$1 or server$1 or controller$1 or control$3 or CPU$1 or (central with processing with unit$1) or portal$1 or web or (web adj based) or (web adj page) or (web adj site) or website$1 or webpage$1 or internet or gateway$1 or mobile or (cell adj phone$1) or cellular or notebook$1 or laptop$1 or phone$1 or (smart adj phone$1) or electronic or electronically or node$1 or circuitry or circuit$1 or (mother adj board) or PDF or PDA or (personal near4 digital near4 assistent) or network$1 or hardware or software or mainframe or ipad$1 or ethernet or modem$1 or sensor$1 or gps or memory or database or cloud or algorithm$1 or instruction$1 or model$1 or model$3 or comput$3 or calculat$3 or hardware or digital)	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L42	1	L38 and (conventional or known or generic$3 or regular or known or common or traditional or pc or apple or (platform with independent) or (all adj purpose) or basic)	US-PGPUB; USPAT	OR	ON	2021/03/08 20:19
L43	1	"20190087761".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19

L44	1	"20160263483".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
L45	1	"20180131221".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
L46	56	alert$3 with internal with temperature with vehicle	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
L47	8	L46 and (threshold with internal with temperature)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
L48	1	"20180131221".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
L49	13	("6618650" | "7761203" | "7402978" | "20090139781" | "20080039989" | "4347472" | "20040010358" | "20090021385" | "5710502" | "20090313174" | "7358701" | "7778746" | "20030152088").PN.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
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L51	9,729	(B60L3/12).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L52	9,019	(B60L53/305).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L53	6,156	(B60L53/12).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L54	17,208	(B60L53/14).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L55	3,539	(B60L53/64).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19

L56	10,934	(B60L53/65).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L57	4,411	(B60L53/66).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L58	5,874	(B60L53/665).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L59	56,368	(G06Q30/0283 or G06Q30/04 or G06Q50/06).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L60	2,199	(H02J7/1446).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L61	5,516	(B60L55/00).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L62	9,041	(B60L2240/80).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L63	3,172	(B60L2260/52).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L64	3,658	(B60L2260/54).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L65	11,871	(B60L2250/16).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO;	OR	OFF	2021/03/08 20:19

			JPO; IBM_TDB			
L66	771	(Y02T90/122).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L67	1,608	(Y04S50/12).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L68	932	705/7.35.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:19
L69	1	"9853488".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:19
L70	13	("20030152088" | "20040010358" | "20080039989" | "20090021385" | "20090139781" | "20090313174" | "4347472" | "5710502" | "6618650" | "7358701" | "7402978" | "7761203" | "7778746").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:19
L71	12,751	L50 or L51 or L52 or L53 or L54 or L55 or L56 or L57 or L58	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:20
L72	33,877	L59 or L60 or L61 or L62 or L63 or L64 or L65 or L66 or L67 or L68	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:20
L73	41,866	L71 or L72	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:20
L74	32	Charge with Fusion with technologies	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L75	6	(Charge adj Fusion) with technologies	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L76	26	L74 not L75	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L77	101,729	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable) and (batter$3 with charg$3) and (user with interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20

L78	1,068	(display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L79	194	L77 and L78	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L80	93	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable) and (user with interface) and ((interface or screen) with (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L81	83	L79 and L80	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L82	82	L81 not L45 not L69	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
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L85	1	L83 and L84	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
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L88	0	L86 and L87	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L89	12	(distance with travel$4) and L83	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L94	362	("20020064258" | "20020085043" | "20020133273" | "20030137277" | "20030153278" | "20030205619" | "20030234325" | "20040046506" | "20040064235" | "20040092253" | "20040093155" | "20040265671" | "20050021190" | "20050044245" | "20050231119" | "20060125620" | "20060182241" | "20060282381" | "20060287783" | "20070068714" | "20070126395" | "20070282495" | "20080039979" | "20080039989" | "20080040129" | "20080040223" | "20080040295" | "20080052145" | "20080086411" | "20080097904" | "20080155008" | "20080180027" | "20080203973" | "20080228613" | "20080281663" | "20080294283" | "20080312782" | "20090011639" | "20090021213" | "20090021385" | "20090030712" | "20090043519" |	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:20

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L100	0	(L82 not L83) and L87	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:20
L101	68	(L82 not L83)	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:20
L102	5	(distance with travel$4) and L101	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L103	102,624	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (batter$3 with charg$3) and (user with interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L104	93	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (user with interface) and ((interface or screen) with (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L105	93	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand	US-PGPUB; USPAT;	OR	ON	2021/03/08 20:20

		near2 held) or portable or cellphone or (cell near1 phone)) and (user with interface) and ((interface or screen) with (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity))	USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB			
L106	102,646	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (batter$3 with charg$3) and (user with interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L107	197	L106 and (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L108	83	L105 and L107	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L109	77	L108 not L102 not L45 not L69	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L110	12	(distance with travel$4) and L109	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L111	0	L110 not L86	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20

L112	65	L109 not L110	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L113	30,952	(request$3 or access$3) with (charg$3 with (parameter$1 or level or state))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L114	11	L112 and L113	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L115	2,372	(request$3 or access$3) with (charg$3 with (parameter$1 or level or state)) with (smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L116	5	L114 and L115	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L117	6	L114 not L116	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L118	1	L117 and "20090001927".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L119	0	L87 and L118	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L120	4	(distance with travel$4) and L87	US-PGPUB; USPAT; USOCR;	OR	ON	2021/03/08 20:20

			FPRS; EPO; JPO; DERWENT; IBM_TDB			
L121	3	L113 and L120	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L122	2	"7295849".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L123	0	"6727708".pn. and (state with charge) and (notify$3 or notification$1) and remote and wireless and cellular	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L124	1	"6727708".pn. and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L125	3	("6300763" | "6507194" | "6515452").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:20
L126	2	"7295849".pn. and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L127	1	"7078828".pn. and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20

L128	2	("6727708" "20090001927").pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L129	962	tesla near1 motors	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L130	961	tesla adj motors	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L131	0	L107 and L120	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L132	3	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and L120	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L133	5	L128 or L132	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L134	11	L87 not L133	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L135	5	L133 and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L136	0	L133 and ((state with charge) with (notify$3 or notification$1) with (remote$3 or wireless$3 or cellular))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20

L137	0	L134 and ((state with charge) with (notify$3 or notification$1) with (remote$3 or wireless$3 or cellular))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L138	8	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and L134	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L139	2	L138 and (((state or level) near3 charge) or capacity) and (notify$3 or notification)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L140	7	L133 or L139	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L141	3	L134 not L138	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/03/08 20:20
L142	1	"20090139781".PN.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L143	0	L142 and (web adj page)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L144	1	L142 and (internet or brows$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L145	1	L144 and ((smart adj phone) or mobile or (cell adj phone))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L146	1	L145 and (charg$3 with (parameter$1 or characteristic$1 or level or state))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L147	0	L142 and (brows$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20

L148	1	L142 and (web adj site)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L149	13	("6618650" | "7761203" | "7402978" | "20090139781" | "20080039989" | "4347472" | "20040010358" | "20090021385" | "5710502" | "20090313174" | "7358701" | "7778746" | "20030152088").PN.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L150	4	L149 and (internet or brows$3 or website or (web adj site) or webpage or (web adj page)) with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L151	1	L150 and (brows$3 or website or (web adj site) or webpage or (web adj page)) with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L152	2	("6727708" "20090001927").pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L153	0	L152 and ((brows$3 or website or (web adj site) or webpage or (web adj page)) with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L154	0	L152 and ((brows$3 or website or (web adj site) or webpage or (web adj page)) and (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L155	0	L152 and (internet) and (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L156	2	("20030152088" "20080039989").pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L157	1	L156 and (web adj based) with (user near4 interface)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L158	1	L156 and (web adj based) and (user near4 interface)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L159	1	"20080039989".pn. and charg$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20

L160	1	"20080039989".pn. and phone	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L161	0	"20080039989".pn. and touch	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L162	0	"20080039989".pn. and sensitive	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L163	0	"20090139781".PN. and smartphone	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:20
L164	1	"20090139781".PN. and phone	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L165	1	("20030152088" | "20040010358" | "20080039989" | "20090021385" | "20090139781" | "20090313174" | "20110148356" | "4347472" | "5710502" | "6618650" | "7358701" | "7402978" | "7698078" | "7778746").PN. and ((smart adj phone) or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L166	0	("6727708" "20090001927").pn. and smartphone	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L167	1	"20090139781".PN. and ((display$3 or depict$3) with state or level or charg$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L168	1	"20090139781".PN. and ((display$3 or depict$3) with (state or level or charg$3))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L169	0	L149 and slider	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L170	19,753	slider with interface	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L171	9,137	slider near3 interface	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L172	164	L171 and ((display$3 or depict$3 or select$3 or choos$3 or chang$3 or adjust$3) with (state or level) with charg$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L173	14,262	slider with user with interface	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L174	356	slider with user with interface with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L175	25	L172 and L174	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L176	139	L172 not L175	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21

L177	11,211	(slider with user with interface) and (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L178	114	L176 and L177	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L179	2	L149 and ((state or level) with charg$3 with distance with travel$4)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L180	143	((amount or state or level) with charg$3 with display$3 with distance with travel$4)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L181	0	L149 and L180	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L182	148	((amount or state or level) with charg$3 with (display$3 or depict$3) with distance with travel$4)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L183	5	L182 not L180	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L184	197	((amount or state or level) with charg$3 with (display$3 or depict$3) with (distance or range) with travel$4)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L185	49	L184 not L182	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L186	0	L149 and ((amount or state or level) with charg$3 with (display$3 or depict$3) with range)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L187	0	L149 and ((display$3 or depict$3) with range)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L188	5	L149 and (select$3 with charg$3 with time)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L189	4	L149 and (inductive or induct$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L190	5	L149 and (touch near3 screen)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L191	13	L149 and (application or app)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L192	0	L149 and ((application or app) with mobile)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L193	1	"20180131221".pn. and pet	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L194	1	"20080162305".pn. and slider	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 20:21

L195	1	"20180131221".pn. and slider	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L196	1	"20090139781".PN.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L197	1	"20180131221".pn. and slider and pet	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L198	4	pet with settings with thermostat	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L199	59	(pet$1 with settings) and thermostat	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L200	1	L199 and "20060288949".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L201	273	pet with thermostat	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L202	9	(pet$1 with settings) and L201	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L203	0	"9853488".pn. and slider and pet	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L204	1	"9853488".pn. and pet	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L205	193	pet with car with (button or icon or image or setting$1)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L206	5	L205 and (climate or thermostat)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L207	0	"20090130965.pn" and L206	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L208	1	"20090130965".pn. and L206	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L209	1	L208 and pet	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L210	0	slider with interface with (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L211	244	(slider with interface) and (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L212	0	"9853488".pn. and slider	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L213	1	"9853488".pn. and slid$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L214	724	(slid$3 with interface) and (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L215	13	slid$3 with interface with (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21

L216	25	("20050075694" | "20050107841" | "20050113888" | "20050113889" | "20060247738" | "20070191904" | "20070276450" | "20080027500" | "20080097554" | "20080172109" | "20080319497" | "20090069869" | "20090112291" | "20090118796" | "20090222066" | "20090273318" | "5690693" | "5702431" | "6516227" | "6850803" | "7200504" | "7225032" | "7286880" | "7444181" | "7505816").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:21
L217	34	("20070060980" | "20070191904" | "20080027500" | "20080164839" | "20080319497" | "20090069869" | "20090118796" | "20090222066" | "20100204756" | "20100305663" | "20110004278" | "20110093048" | "5314453" | "5690693" | "5702431" | "5749909" | "6516227" | "6553263" | "6850803" | "7200504" | "7225032" | "7286880" | "7444181" | "7496404" | "7505816" | "7769462" | "7774069" | "7945334" | "7979126" | "8010205" | "8170681" | "8193766" | "8214042" | "8244367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:21
L218	34	("20070060980" | "20070191904" | "20080027500" | "20080164839" | "20080319497" | "20090069869" | "20090118796" | "20090222066" | "20100204756" | "20100305663" | "20110004278" | "20110093048" | "5314453" | "5690693" | "5702431" | "5749909" | "6516227" | "6553263" | "6850803" | "7200504" | "7225032" | "7286880" | "7444181" | "7496404" | "7505816" | "7769462" | "7774069" | "7945334" | "7979126" | "8010205" | "8170681" | "8193766" | "8214042" | "8244367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:21
L219	44	L216 or L217 or L218	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:21
L220	6	L219 and slid$3	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:21
L221	724	L214 not L219	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:21

L222	522	L221 and (batter$3 with charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:21
L223	4,891	slid$3 with select$3 with (charg$3 or setting$1)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L224	96	L222 and L223	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L225	176,206	slid$3 with (bar or button or pointer)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L226	70	L224 and L225	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L227	26	L224 not L226	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L228	426	L222 not L224	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L229	231	L228 and (display$3 with slid$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L230	14	("20120026173" | "20140278038" | "20100268411" | "20160153796" | "20150298565" | "20130179057" | "20170136889" | "20160153796" | "20150298565" | "20170136908" | "20170326983" | "20170326983" | "5301113" | "20130179057" | "20150298565" | "20170136911" | "20160305791" | "20170199047" | "20170136911" | "9644980" | "20160305791").PN.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L231	2	L230 and (display$3 with slid$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:21
L232	1	(L230 not L231) and slid$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L233	1	("7844908".pn.) and slid$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L234	17	("20050235290" | "20050257195" | "20060036799" | "20060041859" | "20070088865" | "20080034299" | "5237691" | "6173438" | "6219628" | "6526566" | "6629123" | "6876368" | "7028222" | "7062718" | "7185287" | "7200817" | "7290244").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:22
L235	6	L234 and slid$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L236	1	("7844908".pn.)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22

L237	1	"9853488".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L238	1	"20090130965".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L239	1	"20090139781".PN. and display$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L240	1	"20080162305".PN.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L241	2,341,019	slid$3 or (mooving with (indicator or bar or button or pointer))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L242	5,549,233	slid$3 or (mooving with (indicator or bar or button or pointer))	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L243	3,600	select$3 with charg$3 with level with battery	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L244	5,712	(select$3 with charg$3 with level) and (charg$3 with battery)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L245	938	L242 and (L243 or L244)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L246	28,742	(slid$3 or (mooving with (indicator or bar or button or pointer))) with (smartphone or mobile)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L247	62,262	(slid$3 or (mooving with (indicator or bar or button or pointer))) with (smartphone or mobile)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L248	53	L243 and (L246 or L247)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L249	17	(L244 and (L246 or L247)) not L248	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L250	4,360	((charg$3 with battery) and (L246 or L247)) not (L248 or L249)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L251	0	(select$3 with charg$3 with level) and L250	US-PGPUB; USPAT;	OR	OFF	2021/03/08 20:22

			FPRS; EPO; JPO			
L252	553	(charg$3 with level) and L250	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L253	113	L252 and slider	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L254	440	L252 not (L248 or L249 or L253)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L255	44	L254 and (charg$3 with vehicle with batter$3)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L256	396	L254 not L255	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L257	9	L256 and (charg$3 with vehicle)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L258	174	(L247 and (charg$3 with vehicle with batter$3)) not (L248 or L249 or L253 not L255 not L257)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L259	18	L258 and (display$3 with (state or level) with charg$3)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L260	156	L258 not L259	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L261	212,787	(slid$3 or (mooving with (indicator or bar or button or pointer))) with (display$3 or interface or gui)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L262	1,608	(L261 and (charg$3 with vehicle)) not (L248 or L249 or L253 or L255 or L257 or L258)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22

L263	94	(charg$3 with level with display$3) and L262	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L264	0	"8244468".PN. and slid$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L265	0	"8102256".PN. and slid$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L266	1	"8102256".PN.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L267	198	("20010030667" | "20010048364" | "20020016189" | "20020041328" | "20020067256" | "20020077130" | "20020180602" | "20020186135" | "20020196123" | "20030004776" | "20030043200" | "20030131073" | "20030177094" | "20030208518" | "20030210262" | "20030212729" | "20030235307" | "20040010689" | "20040165726" | "20040166879" | "20040172403" | "20040212493" | "20050012620" | "20050044356" | "20050071736" | "20050099303" | "20050159883" | "20050181870" | "20050188403" | "20050210260" | "20050246647" | "20050248459" | "20060009152" | "20060161377" | "20060176149" | "20060205416" | "20060206246" | "20060211405" | "20060223518" | "20060232449" | "20060253590" | "20060290497" | "20070028088" | "20070033531" | "20070053513" | "20070054530" | "20070057068" | "20070061303" | "20070073719" | "20070083819" | "20070103296" | "20070159322" | "20070162304" | "20070200695" | "20070229350" | "20070240212" | "20070255620" | "20070285247" | "20070287473" | "20070288427" | "20080010585" | "20080021741" | "20080028063" | "20080059504" | "20080059889" | "20080088437" | "20080090550" | "20080108370" | "20080109762" | "20080129491" | "20080171559" | "20080172173" | "20080174422" | "20080224854" | "20080228654" | "20080252254" | "20080252459" | "20090009398" | "20090098857" | "20090098903" | "20090103722" | "20090111393" |	US-PGPUB; USPAT; USOCR	OR	ON	2021/03/08 20:22

		"20090117921" | "20090119119" | "20090167554" | "20090174603" | "20090177385" | "20090189807" | "20090315706" | "20100073229" | "20100216487" | "20130157691" | "3924102" | "4218582").PN. OR ("4850007" | "5079541" | "5127042" | "5353331" | "5386468" | "5432542" | "5541976" | "5555286" | "5565909" | "5785181" | "5876765" | "5967841" | "5973599" | "6078575" | "6088453" | "6141356" | "6236365" | "6243039" | "6278370" | "6300875" | "6327533" | "6388612" | "6396403" | "6414629" | "6437696" | "6441741" | "6445921" | "6453037" | "6498797" | "6546253" | "6611755" | "6633835" | "6654883" | "6674368" | "6708028" | "6716101" | "6732090" | "6735630" | "6747561" | "6754470" | "6768942" | "6774797" | "6778089" | "6812824" | "6819247" | "6833787" | "6850252" | "6859533" | "6879244" | "6882897" | "6928280" | "6937726" | "6952181" | "6975941" | "6978021" | "6988026" | "6992584" | "6998985" | "6998995" | "7019644" | "7020701" | "7038590" | "7049957" | "7064711" | "7065244" | "7065348" | "7065370" | "7079650" | "7088242" | "7088252" | "7099921" | "7109868" | "7119669" | "7120928" | "7139396" | "7146367" | "7149189" | "7155238" | "7158912" | "7181192" | "7200673" | "7218242" | "7246007" | "7257836" | "7268700" | "7272212" | "7272662" | "7284191" | "7292223" | "7299277" | "7302634" | "7313825" | "7501952" | "7501984" | "7598855" | "7612663" | "7626499" | "7693527" | "7728724" | "7742774" | "7823073" | "7831264" | "7995994" | "8010601").PN.				
L268	33	L267 and slid$3	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/03/08 20:22
L269	1	"9853488".pn. and slid$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L270	1	"20090189807".pn. and slid$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L271	0	"20090174603".pn. and slid$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22

L272	1	"20090174603".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L273	1	"20200403437".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L274	0	L273 and subset	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L275	0	L274 and schedule$3 and time and location$1	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L276	0	L274 and schedul$3 and time and location$1	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L277	1	L273 and schedul$4 and time and location$1	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L278	1	L273 and schedul$4 and time and location$1 and distanc$3 and (start$3 or stop$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L279	1	L273 and itinerary	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L280	1	L273 and schedul$4	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L281	1	L273 and location$1	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L282	1	L273 and distance$1	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L283	1	L273 and caus$3	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L284	1	L273 and two	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L285	1	L273 and plurality	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L286	2	("9853488".pn. or "10819135".pn.)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L287	0	L286 and itinerary and schedul$4 and time and location$1 and distanc$3 and (start$3 or stop$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L288	2	L286 and itinerary and schedul$4 and time and location$1 and distanc$3 and (start$3 or stop$3 or begin$4)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L289	1	"20090139781".PN.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L290	1	"20090139781".PN. and (alert$3 or alarm$3 or notify$3 or notification$1 or notif$4)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:22
L291	1	"20090313174".pn. and (time or day or schedul$4)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23

L292	1	"20090313174".pn. and ((battery or charge) with (level or state))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L293	1	"20090313174".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L294	1	"20090313174".pn. and location$1	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L295	94	(slider or slid) with (amount with charg$3)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L296	451,310	(charg$3 with (vehicle or batter$3))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L297	23	L295 and L296	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L298	5,882	(slider or slid) with indicator$1	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L299	18,971	(slider or slid or slid$3) with indicator$1	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L300	1,549	(L296 and L299) not L297	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L301	370	((slider or slid or slid$3) near2 indicator$1) and L300	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L302	117	L301 and (charg$4 with (level or state))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L303	0	((slider or slid or slid$3) near2 indicator$1) with (charg$4 with (level or state))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L304	1	"6618650".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L305	1	"6618650".pn. and (distanc$3 or location$1 or schedul$4 or itinerary or travel$4)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L306	124	(starting with location) and destination and (charging with (station$1 or location$1)) and (route or itinerary) and (charging with (schedule or plan))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L307	24	L306 and ability and closest	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L308	100	L306 not L307	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L309	1	"5790976".pn. and L308	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L310	124	(starting with location) and destination and (charging with (station$1 or location$1)) and (route or itinerary) and (charging with (schedule or plan))	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23

L311	24	L310 and ability and closest	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L312	100	L310 not L311	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L313	1	"5892346".pn. and L312	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L314	1	"5,049,802".pn.	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L315	1	"5892346".pn. and schedule	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L316	1	"5892346".pn. and schedul$4 and (start$3 or begin$3 or stop or end)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L317	1	"5892346".pn. and schedul$4 and (start$3 or begin$3 or stop or end or time)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L318	1	"20200403437".pn. and (order or sequence)	US-PGPUB; USPAT	OR	OFF	2021/03/08 20:23
L319	1,569	705/7.36.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/03/08 21:37
L320	1,007	(slider or slid$3) with charg$3 with (setting$1 or level or amount)	US-PGPUB; USPAT	OR	OFF	2021/03/08 21:39
L321	0	319 and 320	US-PGPUB; USPAT	OR	OFF	2021/03/08 21:39
L322	5	319 and (slider or slid$3) and (charg$3 with (setting$1 or level or amount))	US-PGPUB; USPAT	OR	OFF	2021/03/08 21:40

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/012,325	09/04/2020	Jeffrey R. Ambroziak	CF01-001-02-02	1035

89411 7590 02/12/2021

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EXAMINER	
BORISSOV, IGOR N	

ART UNIT	PAPER NUMBER
3649	

NOTIFICATION DATE	DELIVERY MODE
02/12/2021	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):

ePAIR@finchamdowns.com

Office Action Summary	Application No. 17/012,325	Applicant(s) Ambroziak et al.	
	Examiner IGOR N BORISSOV	Art Unit 3649	AIA (FITF) Status No

-- 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 01/28/2021.

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____.

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

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

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

Disposition of Claims*

5) ☑ Claim(s) 1-8 and 14-20 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) 1-8 and 14-17 is/are rejected.

8) ☑ Claim(s) 18-20 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 09/04/2020 is/are: a)☑ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

Priority under 35 U.S.C. § 119

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

Certified copies:

a)☐ All b)☐ Some** c)☐ None of the:

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

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

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

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

Attachment(s)

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

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

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

4) ☐ Other: _____.

DETAILED ACTION

Notice of Pre-AIA or AIA Status

The present application is being examined under the pre-AIA first to invent provisions.

The current application filed 09/04/2020 is a continuation of 15/848,017, filed 12/20/2017, now U.S. Patent #10819135

15/848,017 is a continuation of 12502041, filed 07/13/2009, now U.S. Patent 9,853,488

12/502,041 Claims Priority from Provisional Application 61134646, filed 07/11/2008

Response to Amendment

Amendment received on 01/28/2021 is acknowledged and entered. Claims 9-13 have been cancelled. Claims 1-5, 14, 17-18 and 20 have been amended. Claims 1-8 and 14-20 are currently pending in the application.

Claim Rejections - 35 USC § 112, 1st Paragraph

The following is a quotation of the first paragraph of 35 U.S.C. 112(a):

> (a) IN GENERAL.—The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor or joint inventor of carrying out the invention.

The following is a quotation of the first paragraph of pre-AIA 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 17-20 are rejected under 35 U.S.C. 112(a) or 35 U.S.C. 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in

such a way as to reasonably convey to one skilled in the relevant art that the inventor or a joint inventor, or for pre-AIA the inventor(s), at the time the application was filed, had possession of the claimed invention.

In order to satisfy the written description requirement set forth in 35 U.S.C. § 112(a), the specification must describe the claimed invention in sufficient detail such that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention at the time of filing. For instance, the specification must provide a sufficient description of an invention, not an indication of a result that one might achieve. The level of detail required to satisfy the written description requirement varies depending on the nature and scope of the claims and on the complexity and predictability of the relevant technology. Information that is well known in the art need not be described in detail in the specification. However, sufficient information must be provided to show that the inventor had possession of the invention as claimed. *See* MPEP § 2163, subsection II(A)(2).

Claim 17 recites "*computing*, …, a charging schedule for the electric vehicle … *at each of a subset* of the plurality of charging locations and *a sequence defining an order in which the electric vehicle is to be charged at each of the subset of the plurality of charging locations*, …", however, the subject matter of the claim (recited above) does not conform to the disclosure in such a manner in which one of ordinary skill in the art would recognize that applicant actually had possession of at the time of the invention.

The Examiner could not find a support for the highlighted limitation in the *Specification*. Regarding the "subset" limitation, the *Specification* discloses: "selecting, based at least in part on the determined characteristics of the plurality of available

sources of power, *one or more of the available sources of power*, at 1008" (Fig. 10; [0090]). Therefore, for the purposes of examination the Examiner understands the "subset" limitation as "...at *each of one or more available power* of charging locations". Further, while the *Specification* broadly states: "[0109] In some embodiments, the `quality` of available electricity/energy from various sources may be compared and/or analyzed to determine from which available power source the power should be supplied.", the *Specification* does not describe what steps, algorithms, or the like comprise "*a sequence defining an order in which the electric vehicle is to be charged*".

Elements that are essentially a "black box" will not be sufficient to demonstrate that the applicant had possession of the claimed invention. Disclosure of function alone is little more than a wish for possession and it does not satisfy the written description requirement. [See MPEP 2163: II(3)(a)(i), Eli Lilly, 119 F.3d at 1568, 43 USPQ2d at 1406]. Moreover, a specification which does little more than outline goals applicant hopes the claimed invention achieves does not satisfy the written description requirement [see MPEP 2163: II(3)(a)(i), *In re Wilder*, 736 F.2d 1516, 1521, 222 USPQ 369, 372-73 (Fed. Cir. 1984)].

Claim Rejections - 35 USC § 102

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.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a)(1) the claimed invention was patented, described in a printed publication, or in public use, on sale or otherwise available to the public before the effective filing date of the claimed invention.

Claims 14 and 15 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Hafner et al. (US 2009/0313174 A1).

Claim 14. Hafner et al. (Hafner) teaches an electrical charging system of a vehicle, comprising:

a communication device; Figs. 1-4

a processor in communication with the communication device; Figs. 1-4, and

a memory in communication with the processor, Figs. 1-4, the memory storing instructions that when executed by the processor cause the processor to:

receive, from the communication device, information indicative of one or more charging preferences corresponding to a desired charging of a vehicle and defining a desired distance of travel between a first charging location and a second charging location, wherein the one or more charging preferences are defined by an operator of the vehicle; [0046]; [0050]; [0056]; [0065]; [0077]; [0084]; [0086]; [0094]; [0095]; [0107]; [0108]; [0110]; [0114]

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider that operates a charging device at one or more of the first and second charging locations and a current charge level of the vehicle, a charging schedule comprising at least one

charging start time and at least one charge end time for the vehicle; [0053]; [0066]; [0067]; [0077]; [0081]; [0108]; [0109]; [0114]; [0127]

cause a charging, by the charging device of the electric charge provider and in accordance with the charging schedule, of the vehicle; [0053]; [0066]; [0067]; [0077]; [0081]; [0108]; [0109]; [0114]; [0127], and

output an indication of the charging schedule of the vehicle. Fig. 8; [0077]; [0091]; [0103]; [0123]; [0128]; [0145]

Claim 15. The electrical charging system of claim 14, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity. Hafner; [0081]; [0129]

Claim Rejections - 35 USC § 103

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.

The following is a quotation of 35 U.S.C. 103 which forms the basis for all obviousness rejections set forth in this Office action:

> A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed 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. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-7 are rejected under 35 U.S.C. 103 as being unpatentable over Hafner et al. (US 2009/0313174 A1) in view of Straubel (US 2009/0139781 A1).

Claim 1. Hafner et al. (Hafner) discloses an electrical charging system, comprising:

a communication device; Figs. 1-4

a processor in communication with the communication device; Figs. 1-4, and

a memory in communication with the processor, Figs. 1-4, the memory storing instructions that when executed by the processor cause the processor to:

provide a user interface comprising: (iii) an input element that permits an operator of the vehicle to provide input defining a desired charge amount of the electric vehicle; [0077]; [0084]; [0094]; [0095]; [0110]

receive, from the communication device and via the user interface, input indicative of one or more charging preferences corresponding to a desired charging of the electric vehicle, wherein the one or more charging preferences are defined by the operator of the vehicle and comprise an indication of the desired charge amount of the electric vehicle to traverse a user-defined itinerary comprising a first location (a user's home) and a second location (a charging station(s)); [0046]; [0050]; [0056]; [0065]; [0077]; [0084]; [0086]; [0107]; [0108]; [0114];

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a charging schedule for the vehicle, the charging schedule comprising a scheduled start time and an indication of a scheduled stop time for charging the electric vehicle at each of at least

two charging locations; [0053]; [0066]; [0067]; [0077]; [0081]; [0108]; [0109]; [0114]; [0127], and

cause a charging, via the electric charge provider and in accordance with the charging schedule, of the vehicle. [0053]; [0066]; [0067]; [0077]; [0081]; [0108]; [0109]; [0114]; [0127]

Further Hafner discloses providing the user with the interface configured to enable the user to select an amount of charge [0110]; [0113], as well as determining the existing amount of charge in the electric vehicle [0053], thereby at least suggesting providing visual indication of an electric vehicle battery capacity, (ii) a visual indication of a current charge level of the electric vehicle battery. Further, Straubel teaches providing (i) a visual indication of an electric vehicle battery capacity, (ii) a visual indication of a current charge level of the electric vehicle battery, [0320] (the user 20H may be capable of querying or monitoring the electric vehicle's battery pack and cells 26H for its state of charge (SOC). This will allow the user 20H to determine if the battery 26H is capable of driving the distance the user 20H must travel, if the battery 26H has not been charging or if the battery 26H is charged to the level set by the user and capable of a maximum mileage trip based on the battery installed therein. Another contemplated methodology will have the electric vehicle 12H notifying the user or driver 20H that the battery 26H is fully charged and is ready for driving. Yet another methodology contemplated will have the vehicle 12H notifying the user or driver 20H that a problem occurred during charging of the battery 20H and that the maximum distance for travel for the electric vehicle 12H has been reduced or that the electric vehicle 12H needs immediate servicing and is not available for driving at the present time.)

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hafner to include the recited limitation, as suggested in Hafner and disclosed in Straubel, for the benefit of allowing the user to determine if the battery is capable of driving the distance the user must travel, if the battery has not been charging or if the battery is charged to the level set by the user and capable of a maximum mileage trip based on the battery installed therein, as specifically stated in Straubel [0320].

Claim 2. The electrical charging system of claim 1, wherein the input defining the desired amount of charge comprises an indication of a desired distance of travel. Hafner; [0108]

Claim 3. The electrical charging system of claim 1, wherein the input defining the desired amount of charge comprises an indication of at least one of the first location and a second location. Hafner; [0053] [0108]

Claim 4. The electrical charging system of claim 1, wherein the processor is further configured to output an alert upon determining that, due to a change in the dynamic attribute of the electric charge provider, it is not possible to charge the vehicle in accordance with the charging schedule. Straubel; [0320]. The motivation to combine would be the benefit of allowing the user to determine if the battery is capable of driving the distance the user must travel, if the battery has not been charging or if the battery is

charged to the level set by the user and capable of a maximum mileage trip based on the battery installed therein, as specifically stated in Straubel [0320].

Claim 5. The electrical charging system of claim 4, wherein outputting the alert further comprises displaying via the user interface an indication that it is not possible to charge the vehicle in accordance with the charging schedule. Straubel; [0320]. The motivation to combine would be the benefit of allowing the user to determine if the battery is capable of driving the distance the user must travel, if the battery has not been charging or if the battery is charged to the level set by the user and capable of a maximum mileage trip based on the battery installed therein, as specifically stated in Straubel [0320].

Claim 6. The electrical charging system of claim 4, wherein outputting the alert further comprises determining an updated charging schedule and causing a charging, in accordance with the updated charging schedule, of the vehicle. Straubel; [0320]. The motivation to combine would be the benefit of allowing the user to determine if the battery is capable of driving the distance the user must travel, if the battery has not been charging or if the battery is charged to the level set by the user and capable of a maximum mileage trip based on the battery installed therein, as specifically stated in Straubel [0320].

Claim 7. The electrical charging system of claim 1, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity. Hafner; [0081]; [0129]

Claim 8 is rejected under 35 U.S.C. 103 as being unpatentable over Hafner in view of Straubel and further in view of Lowenthal et al. (US 2011/0148356 A1).

Claim 8. Hafner does not specifically teach: wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load, which is disclosed in Lowenthal et al. (Lowenthal) [0069]; [0071].

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hafner to include the recited limitation, as disclosed in Lowenthal, for the benefit of providing grid security and avoiding blackouts.

Claim 16 is rejected under 35 U.S.C. 103 as being unpatentable over Hafner in view of Lowenthal et al. (US 2011/0148356 A1).

Claim 16. Hafner does not specifically teach: wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load, which is disclosed in Lowenthal et al. (Lowenthal) [0069]; [0071].

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Hafner to include the recited limitation, as disclosed in Lowenthal, for the benefit of providing grid security and avoiding blackouts.

Claim 17 is rejected under 35 U.S.C. 103 as being unpatentable over Boll et al. (5,790,976) in view of Moroto et al. (5,892,346).

Claim 17. Boll et al. (Boll) teaches an electrical charging system, comprising:

one or more processing devices; Fig. 1; and

a non-transitory memory device in communication with the one or more processing devices, Fig. 1, the non-transitory memory storing instructions that when executed by the one or more processing devices, result in:

receiving information indicative of a starting location of an electric vehicle; C. 2, L. 13-15

receiving information indicative of a desired destination of the electric vehicle; C. 2, L. 9-12; C. 5, L. 10-14

receiving information indicative of a charging location of each of a plurality of electric charge providers; C. 2, L. 15-33, 49-53; C. 4, L. 35-48

computing, based at least in part on the starting location, the desired destination, and the charging locations of one or more of the plurality of electric charge providers, a charging schedule for the electric vehicle the charging schedule comprising a scheduled duration of charging the electric vehicle at each of a subset of the plurality of charging locations and a sequence defining an order in which the electric vehicle is to be charged

at each of the subset of the plurality of charging locations, Figs. 2-4; C. 2, L. 15-33, 49-58; C. 3, L. 27-35; C. 4, L. 35-61; C. 5, L. 43-55

wherein a first charging location of the sequence is computed based, at least in part, on an ability of the electric vehicle to travel to the first charging location utilizing a charge amount stored in a battery of the electric vehicle; Fig. 3; C. 6, L. 32-49

displaying a charging status of the electric vehicle via a graphical user interface forming a part of the electric vehicle; (displaying duration of the charging proces) Figs. 3 and 4; C. 5, L. 61-65; C. 6, L. 37-41; C. 7, L. 21-30, and

increasing, in accordance with the charging schedule, a level of charge of the battery of the electric vehicle. C. 5, L. 61-65; C. 6, L. 37-41; C. 7, L. 21-30

Boll does not specifically teach that said charging schedule/duration includes a scheduled start time and an indication of a scheduled stop time for charging, which is disclosed in Moroto et al. (Moroto) Figs. 3(a) and 8(A); C. 7, L. 5-9.

It would have been obvious to one having ordinary skill in the art at the time of the invention to modify Ball to include the recited limitation, as disclosed in Moroto, for the benefit of providing convenience to the user so that the user can plan the day timetable, as specifically stated in Ball (C. 5, L. 65-66).

Allowable Subject Matter

Claims 18-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Specifically, as per claims 18-20, the prior art of record does not teach or renders obvious, alone or in combination, the following limitations:

Claim 18. The electrical charging system of claim 17, wherein the received starting location and desired destination information is defined by a user of the electric vehicle via the graphical user interface adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

Response to Arguments

Applicant's remarks filed 01/28/2021 have been considered but are moot because Applicant did not provide any arguments.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). 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 date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Igor Borissov whose telephone number is 571-272-6801. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darnell M. Jayne can be reached on 571-272-7723. 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).

/IGOR N BORISSOV/
Primary Examiner, Art Unit 3649
2/09/2021

Notice of References Cited	Application/Control No. 17/012,325	Applicant(s)/Patent Under Reexamination Ambroziak et al.	
	Examiner IGOR N BORISSOV	Art Unit 3649	Page 1 of 1

U.S. PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Name	CPC Classification	US Classification
*	A	US-5892346-A	04-1999	Moroto; Shuzo	B60W10/08	318/587
*	B	US-5790976-A	08-1998	Boll; Wolf	H02J7/0047	455/456.5
	C					
	D					
	E					
	F					
	G					
	H					
	I					
	J					
	K					
	L					
	M					

FOREIGN PATENT DOCUMENTS

*		Document Number Country Code-Number-Kind Code	Date MM-YYYY	Country	Name	CPC Classification
	N					
	O					
	P					
	Q					
	R					
	S					
	T					

NON-PATENT DOCUMENTS

*		Include as applicable: Author, Title Date, Publisher, Edition or Volume, Pertinent Pages)
	U	
	V	
	W	
	X	

*A copy of this reference is not being furnished with this Office action. (See MPEP § 707.05(a).)
Dates in MM-YYYY format are publication dates. Classifications may be US or foreign.

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	Art Unit
	IGOR N BORISSOV	3649

CPC - Searched*		
Symbol	Date	Examiner
H04L67/306; G06Q50/01; H04L67/30; G06Q30/0282; G06Q30/0201;	02/06/2021	IB
G06Q30/0214; G06Q30/0217; G06Q30/0218; G06Q30/0224;	02/06/2021	IB
G06Q30/02	02/06/2021	IB

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
705	7.35	02/06/2021	IB

* 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
Key terms search on EAST	02/06/2021	IB
Classification search in combination with key terms on EAST	02/06/2021	IB
Inventor search	02/06/2021	IB
NPL search	02/06/2021	IB

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	Art Unit
	IGOR N BORISSOV	3649

/IGOR N BORISSOV/
Primary Examiner, Art Unit 3649

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	1	"20090139781".PN.	US-PGPUB; USPAT	OR	OFF	2021/02/09 10:03
L2	1	"20090139781".PN. and (alert$3 or alarm$3 or notify$3 or notification$1 or notif$4)	US-PGPUB; USPAT	OR	OFF	2021/02/09 10:08
L3	1	"20090313174".pn. and (time or day or schedul$4)	US-PGPUB; USPAT	OR	OFF	2021/02/09 10:27
L4	1	"20090313174".pn. and ((battery or charge) with (level or state))	US-PGPUB; USPAT	OR	OFF	2021/02/09 10:44
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L6	1	"20090313174".pn. and location$1	US-PGPUB; USPAT	OR	OFF	2021/02/09 11:22
L7	94	(slider or slid) with (amount with charg$3)	US-PGPUB; USPAT	OR	OFF	2021/02/09 12:04
L8	448,241	(charg$3 with (vehicle or batter$3))	US-PGPUB; USPAT	OR	OFF	2021/02/09 12:04
L9	23	7 and 8	US-PGPUB; USPAT	OR	OFF	2021/02/09 12:04
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L13	366	((slider or slid or slid$3) near2 indicator$1) and 12	US-PGPUB; USPAT	OR	OFF	2021/02/09 12:08

L14	115	13 and (charg$4 with (level or state))	US-PGPUB; USPAT	OR	OFF	2021/02/09 12:08
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L17	1	"6618650".pn. and (distanc$3 or location$1 or schedul$4 or itinerary or travel$4)	US-PGPUB; USPAT	OR	OFF	2021/02/09 12:19
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L20	98	18 not 19	US-PGPUB; USPAT	OR	OFF	2021/02/09 12:32
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L22	1	"5790976".pn. and 20	US-PGPUB; USPAT	OR	OFF	2021/02/09 13:21

2/9/2021 1:24:02 PM
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EAST Search History

EAST Search History (Prior Art)

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L3	1	1 and ((start$3 or stop) with time)	US-PGPUB; USPAT	OR	OFF	2021/02/05 21:32
L4	0	1 and (plurality with (charge or electric) with provider$1)	US-PGPUB; USPAT	OR	OFF	2021/02/05 21:42
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L20	1	18 and "20090313174".pn.	US-PGPUB; USPAT	OR	OFF	2021/02/05 23:31
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L29	1,053	tesla.as.	US-PGPUB; USPAT	OR	ON	2021/02/06 00:26
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L38	6,451	705/1.1.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
L39	1	L36 and (computer$1 or microprocessor$1 or processor$1 or microchip$1 or chip$1 or server$1 or controller$1 or control$3 or CPU$1 or (central with processing with unit$1) or portal$1 or web or (web adj based) or (web adj page) or (web adj site) or website$1 or webpage$1 or internet or gateway$1 or mobile or (cell adj phone$1) or cellular or notebook$1 or laptop$1 or phone$1 or (smart adj phone$1) or electronic or electronically or node$1 or circuitry or circuit$1 or (mother adj board) or PDF or PDA or (personal near4 digital near4 assistent) or network$1 or hardware or software or mainframe or ipad$1 or ethernet or modem$1 or sensor$1 or gps or memory or database or cloud or algorithm$1 or instruction$1 or model$1 or model$3 or comput$3 or calculat$3 or hardware or digital)	US-PGPUB; USPAT	OR	ON	2021/02/06 00:26
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L49	9,668	(B60L3/12).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
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L51	6,087	(B60L53/12).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
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L53	3,525	(B60L53/64).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
L54	10,890	(B60L53/65).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26

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L57	56,134	(G06Q30/0283 or G06Q30/04 or G06Q50/06).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
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L59	5,436	(B60L55/00).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
L60	9,006	(B60L2240/80).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
L61	3,162	(B60L2260/52).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
L62	3,642	(B60L2260/54).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
L63	11,819	(B60L2250/16).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
L64	870	(Y02T90/122).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO;	OR	OFF	2021/02/06 00:26

			JPO; IBM_TDB			
L65	1,595	(Y04S50/12).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
L66	932	705/7.35.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:26
L67	1	"9853488".pn.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L68	13	("20030152088" | "20040010358" | "20080039989" | "20090021385" | "20090139781" | "20090313174" | "4347472" | "5710502" | "6618650" | "7358701" | "7402978" | "7761203" | "7778746").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:26
L69	12,605	L48 or L49 or L50 or L51 or L52 or L53 or L54 or L55 or L56	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:26
L70	33,756	L57 or L58 or L59 or L60 or L61 or L62 or L63 or L64 or L65 or L66	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:26
L71	41,601	L69 or L70	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:26
L72	32	Charge with Fusion with technologies	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L73	6	(Charge adj Fusion) with technologies	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L74	26	L72 not L73	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L75	100,665	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable) and (batter$3 with charg$3) and (user with interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L76	1,063	(display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2021/02/06 00:26

			DERWENT; IBM_TDB			
L77	191	L75 and L76	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L78	91	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable) and (user with interface) and ((interface or screen) with (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L79	81	L77 and L78	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L80	80	L79 not L43 not L67	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L81	14	L80 and L71	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L82	21,557	(display$3 or depict$3) with (distance with travel$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L83	1	L81 and L82	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2021/02/06 00:26

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L86	0	L84 and L85	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L87	12	(distance with travel$4) and L81	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
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L100	5	(distance with travel$4) and L99	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L101	101,559	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (batter$3 with charg$3) and (user with interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L102	91	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (user with interface) and ((interface or screen) with (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L103	91	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (user with interface) and ((interface or screen) with (display$3 or depict$3) with (charg$3 with parameter$1) with (	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26

		level or state or avilable or uncharged or capacity))				
L104	101,581	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (batter$3 with charg$3) and (user with interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L105	194	L104 and (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L106	81	L103 and L105	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L107	75	L106 not L100 not L43 not L67	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L108	12	(distance with travel$4) and L107	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L109	0	L108 not L84	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L110	63	L107 not L108	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2021/02/06 00:26

			DERWENT; IBM_TDB			
L111	30,687	(request$3 or access$3) with (charg$3 with (parameter$1 or level or state))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L112	11	L110 and L111	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L113	2,354	(request$3 or access$3) with (charg$3 with (parameter$1 or level or state)) with (smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L114	5	L112 and L113	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L115	6	L112 not L114	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L116	1	L115 and "20090001927".pn.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L117	0	L85 and L116	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L118	4	(distance with travel$4) and L85	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26

L119	3	L111 and L118	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L120	2	"7295849".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L121	0	"6727708".pn. and (state with charge) and (notify$3 or notification$1) and remote and wireless and cellular	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L122	1	"6727708".pn. and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L123	3	("6300763" | "6507194" | "6515452").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:26
L124	2	"7295849".pn. and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L125	1	"7078828".pn. and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L126	2	("6727708" "20090001927").pn.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L127	960	tesla near1 motors	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26

L128	959	tesla adj motors	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L129	0	L105 and L118	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L130	3	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and L118	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L131	5	L126 or L130	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L132	11	L85 not L131	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L133	5	L131 and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L134	0	L131 and ((state with charge) with (notify$3 or notification$1) with (remote$3 or wireless$3 or cellular))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L135	0	L132 and ((state with charge) with (notify$3 or notification$1) with (remote$3 or wireless$3 or cellular))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2021/02/06 00:26

			DERWENT; IBM_TDB			
L136	8	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and L132	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L137	2	L136 and (((state or level) near3 charge) or capacity) and (notify$3 or notification)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L138	7	L131 or L137	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L139	3	L132 not L136	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2021/02/06 00:26
L140	1	"20090139781".PN.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L141	0	L140 and (web adj page)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L142	1	L140 and (internet or brows$3)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L143	1	L142 and ((smart adj phone) or mobile or (cell adj phone))	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L144	1	L143 and (charg$3 with (parameter$1 or characteristic$1 or level or state))	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L145	0	L140 and (brows$3)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L146	1	L140 and (web adj site)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L147	13	("6618650" | "7761203" | "7402978" | "20090139781" | "20080039989" | "4347472" | "20040010358" |	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26

		"20090021385" | "5710502" | "20090313174" | "7358701" | "7778746" | "20030152088").PN.				
L148	4	L147 and (internet or brows$3 or website or (web adj site) or webpage or (web adj page)) with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L149	1	L148 and (brows$3 or website or (web adj site) or webpage or (web adj page)) with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L150	2	("6727708" "20090001927").pn.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L151	0	L150 and ((brows$3 or website or (web adj site) or webpage or (web adj page)) with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone))	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L152	0	L150 and ((brows$3 or website or (web adj site) or webpage or (web adj page)) and (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone))	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L153	0	L150 and (internet) and (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L154	2	("20030152088" "20080039989").pn.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L155	1	L154 and (web adj based) with (user near4 interface)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L156	1	L154 and (web adj based) and (user near4 interface)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L157	1	"20080039989".pn. and charg$3	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L158	1	"20080039989".pn. and phone	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L159	0	"20080039989".pn. and touch	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L160	0	"20080039989".pn. and sensitive	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26

L161	0	"20090139781".PN. and smartphone	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:26
L162	1	"20090139781".PN. and phone	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L163	1	("20030152088" | "20040010358" | "20080039989" | "20090021385" | "20090139781" | "20090313174" | "20110148356" | "4347472" | "5710502" | "6618650" | "7358701" | "7402978" | "7698078" | "7778746").PN. and ((smart adj phone) or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L164	0	("6727708" "20090001927").pn. and smartphone	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L165	1	"20090139781".PN. and ((display$3 or depict$3) with state or level or charg$3)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L166	1	"20090139781".PN. and ((display$3 or depict$3) with (state or level or charg$3))	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L167	0	L147 and slider	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L168	19,615	slider with interface	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L169	9,078	slider near3 interface	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L170	163	L169 and ((display$3 or depict$3 or select$3 or choos$3 or chang$3 or adjust$3) with (state or level) with charg$3)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L171	14,147	slider with user with interface	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L172	351	slider with user with interface with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L173	25	L170 and L172	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L174	138	L170 not L173	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L175	11,108	(slider with user with interface) and (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L176	113	L174 and L175	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27

L177	2	L147 and ((state or level) with charg$3 with distance with travel$4)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L178	143	((amount or state or level) with charg$3 with display$3 with distance with travel$4)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L179	0	L147 and L178	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L180	148	((amount or state or level) with charg$3 with (display$3 or depict$3) with distance with travel$4)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L181	5	L180 not L178	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L182	197	((amount or state or level) with charg$3 with (display$3 or depict$3) with (distance or range) with travel$4)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L183	49	L182 not L180	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L184	0	L147 and ((amount or state or level) with charg$3 with (display$3 or depict$3) with range)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L185	0	L147 and ((display$3 or depict$3) with range)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L186	5	L147 and (select$3 with charg$3 with time)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L187	4	L147 and (inductive or induct$3)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L188	5	L147 and (touch near3 screen)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L189	13	L147 and (application or app)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L190	0	L147 and ((application or app) with mobile)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L191	1	"20180131221".pn. and pet	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L192	1	"20080162305".pn. and slider	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2021/02/06 00:27
L193	1	"20180131221".pn. and slider	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L194	1	"20090139781".PN.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L195	1	"20180131221".pn. and slider and pet	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27

L196	4	pet with settings with thermostat	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L197	58	(pet$1 with settings) and thermostat	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L198	1	L197 and "20060288949".pn.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L199	271	pet with thermostat	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L200	8	(pet$1 with settings) and L199	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L201	0	"9853488".pn. and slider and pet	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L202	1	"9853488".pn. and pet	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L203	191	pet with car with (button or icon or image or setting$1)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L204	5	L203 and (climate or thermostat)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L205	0	"20090130965.pn" and L204	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L206	1	"20090130965".pn. and L204	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L207	1	L206 and pet	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L208	0	slider with interface with (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L209	241	(slider with interface) and (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L210	0	"9853488".pn. and slider	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L211	1	"9853488".pn. and slid$3	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L212	714	(slid$3 with interface) and (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L213	13	slid$3 with interface with (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L214	25	("20050075694" | "20050107841" | "20050113888" | "20050113889" | "20060247738" | "20070191904" | "20070276450" | "20080027500" | "20080097554" | "20080172109" | "20080319497" | "20090069869" | "20090112291" | "20090118796" | "20090222066" | "20090273318" | "5690693" | "5702431" | "6516227" |	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:27

		"6850803" | "7200504" | "7225032" | "7286880" | "7444181" | "7505816").PN.				
L215	34	("20070060980" | "20070191904" | "20080027500" | "20080164839" | "20080319497" | "20090069869" | "20090118796" | "20090222066" | "20100204756" | "20100305663" | "20110004278" | "20110093048" | "5314453" | "5690693" | "5702431" | "5749909" | "6516227" | "6553263" | "6850803" | "7200504" | "7225032" | "7286880" | "7444181" | "7496404" | "7505816" | "7769462" | "7774069" | "7945334" | "7979126" | "8010205" | "8170681" | "8193766" | "8214042" | "8244367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:27
L216	34	("20070060980" | "20070191904" | "20080027500" | "20080164839" | "20080319497" | "20090069869" | "20090118796" | "20090222066" | "20100204756" | "20100305663" | "20110004278" | "20110093048" | "5314453" | "5690693" | "5702431" | "5749909" | "6516227" | "6553263" | "6850803" | "7200504" | "7225032" | "7286880" | "7444181" | "7496404" | "7505816" | "7769462" | "7774069" | "7945334" | "7979126" | "8010205" | "8170681" | "8193766" | "8214042" | "8244367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:27
L217	44	L214 or L215 or L216	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:27
L218	6	L217 and slid$3	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:27
L219	714	L212 not L217	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:27
L220	516	L219 and (batter$3 with charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:27
L221	4,862	slid$3 with select$3 with (charg$3 or setting$1)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L222	95	L220 and L221	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L223	175,414	slid$3 with (bar or button or pointer)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27

L224	69	L222 and L223	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L225	26	L222 not L224	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L226	421	L220 not L222	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L227	228	L226 and (display$3 with slid$3)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L228	14	("20120026173" | "20140278038" | "20100268411" | "20160153796" | "20150298565" | "20130179057" | "20170136889" | "20160153796" | "20150298565" | "20170136908" | "20170326983" | "20170326983" | "5301113" | "20130179057" | "20150298565" | "20170136911" | "20160305791" | "20170199047" | "20170136911" | "9644980" | "20160305791").PN.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L229	2	L228 and (display$3 with slid$3)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L230	1	(L228 not L229) and slid$3	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L231	1	("7844908".pn.) and slid$3	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L232	17	("20050235290" | "20050257195" | "20060036799" | "20060041859" | "20070088865" | "20080034299" | "5237691" | "6173438" | "6219628" | "6526566" | "6629123" | "6876368" | "7028222" | "7062718" | "7185287" | "7200817" | "7290244").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2021/02/06 00:27
L233	6	L232 and slid$3	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L234	1	("7844908".pn.)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L235	1	"9853488".pn.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L236	1	"20090130965".pn.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L237	1	"20090139781".PN. and display$3	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:27
L238	1	"20080162305".PN.	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:28
L239	2,331,566	slid$3 or (mooving with (indicator or bar or button or pointer))	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:28

L240	5,536,746	slid$3 or (mooving with (indicator or bar or button or pointer))	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
L241	3,574	select$3 with charg$3 with level with battery	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
L242	5,673	(select$3 with charg$3 with level) and (charg$3 with battery)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
L243	937	L240 and (L241 or L242)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
L244	28,597	(slid$3 or (mooving with (indicator or bar or button or pointer))) with (smartphone or mobile)	US-PGPUB; USPAT	OR	OFF	2021/02/06 00:28
L245	62,105	(slid$3 or (mooving with (indicator or bar or button or pointer))) with (smartphone or mobile)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
L246	53	L241 and (L244 or L245)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
L247	17	(L242 and (L244 or L245)) not L246	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
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L251	112	L250 and slider	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28

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L255	9	L254 and (charg$3 with vehicle)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
L256	171	(L245 and (charg$3 with vehicle with batter$3)) not (L246 or L247 or L251 not L253 not L255)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
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L259	211,819	(slid$3 or (mooving with (indicator or bar or button or pointer))) with (display$3 or interface or gui)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
L260	1,590	(L259 and (charg$3 with vehicle)) not (L246 or L247 or L251 or L253 or L255 or L256)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2021/02/06 00:28
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2/6/2021 1:02:10 AM
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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

CUSTOMER NO.: 89411
Confirmation No.: 1035

Applicant:	Charge Fusion Technologies, LLC
Inventors:	AMBROZIAK *et al.*
Application No.:	17/012,325
Filed:	September 4, 2020
Title:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES

Attorney Docket No.: CF01-001-02-02

PRELIMINARY AMENDMENT

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

Prior to examining the claims in the present application please enter the following amendments and consider the following remarks.

AMENDMENT TO THE CLAIMS

1. (Currently amended) An electrical charging system, comprising:

a communication device;

a processor in communication with the communication device; and

a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:

provide a user interface comprising: (i) a visual indication of an electric vehicle battery capacity, (ii) a visual indication of a current charge level of the electric vehicle battery, and (iii) an input element that permits an operator of the vehicle to provide input defining a desired charge amount of the electric vehicle;

receive, from the communication device and via the user interface, input ~~information~~ indicative of one or more charging preferences corresponding to a desired charging of the electric vehicle, wherein the one or more charging preferences are defined by the operator of the vehicle and comprise ~~include~~ an indication of the desired charge amount of the electric vehicle ~~received via the input element that permits the operator of the vehicle to provide input defining the desired charge amount of the electric vehicle~~ to traverse a user-defined itinerary comprising a first location and a second location;

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a charging schedule for the vehicle, the charging schedule comprising a scheduled start time and an indication of a scheduled stop time for charging the electric vehicle at each of at least two charging locations; and

cause a charging, via the electric charge provider and in accordance with the charging schedule, of the vehicle.

2. (Currently amended) The electrical charging system of claim 1, wherein the input defining [[a]]the desired amount of charge comprises an indication of a desired distance of travel.

3. (Currently amended) The electrical charging system of claim 1, wherein the input defining [[a]]the desired amount of charge comprises an indication of at least one of the first location and a second location ~~desired travel destination~~.

4. (Currently amended) The electrical charging system of claim 1, wherein the processor is further configured to output an alert upon determining that, due to a change in the dynamic attribute of the electric charge provider, it is not possible to charge the vehicle in accordance with the charging schedule.

5. (Currently amended) The electrical charging system of claim 4, wherein outputting the alert further comprises displaying via the user interface ~~output~~ an indication ~~determining~~ that it is not possible to charge the vehicle in accordance with the charging schedule.

6. (Original) The electrical charging system of claim 4, wherein outputting the alert further comprises determining an updated charging schedule and causing a charging, in accordance with the updated charging schedule, of the vehicle.

7. (Original) The electrical charging system of claim 1, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity.

8. (Original) The electrical charging system of claim 1, wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load.

9-13. (Cancelled)

14. (Currently amended) An electrical charging system of a vehicle, comprising:
a communication device;
a processor in communication with the communication device; and

a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:

receive, from the communication device, information indicative of one or more charging preferences corresponding to a desired charging of a vehicle and defining a desired distance of travel between a first charging location and a second charging location, wherein the one or more charging preferences are defined by an operator of the vehicle;

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider that operates a charging device at one or more of the first and second charging locations[[,]]and a current charge level of the vehicle ~~and a desired distance of travel of the vehicle~~, a charging schedule comprising at least one charging start time and at least one charge end time for the vehicle;

cause a charging, by the charging device of the electric charge provider and in accordance with the charging schedule, of the vehicle; and

output an indication of the charging schedule of the vehicle.

15. (Original) The electrical charging system of claim 14, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity.

16. (Original) The electrical charging system of claim 14, wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load.

17. (Currently amended) An electrical charging system, comprising:

one or more processing devices; and

a non-transitory memory device in communication with the one or more processing devices, the non-transitory memory storing instructions that when executed by the one or more processing devices, result in:

receiving information indicative of a starting location of an electric vehicle;

receiving information indicative of a desired destination of the electric vehicle;

receiving information indicative of a charging location of each of a plurality of electric charge providers;

computing, based at least in part on the starting location, the desired destination, and ~~at least one of current availability of an electric charge provider and a location~~ the charging locations of one or more of the plurality of ~~the~~ electric charge ~~provider~~ providers, a charging schedule for the electric vehicle the charging schedule comprising a scheduled start time and an indication of a scheduled stop time for charging the electric vehicle at each of a subset of the plurality of charging locations and a sequence defining an order in which the electric vehicle is to be charged at each of the subset of the plurality of charging locations, wherein a first charging location of the sequence is computed based, at least in part, on an ability of the electric vehicle to travel to the first charging location utilizing a charge amount stored in a battery of the electric vehicle;

displaying a charging status of the electric vehicle via a graphical user interface forming a part of the electric vehicle; and

increasing, in accordance with the charging schedule, a level of charge of [[a]] the battery of the electric vehicle.

18. (Currently amended) The electrical charging system of claim 17, wherein the received starting location and desired destination information is defined by a user of the electric vehicle via [[a]]the graphical user interface adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

19. (Previously presented) The electrical charging system of claim 18, wherein the instructions, when executed by the one or more processing devices, further result in:

outputting, via the graphical user interface, the charging schedule.

20. (Previously presented) The electrical charging system of claim 18, wherein the instructions, when executed by the one or more processing devices, further result in:

identifying, after the computing and based on the level of charge of the battery and an updated value descriptive of a distance to at least one charging location of the subset of the plurality of charging locations ~~of the at least one of current availability of the electric charge provider and the location of the electric charge provider~~, that the level of charge of the battery cannot be increased in accordance with the charging schedule; and

outputting, via the graphical user interface and in response to the identifying, an alert that the level of charge of the battery cannot be increased in accordance with the charging schedule.

REMARKS

Claims **1-8** and **14-20** are currently pending in the present application. Claims **1**, **14**, and **17** are independent.

Upon entry of this preliminary amendment, claims **1-5**, **14**, **17-18**, and **20** will be amended. No new matter is believed to be introduced by this Amendment.

The amendments herein are presented after having conducted a pre-First Office Action interview with PE Borissov in which various references and potential rejections of the claims were discussed. While none of the amendments presented herein are provided directly in response to any particular ground for rejection, it is believed that the amendments may clarify various points discussed during the interview and accordingly advance prosecution.

If there are any questions regarding the present application, the Examiner is cordially requested to contact Carson C.K. Fincham at telephone number (203) 438-6867 or via e-mail at cfincham@finchamdowns.com, upon the Examiner's convenience.

Fees and Petition for Extension of Time to Respond

While no fees are believed to be due at this time, please charge any additional fees that may be required for this Amendment to Fincham Downs, LLC Deposit Account No. 50-5363. Furthermore, should any extension of time be required, please grant such extension of time which may be required to make this Amendment timely, and please charge any fee for such an extension to Fincham Downs, LLC Deposit Account No. 50-5363.

Respectfully submitted,

January 28, 2021
Date

/Carson C.K. Fincham, Reg.#54096/
Carson C.K. Fincham
Registration No. 54,096
Fincham Downs LLC
Attorney for Applicant
cfincham@finchamdowns.com
(203) 438-6867 /voice
(203) 403-3068 /fax

Electronic Acknowledgement Receipt

EFS ID:	41776369
Application Number:	17012325
International Application Number:	
Confirmation Number:	1035
Title of Invention:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES
First Named Inventor/Applicant Name:	Jeffrey R. Ambroziak
Customer Number:	89411
Filer:	Carson C K Fincham
Filer Authorized By:	
Attorney Docket Number:	CF01-001-02-02
Receipt Date:	28-JAN-2021
Filing Date:	04-SEP-2020
Time Stamp:	17:15:18
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		CF01-001-02-02_AM_PRE_01-28-21.pdf	164263 7478fdb037624baab80cb1c47fcdf8c35dcaf337	yes	7

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Preliminary Amendment	1	1
	Claims	2	6
	Applicant Arguments/Remarks Made in an Amendment	7	7
Warnings:			
Information:			
	Total Files Size (in bytes):	164263	

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/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
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/012,325	Filing Date 09/04/2020	☐ 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 $50 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $230 =	
☐ 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

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ Application Size Fee (37 CFR 1.16(s))							
	☐ FIRST PRESENTATION OF MULTIPLE DEPENDENT CLAIM (37 CFR 1.16(j))							
							TOTAL ADD'L FEE	

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	01/28/2021	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 15	Minus	** 20	= 0		x $50 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $240 =	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

* If the entry in column 1 is less than the entry in column 2, write "0" in column 3.	LDRC
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/EVA V GILLIS/
*** 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.	

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.
17/012,325	09/04/2020	Jeffrey R. Ambroziak	CF01-001-02-02	1035

89411 7590 01/25/2021

Fincham Downs, LLC
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Ridgefield, CT 06877

EXAMINER	
BORISSOV, IGOR N	

ART UNIT	PAPER NUMBER
3649	

NOTIFICATION DATE	DELIVERY MODE
01/25/2021	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):

ePAIR@finchamdowns.com

Applicant-Initiated Interview Summary	Application No. 17/012,325	Applicant(s) Ambroziak et al.		
	Examiner IGOR N BORISSOV	Art Unit 3649	AIA (First Inventor to File) Status No	Page 1 of 2

All Participants (applicant, applicants representative, PTO personnel)	Title	Type
IGOR N BORISSOV	Primary Examiner	Telephonic
Carson C.K. Fincham, Reg.# 54096	Inventor	
Jeffrey R. Ambroziak	Inventor	

Date of Interview: 13 January 2021

Issues Discussed:

35 U.S.C. 101

Claims 17-20 recite abstract idea without practical application; there is no "substantially more" or " inventive concept" withing meaning of 35 USC 101

35 U.S.C. 112

Claims 14-16, the "determining" steps is confusing; it is unclear how the processor knows about "current value of a dynamic attribute, "a current charge level", and "a desired distance of travel"

35 U.S.C. 103

Claims 1-8 and 14-20; Straubel (US 20090139781 A1) discloses displaying a battery capacity, inputting a desired charge amount, charging preferences, determining dynamic attributes including current cost and expected future cost of providing electricity, and charging schedule Figs. 111-114; [0320]; [0430]; [0578]; Pollack et al. (US 2008/0039989 A1) discloses defining charging preferences by an operator; providing an interface for inputing or displaying data [0085]; [0200]; [0228]; dynamic attributes comprising expected future load [0062]; [0099]; [0182]; Nakai (US 6,618,650) discloses indicating a desired distance of travel and a desired travel destination Fig. 7; Kelty et al. (US 2009/0021385 A1) discloses charging preferences comprising generating an alert when charging a vehicle to allow travel of a desired distance by certain time cannot be achieved [0030], page 3, left column, lines 29-35)

Proposed Amendment(s)

Discussed possible amendments to the claims to obviate claim rejections under 35 USC 101, 112 and 103. No agreement was reached.

Applicant-Initiated Interview Summary	Application No. 17/012,325	Applicant(s) Ambroziak et al.		
	Examiner IGOR N BORISSOV	Art Unit 3649	AIA (First Inventor to File) Status No	Page 2 of 2

/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	

Applicant is reminded that a complete written statement as to the substance of the interview must be made of record in the application file. It is the applicants responsibility to provide the written statement, unless the interview was initiated by the Examiner and the Examiner has indicated that a written summary will be provided. See MPEP 713.04
Please further see:
MPEP 713.04
Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews, paragraph (b)
37 CFR § 1.2 Business to be transacted in writing

Applicant recordation instructions: The formal written reply to the last Office action must include the substance of the interview. (See MPEP section 713.04). If a reply to the last Office action has already been filed, applicant is given a non-extendable period of the longer of one month or thirty days from this interview date, or the mailing date of this interview summary form, whichever is later, to file a statement of the substance of the interview.

Examiner recordation instructions: Examiners must summarize the substance of any interview of record. A complete and proper recordation of the substance of an interview should include the items listed in MPEP 713.04 for complete and proper recordation including the identification of the general thrust of each argument or issue discussed, a general indication of any other pertinent matters discussed regarding patentability and the general results or outcome of the interview, to include an indication as to whether or not agreement was reached on the issues raised.

Electronic Acknowledgement Receipt

EFS ID:	41548670
Application Number:	17012325
International Application Number:	
Confirmation Number:	1035
Title of Invention:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES
First Named Inventor/Applicant Name:	Jeffrey R. Ambroziak
Customer Number:	89411
Filer:	Carson C K Fincham
Filer Authorized By:	
Attorney Docket Number:	CF01-001-02-02
Receipt Date:	04-JAN-2021
Filing Date:	04-SEP-2020
Time Stamp:	17:46:55
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	Letter Requesting Interview with Examiner	CF01-001-02-02_413A_01-04-21.pdf	267933 a20b13a7e1068ffd1446c760a11ac8789ccc9b8b	no	3

Warnings:

Information:					
2	Claims	CF01-001-02-02_CL_01-04-21.pdf	131652 10fde1ff3ad248fad8b1fe91fd5d928d759a585d	no	4
Warnings:					
Information:					
		Total Files Size (in bytes):	399585		

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.

Applicant Initiated Interview Request Form

Application No.: 17/012325 First Named Applicant: Charge Fusion Technologies, LLC
Examiner: Igor N. Borissov Art Unit: 3649 Status of Application: Pending

Tentative Participants:
(1) PE Borissov (2) Jeffrey R. Ambroziak
(3) Carson C.K. Fincham (4) _____

Proposed Date of Interview: January 11, 2021 **Proposed Time:** 10 (◉AM○PM)

Type of Interview Requested:
(1) ☑ Telephonic (2) ☐ Personal (3) ☐ Video Conference

Exhibit To Be Shown or Demonstrated: ☐ YES ☑ NO
If yes, provide brief description: _____

Issues To Be Discussed

Issues (Rej., Obj., etc)	Claims/ Fig. #s	Prior Art	Discussed	Agreed	Not Agreed
(1) Rej. 103	1-8, 14-20	Straubel, etc.	☐	☐	☐
(2)			☐	☐	☐
(3)			☐	☐	☐
(4)			☐	☐	☐

☐ Continuation Sheet Attached ☑ Proposed Amendment or Arguments Attached

Brief Description of Arguments to be Presented: Applicant provides a draft amended claim set for discussion.

Applicant is available January 11-13, anytime, at the Office's convenience, should the above-requested time not be acceptable.

An interview was conducted on the above-identified application on _____

NOTE: This form should be completed and filed by applicant in advance of the interview (see MPEP § 713.01). If this form is signed by a registered practitioner not of record, the Office will accept this as an indication that he or she is authorized to conduct an interview on behalf of the principal (37 CFR 1.32(a)(3)) pursuant to 37 CFR 1.34. This is not a power of attorney to any above named practitioner. See the Instruction Sheet for this form, which is incorporated by reference. By signing this form, applicant or practitioner is certifying that he or she has read the Instruction Sheet. After the interview is conducted, applicant is advised to file a statement of the substance of this interview (37 CFR 1.133(b)) as soon as possible. This application will not be delayed from issue because of applicant's failure to submit a written record of this interview.

/Carson C.K. Fincham, Reg.#54096/
Applicant/Applicant's Representative Signature

_____
Examiner/SPE Signature

Carson C.K. Fincham
Typed/Printed Name of Applicant or Representative

203-438-6867
Applicant's/Applicant's Representative's Telephone Number

54096
Registration Number, if applicable

This collection of information is required by 37 CFR 1.133. 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 24 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.

PTOL-413A (08-10)
Approved for use through 12/31/2020. 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.

Instruction Sheet for:
APPLICANT INITIATED INTERVIEW REQUEST FORM

(Not to be Submitted to the USPTO)

1. If this form is signed by a registered practitioner not of record, the authority to submit the Applicant Initiated Interview Request Form is pursuant to limited authority to act in a representative capacity under 37 CFR 1.34 and further proof of authority to act in a representative capacity may be required. *See* 37 CFR 1.34.

   The Office will accept the signed form as an indication that the registered practitioner not of record is authorized to conduct an interview on behalf of the principal in pursuant to 37 CFR 1.34.

   For more information, see the "Conducting an Interview with a Registered Practitioner Acting in a Representative Capacity" notice which is available on the USPTO Web site at: http://www.uspto.gov/patents/law/notices/2010.jsp.

2. This is not a power of attorney to any named practitioner. Accordingly, any registered practitioner not of record named on the form does not have authority to sign a request to change the correspondence address, a request for express abandonment, a disclaimer, a power of attorney, or other document requiring the signature of the applicant, assignee of the entire interest or an attorney of record. If appropriate, a separate power of attorney to the named practitioner should be executed and filed in the US Patent and Trademark Office.

3. Any interview concerning an unpublished application under 35 U.S.C. § 122(b) with a registered practitioner not of record who obtains authorization through use of the PTOL-413A will be conducted based on the information and files supplied by the practitioner in view of the confidentiality requirements of 35 U.S.C. § 122(a).

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.

DRAFT

AMENDMENT TO THE CLAIMS

(for discussion purposes only)

1. (Currently amended) An electrical charging system, comprising:

a communication device;

a processor in communication with the communication device; and

a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:

provide a user interface comprising: (i) a visual indication of an electric vehicle battery capacity, (ii) a visual indication of a current charge level of the electric vehicle battery, and (iii) an input element that permits an operator of the vehicle to provide input defining a desired charge amount of the electric vehicle;

receive, from the communication device and via the user interface, information indicative of one or more charging preferences corresponding to a desired charging of the electric vehicle, wherein the one or more charging preferences are defined by the operator of the vehicle and include an indication of the desired charge amount of the electric vehicle received via the input element that permits the operator of the vehicle to provide input defining the desired charge amount of the electric vehicle;

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a charging schedule for the vehicle; and

cause a charging, <u>via the electric charge provider and</u> in accordance with the charging schedule, of the vehicle.

2. (Original) The electrical charging system of claim 1, wherein the input defining a desired amount of charge comprises an indication of desired distance of travel.

3. (Original) The electrical charging system of claim 1, wherein the input defining a desired amount of charge comprises an indication of a desired travel destination.

4. (Original) The electrical charging system of claim 1, wherein the processor is further configured to output an alert upon determining that it is not possible to charge the vehicle in accordance with the charging schedule.

5. (Original) The electrical charging system of claim 4, wherein outputting the alert further comprises displaying via the user output an indication determining that it is not possible to charge the vehicle in accordance with the charging schedule.

6. (Original) The electrical charging system of claim 4, wherein outputting the alert further comprises determining an updated charging schedule and causing a charging, in accordance with the updated charging schedule, of the vehicle.

7. (Original) The electrical charging system of claim 1, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity.

8. (Original) The electrical charging system of claim 1, wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load.

9-13. (Cancelled)

14. (Currently amended) An electrical charging system of a vehicle, comprising:

a communication device;

a processor in communication with the communication device; and

a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:

receive, from the communication device, information indicative of one or more charging preferences corresponding to a desired charging of a vehicle, wherein the one or more charging preferences are defined by an operator of the vehicle;

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a current charge level of the vehicle and a desired distance of travel of the vehicle, a charging schedule comprising (i) at least one charging start time and at least one charge end time for the vehicle, and (ii) information indicative of a location of each of a plurality of electric charge providers;

cause a charging, in accordance with the charging schedule, of the vehicle; and

output an indication of the charging schedule of the vehicle.

15. (Original) The electrical charging system of claim 14, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity.

16. (Original) The electrical charging system of claim 14, wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load.

17. (Currently amended) An electrical charging system, comprising:

one or more processing devices; and

a non-transitory memory device in communication with the one or more processing devices, the non-transitory memory storing instructions that when executed by the one or more processing devices, result in:

receiving information indicative of a starting location of an electric vehicle;

receiving information indicative of a desired destination of the electric vehicle;

receiving information indicative of a location of each of a plurality of electric charge providers;

computing, based at least in part on the starting location, the desired destination, and ~~at least one of current availability of an electric charge provider and a location~~ the locations of the plurality of ~~the~~ electric charge providers, a charging schedule for the electric vehicle, the charging schedule comprising a scheduled time for charging the electric vehicle at each of more than one of the plurality of the charging locations; and

increasing, in accordance with the charging schedule, a level of charge of a battery of the electric vehicle.

18. (Previously presented) The electrical charging system of claim 17, wherein the received starting location and desired destination information is defined by a user of the electric vehicle via a graphical user interface adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and wherein the vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

19. (Previously presented) The electrical charging system of claim 18, wherein the instructions, when executed by the one or more processing devices, further result in:

outputting, via the graphical user interface, the charging schedule.

20. (Currently amended) The electrical charging system of claim 18, wherein the instructions, when executed by the one or more processing devices, further result in:

identifying, after the computing and based on the level of charge of the battery and an updated value descriptive of a distance to at least one of the more than one of the plurality of the charging locations ~~of the at least one of current availability of the electric charge provider and the location of the electric charge provider~~, that the level of charge of the battery cannot be increased in accordance with the charging schedule; and

outputting, via the graphical user interface and in response to the identifying, an alert that the level of charge of the battery cannot be increased in accordance with the charging schedule.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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APPLICATION NUMBER	FILING OR 371(C) DATE	FIRST NAMED APPLICANT	ATTY. DOCKET NO./TITLE
17/012,325	09/04/2020	Jeffrey R. Ambroziak	CF01-001-02-02

CONFIRMATION NO. 1035

89411
Fincham Downs, LLC
90 Grove St.
Suite 205
Ridgefield, CT 06877

PUBLICATION NOTICE

OC00000122265100

Title:SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES

Publication No.US-2020-0403437-A1
Publication Date:12/24/2020

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 Public Records Division. The Public Records Division 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, Public Records Division, Alexandria, VA 22313-1450 or via the Internet.

In addition, information on the status of the application, including the mailing date of Office actions and the dates of receipt of correspondence filed in the Office, may also be accessed via the Internet through the Patent Electronic Business Center at www.uspto.gov using the public side of the Patent Application Information and Retrieval (PAIR) system. The direct link to access this status information is currently https://portal.uspto.gov/pair/PublicPair. Prior to publication, such status information is confidential and may only be obtained by applicant using the private side of PAIR.

Further assistance in electronically accessing the publication, or about PAIR, is available by calling the Patent Electronic Business Center at 1-866-217-9197.

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

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/012,325	09/04/2020	Jeffrey R. Ambroziak	CF01-001-02-02	1035

89411 7590 12/02/2020

Fincham Downs, LLC
90 Grove St.
Suite 205
Ridgefield, CT 06877

EXAMINER	
BORISSOV, IGOR N	

ART UNIT	PAPER NUMBER
3649	

NOTIFICATION DATE	DELIVERY MODE
12/02/2020	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):

ePAIR@finchamdowns.com

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	Art Unit
	IGOR N BORISSOV	3649

CPC - Searched*		
Symbol	Date	Examiner
H04L67/306; G06Q50/01; H04L67/30; G06Q30/0282; G06Q30/0201;	11/27/2020	IB
G06Q30/0214; G06Q30/0217; G06Q30/0218; G06Q30/0224;	11/27/2020	IB
G06Q30/02	11/27/2020	IB

CPC Combination Sets - Searched*		
Symbol	Date	Examiner

US Classification - Searched*			
Class	Subclass	Date	Examiner
705	7.35	11/27/2020	IB

* 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
Key terms search on EAST	11/27/2020	IB
Classification search in combination with key terms on EAST	11/27/2020	IB
Inventor search	11/27/2020	IB
NPL search	11/27/2020	IB

Interference Search			
US Class/CPC Symbol	US Subclass/CPC Group	Date	Examiner

/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	

Search Notes	Application/Control No.	Applicant(s)/Patent Under Reexamination
	17/012,325	Ambroziak et al.
	Examiner	Art Unit
	IGOR N BORISSOV	3649

/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	

First Action Interview Pilot Program Pre-Interview Communication	Application No. 17/012,325	Applicant(s) Ambroziak et al.	
	Examiner IGOR N BORISSOV	Art Unit 3649	AIA (FITF) Status No

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

THE SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **ONE MONTH OR THIRTY (30) DAYS,** WHICHEVER IS LONGER, FROM THE MAILING OR NOTIFICATION DATE OF THIS COMMUNICATION.

This time period for reply is extendable under 37 CFR 1.136(a) for only ONE additional MONTH.

This communication constitutes notice under 37 CFR 1.136(a)(1)(i).

Applicant must, within the time period for reply, file: (1) A letter requesting not to have a first action interview; (2) A reply under 37 CFR 1.111 waiving the first action interview and First Action Interview Office Action; or (3) An Applicant Initiated Interview Request Form (PTOL-413A) electronically via EFS-Web, accompanied by a proposed amendment or arguments, and schedule the interview within 2 months from the filing of the request. A failure to respond to this communication will be treated as a request not to have an interview. If applicant waives the First Action Interview Office Action, the instant Pre-Interview Communication is deemed the first Office Action on the Merits. The next subsequent Office action may be made final if appropriate. See MPEP 706.07(a).

Status

1) ☑ Responsive to communication(s) filed on 11/25/20206 .

☐ A declaration(s)/affidavit(s) under **37 CFR 1.130(b)** was/were filed on _____ .

Disposition of Claims

2) ☑ Claim(s) 1-8 and 14-20 is/are pending in the application.

2a) Of the above claim(s) _____ is/are withdrawn from consideration.

3) ☐ Claim(s) _____ is/are allowed.

4) ☑ Claim(s) 1-8 and 14-20 is/are rejected.

5) ☐ Claim(s) _____ is/are objected to.

6) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

7) ☐ The specification is objected to by the Examiner.

8) ☑ The drawing(s) filed on 09/04/2020 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

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

a) ☐ All b) ☐ Some * c) ☐ None of:

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.

Contact Information

Examiner's Telephone Number: (571)272-6801

Examiner's Typical Work Schedule: 13:00 - 21:00

Supervisor's Name: Darnell M. Jayne

Supervisor's Telephone Number: 571 272-7723

Attachment(s)

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

2) ☑ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date 09/22/2020 .

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

4) ☐ Other: _____ .

First Action Interview Pilot Program Pre-Interview Communication	Application No. 17/012,325	Applicant(s) Ambroziak et al.	
	Examiner IGOR N BORISSOV	Art Unit 3649	AIA (FITF) Status No

Notification of Rejection(s) and/or Objection(s)

#	Claim(s)	Reference(s) (if applicable)	Rejection Statutory Basis	Brief Explanation of Rejection
1	14-16	N/A	35 U.S.C. 112(b)	Claim 14, the "determining" steps is confusing; it is unclear how the processor knows about " current value of a dynamic attribute, "a current charge level", and "a desired distance of travel ".
2	17-20	N/A	35 U.S.C. 101	Abstract idea; there is no "practical application", there is not "substantially more" or "inventive concept" within meaning of 35 U.S.C. 101
3	1-8 and 14-20	IDS	35 U.S.C. 103	Please see Expanded Discussion/Commentary

Expanded Discussion/Commentary

1		Straubel (US 20090139781 A1) discloses displaying a battery capacity, inputting a desired charge amount, charging preferences, determining dynamic attributes including current cost and expected future cost of providing electricity, and charging schedule Figs. 111-114; [0320]; [0430]; [0578]
2		Pollack et al. (US 2008/0039989 A1) discloses defining charging preferences by an operator; providing an interface for inputing or displaying data [0085]; [0200]; [0228]; dynamic attributes comprising expected future load [0062]; [0099]; [0182]
3		Nakai (US 6,618,650) discloses indicating a desired distance of travel and a desired travel destination Fig. 7
4.		Kelty et al. (US 2009/0021385 A1) discloses charging preferences comprising generating an alert when charging a vehicle to allow travel of a desired distance by certain time cannot be achieved [0030], page 3, left column, lines 29-35)

DATE: 27 November 2020	/IGOR N BORISSOV/ Primary Examiner, Art Unit 3649	

EAST Search History

EAST Search History (Prior Art)

Ref #	Hits	Search Query	DBs	Default Operator	Plurals	Time Stamp
L1	19	("20030152088" | "20040010358" | "20080039989" | "20080162305" | "20090001927" | "20090021385" | "20090130965" | "20090139781" | "20090189807" | "20090313174" | "20110148356" | "4347472" | "5710502" | "6618650" | "6727708" | "7358701" | "7402978" | "7698078" | "7778746").PN.	US-PGPUB; USPAT	OR	OFF	2020/11/27 21:45
L2	1	1 and (future with (cost$1 or rate$1))	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:09
L3	16	1 and ((cost$1 or rate$1))	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:10
L4	3	1 and ((cost$1 with rate$1))	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:10
L5	1	4 and ((predict$3 or expect$3 or future) with load)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:14
L6	3	("20090139781" "20090189807" "20090130965").pn. and park$3	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15
L7	0	(park$3 with (car or vehicle or truck)) and (maintain$3 with internal with temperature with battery with (threshold or level))	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15
L8	35,634	tesla	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15
L9	1,037	tesla.as.	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15
L10	80	L9 and climate	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15
L11	74,962	battery with (state or charg$3) with (level or threshold)	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15
L12	19	L10 and L11	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15
L13	61	L10 not L12	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15
L14	17	L13 and park$3	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15
L15	0	(L13 not L14) and L11	US-PGPUB; USPAT	OR	ON	2020/11/27 22:15

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L17	23,190	(G06Q40/06).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L18	6,451	705/1.1.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L19	1	L16 and (computer$1 or microprocessor$1 or processor$1 or microchip$1 or chip$1 or server$1 or controller$1 or control$3 or CPU$1 or (central with processing with unit$1) or portal$1 or web or (web adj based) or (web adj page) or (web adj site) or website$1 or webpage$1 or internet or gateway$1 or mobile or (cell adj phone$1) or cellular or notebook$1 or laptop$1 or phone$1 or (smart adj phone$1) or electronic or electronically or node$1 or circuitry or circuit$1 or (mother adj board) or PDF or PDA or (personal near4 digital near4 assistent) or network$1 or hardware or software or mainframe or ipad$1 or ethernet or modem$1 or sensor$1 or gps or memory or database or cloud or algorithm$1 or instruction$1 or model$1 or model$3 or comput$3 or calculat$3 or hardware or digital)	US-PGPUB; USPAT	OR	ON	2020/11/27 22:16
L20	1	L16 and (conventional or known or generic$3 or regular or known or common or traditional or pc or apple or (platform with independent) or (all adj purpose) or basic)	US-PGPUB; USPAT	OR	ON	2020/11/27 22:16
L21	1	"20190087761".pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L22	1	"20160263483".pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L23	1	"20180131221".pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L24	55	alert$3 with internal with temperature with vehicle	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L25	8	L24 and (threshold with internal with temperature)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16

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L29	9,366	(B60L3/12).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L30	8,644	(B60L53/305).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L31	5,655	(B60L53/12).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L32	16,617	(B60L53/14).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L33	3,416	(B60L53/64).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L34	10,604	(B60L53/65).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L35	3,918	(B60L53/66).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16

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L37	54,501	(G06Q30/0283 or G06Q30/04 or G06Q50/06).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L38	2,103	(H02J7/1446).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
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L40	8,805	(B60L2240/80).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L41	3,068	(B60L2260/52).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L42	3,531	(B60L2260/54).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L43	11,573	(B60L2250/16).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L44	914	(Y02T90/122).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
L45	1,284	(Y04S50/12).cpc,cpci,cpca,cpoi.	US-PGPUB; USPAT; FPRS; EPO;	OR	OFF	2020/11/27 22:16

			JPO; IBM_TDB			
L46	932	705/7.35.ccls.	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:16
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L49	12,318	L28 or L29 or L30 or L31 or L32 or L33 or L34 or L35 or L36	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:16
L50	33,278	L37 or L38 or L39 or L40 or L41 or L42 or L43 or L44 or L45 or L46	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:16
L51	40,900	L49 or L50	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:16
L52	31	Charge with Fusion with technologies	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L53	5	(Charge adj Fusion) with technologies	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L54	26	L52 not L53	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L55	97,952	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable) and (batter$3 with charg$3) and (user with interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L56	1,033	(display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L57	188	L55 and L56	US-PGPUB; USPAT; USOCR;	OR	ON	2020/11/27 22:16

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L58	89	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable) and (user with interface) and ((interface or screen) with (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L59	79	L57 and L58	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L60	78	L59 not L23 not L47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L61	13	L60 and L51	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L62	21,102	(display$3 or depict$3) with (distance with travel$4)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L63	1	L61 and L62	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L64	12	(distance with travel$4) and L61	US-PGPUB; USPAT; USOCR;	OR	ON	2020/11/27 22:16

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L78	0	(L60 not L61) and L65	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:16
L79	65	(L60 not L61)	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:16
L80	5	(distance with travel$4) and L79	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L81	98,837	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (batter$3 with charg$3) and (user with interface)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L82	89	(smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (user with interface) and ((interface or screen) with (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L83	89	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and (user with interface) and ((interface or screen) with (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L84	98,857	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or	US-PGPUB; USPAT; USOCR;	OR	ON	2020/11/27 22:16

		(cell near1 phone)) and (batter$3 with charg$3) and (user with interface)	FPRS; EPO; JPO; DERWENT; IBM_TDB			
L85	189	L84 and (display$3 or depict$3) with (charg$3 with parameter$1) with (level or state or avilable or uncharged or capacity)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L86	79	L83 and L85	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L87	73	L86 not L80 not L23 not L47	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L88	12	(distance with travel$4) and L87	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L89	0	L88 not L64	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L90	61	L87 not L88	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L91	29,783	(request$3 or access$3) with (charg$3 with (parameter$1 or level or state))	US-PGPUB; USPAT; USOCR; FPRS; EPO;	OR	ON	2020/11/27 22:16

			JPO; DERWENT; IBM_TDB			
L92	10	L90 and L91	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L93	2,275	(request$3 or access$3) with (charg$3 with (parameter$1 or level or state)) with (smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L94	5	L92 and L93	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L95	5	L92 not L94	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L96	1	L95 and "20090001927".pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L97	0	L65 and L96	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L98	4	(distance with travel$4) and L65	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L99	3	L91 and L98	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16

L100	2	"7295849".pn.	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L101	0	"6727708".pn. and (state with charge) and (notify$3 or notification$1) and remote and wireless and cellular	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L102	1	"6727708".pn. and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L103	3	("6300763" | "6507194" | "6515452").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:16
L104	2	"7295849".pn. and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L105	1	"7078828".pn. and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L106	2	("6727708" "20090001927").pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L107	953	tesla near1 motors	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L108	952	tesla adj motors	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L109	0	L85 and L98	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2020/11/27 22:16

			DERWENT; IBM_TDB			
L110	3	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and L98	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L111	5	L106 or L110	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L112	11	L65 not L111	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L113	5	L111 and ((state with charge) or (notify$3 or notification$1) or remote$3 or wireless$3 or cellular)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L114	0	L111 and ((state with charge) with (notify$3 or notification$1) with (remote$3 or wireless$3 or cellular))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L115	0	L112 and ((state with charge) with (notify$3 or notification$1) with (remote$3 or wireless$3 or cellular))	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L116	8	(iphone or smartphone$1 or (smart near1 phone$1) or mobile or (hand near2 held) or portable or cellphone or (cell near1 phone)) and L112	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO;	OR	ON	2020/11/27 22:16

			DERWENT; IBM_TDB			
L117	2	L116 and (((state or level) near3 charge) or capacity) and (notify$3 or notification)	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L118	7	L111 or L117	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L119	3	L112 not L116	US-PGPUB; USPAT; USOCR; FPRS; EPO; JPO; DERWENT; IBM_TDB	OR	ON	2020/11/27 22:16
L120	1	"20090139781".PN.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L121	0	L120 and (web adj page)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L122	1	L120 and (internet or brows$3)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L123	1	L122 and ((smart adj phone) or mobile or (cell adj phone))	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L124	1	L123 and (charg$3 with (parameter$1 or characteristic$1 or level or state))	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L125	0	L120 and (brows$3)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L126	1	L120 and (web adj site)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L127	13	("6618650" | "7761203" | "7402978" | "20090139781" | "20080039989" | "4347472" | "20040010358" | "20090021385" | "5710502" | "20090313174" | "7358701" | "7778746" | "20030152088").PN.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L128	4	L127 and (internet or brows$3 or website or (web adj site) or webpage or (web adj page)) with (portable or mobile or (cell adj phone) or (smart	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16

		adj phone) or (hand adj held) or cellphone or smartphone)				
L129	1	L128 and (brows$3 or website or (web adj site) or webpage or (web adj page)) with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L130	2	("6727708" "20090001927").pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L131	0	L130 and ((brows$3 or website or (web adj site) or webpage or (web adj page)) with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone))	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L132	0	L130 and ((brows$3 or website or (web adj site) or webpage or (web adj page)) and (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone))	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L133	0	L130 and (internet) and (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L134	2	("20030152088" "20080039989").pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L135	1	L134 and (web adj based) with (user near4 interface)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L136	1	L134 and (web adj based) and (user near4 interface)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L137	1	"20080039989".pn. and charg$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L138	1	"20080039989".pn. and phone	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L139	0	"20080039989".pn. and touch	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L140	0	"20080039989".pn. and sensitive	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L141	0	"20090139781".PN. and smartphone	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L142	1	"20090139781".PN. and phone	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L143	1	("20030152088" | "20040010358" | "20080039989" | "20090021385" |	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16

		"20090139781" | "20090313174" | "20110148356" | "4347472" | "5710502" | "6618650" | "7358701" | "7402978" | "7698078" | "7778746").PN. and ((smart adj phone) or smartphone)				
L144	0	("6727708" "20090001927").pn. and smartphone	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L145	1	"20090139781".PN. and ((display$3 or depict$3) with state or level or charg$3)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L146	1	"20090139781".PN. and ((display$3 or depict$3) with (state or level or charg$3))	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L147	0	L127 and slider	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L148	19,128	slider with interface	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L149	8,811	slider near3 interface	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L150	152	L149 and ((display$3 or depict$3 or select$3 or choos$3 or chang$3 or adjust$3) with (state or level) with charg$3)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L151	13,763	slider with user with interface	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L152	344	slider with user with interface with (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L153	22	L150 and L152	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L154	130	L150 not L153	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L155	10,757	(slider with user with interface) and (portable or mobile or (cell adj phone) or (smart adj phone) or (hand adj held) or cellphone or smartphone)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L156	107	L154 and L155	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L157	2	L127 and ((state or level) with charg$3 with distance with travel$4)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L158	134	((amount or state or level) with charg$3 with display$3 with distance with travel$4)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16

L159	0	L127 and L158	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L160	139	((amount or state or level) with charg$3 with (display$3 or depict$3) with distance with travel$4)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L161	5	L160 not L158	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L162	185	((amount or state or level) with charg$3 with (display$3 or depict$3) with (distance or range) with travel$4)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:16
L163	46	L162 not L160	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L164	0	L127 and ((amount or state or level) with charg$3 with (display$3 or depict$3) with range)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L165	0	L127 and ((display$3 or depict$3) with range)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L166	5	L127 and (select$3 with charg$3 with time)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L167	4	L127 and (inductive or induct$3)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L168	5	L127 and (touch near3 screen)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L169	13	L127 and (application or app)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L170	0	L127 and ((application or app) with mobile)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L171	1	"20180131221".pn. and pet	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L172	1	"20080162305".pn. and slider	US-PGPUB; USPAT; FPRS; EPO; JPO; IBM_TDB	OR	OFF	2020/11/27 22:17
L173	1	"20180131221".pn. and slider	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L174	1	"20090139781".PN.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L175	1	"20180131221".pn. and slider and pet	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L176	4	pet with settings with thermostat	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L177	57	(pet$1 with settings) and thermostat	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17

L178	1	L177 and "20060288949".pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L179	266	pet with thermostat	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L180	8	(pet$1 with settings) and L179	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L181	0	"9853488".pn. and slider and pet	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L182	1	"9853488".pn. and pet	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L183	183	pet with car with (button or icon or image or setting$1)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L184	5	L183 and (climate or thermostat)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L185	0	"20090130965.pn" and L184	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L186	1	"20090130965".pn. and L184	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L187	1	L186 and pet	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L188	0	slider with interface with (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L189	233	(slider with interface) and (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L190	0	"9853488".pn. and slider	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L191	1	"9853488".pn. and slid$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L192	697	(slid$3 with interface) and (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L193	13	slid$3 with interface with (charg$3 with setting$1)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L194	25	("20050075694" | "20050107841" | "20050113888" | "20050113889" | "20060247738" | "20070191904" | "20070276450" | "20080027500" | "20080097554" | "20080172109" | "20080319497" | "20090069869" | "20090112291" | "20090118796" | "20090222066" | "20090273318" | "5690693" | "5702431" | "6516227" | "6850803" | "7200504" | "7225032" | "7286880" | "7444181" | "7505816").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:17

L195	34	("20070060980" | "20070191904" | "20080027500" | "20080164839" | "20080319497" | "20090069869" | "20090118796" | "20090222066" | "20100204756" | "20100305663" | "20110004278" | "20110093048" | "5314453" | "5690693" | "5702431" | "5749909" | "6516227" | "6553263" | "6850803" | "7200504" | "7225032" | "7286880" | "7444181" | "7496404" | "7505816" | "7769462" | "7774069" | "7945334" | "7979126" | "8010205" | "8170681" | "8193766" | "8214042" | "8244367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:17
L196	34	("20070060980" | "20070191904" | "20080027500" | "20080164839" | "20080319497" | "20090069869" | "20090118796" | "20090222066" | "20100204756" | "20100305663" | "20110004278" | "20110093048" | "5314453" | "5690693" | "5702431" | "5749909" | "6516227" | "6553263" | "6850803" | "7200504" | "7225032" | "7286880" | "7444181" | "7496404" | "7505816" | "7769462" | "7774069" | "7945334" | "7979126" | "8010205" | "8170681" | "8193766" | "8214042" | "8244367").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:17
L197	44	L194 or L195 or L196	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:17
L198	6	L197 and slid$3	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:17
L199	697	L192 not L197	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:17
L200	506	L199 and (batter$3 with charg$3)	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:17
L201	4,777	slid$3 with select$3 with (charg$3 or setting$1)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L202	91	L200 and L201	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L203	173,390	slid$3 with (bar or button or pointer)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L204	65	L202 and L203	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17

L205	26	L202 not L204	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L206	415	L200 not L202	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L207	226	L206 and (display$3 with slid$3)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L208	14	("20120026173" | "20140278038" | "20100268411" | "20160153796" | "20150298565" | "20130179057" | "20170136889" | "20160153796" | "20150298565" | "20170136908" | "20170326983" | "20170326983" | "5301113" | "20130179057" | "20150298565" | "20170136911" | "20160305791" | "20170199047" | "20170136911" | "9644980" | "20160305791").PN.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L209	2	L208 and (display$3 with slid$3)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L210	1	(L208 not L209) and slid$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L211	1	("7844908".pn.) and slid$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L212	17	("20050235290" | "20050257195" | "20060036799" | "20060041859" | "20070088865" | "20080034299" | "5237691" | "6173438" | "6219628" | "6526566" | "6629123" | "6876368" | "7028222" | "7062718" | "7185287" | "7200817" | "7290244").PN.	US-PGPUB; USPAT; USOCR	OR	ON	2020/11/27 22:17
L213	6	L212 and slid$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L214	1	("7844908".pn.)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L215	1	"9853488".pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L216	1	"20090130965".pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L217	1	"20090139781".PN. and display$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L218	1	"20080162305".PN.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L219	2,308,485	slid$3 or (mooving with (indicator or bar or button or pointer))	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L220	5,079,991	slid$3 or (mooving with (indicator or bar or button or pointer))	US-PGPUB; USPAT;	OR	OFF	2020/11/27 22:17

			FPRS; EPO; JPO			
L221	3,477	select$3 with charg$3 with level with battery	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L222	5,532	(select$3 with charg$3 with level) and (charg$3 with battery)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L223	914	L220 and (L221 or L222)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L224	28,268	(slid$3 or (mooving with (indicator or bar or button or pointer))) with (smartphone or mobile)	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L225	57,681	(slid$3 or (mooving with (indicator or bar or button or pointer))) with (smartphone or mobile)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L226	50	L221 and (L224 or L225)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L227	17	(L222 and (L224 or L225)) not L226	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L228	4,251	((charg$3 with battery) and (L224 or L225)) not (L226 or L227)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L229	0	(select$3 with charg$3 with level) and L228	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L230	540	(charg$3 with level) and L228	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L231	105	L230 and slider	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L232	435	L230 not (L226 or L227 or L231)	US-PGPUB; USPAT;	OR	OFF	2020/11/27 22:17

			FPRS; EPO; JPO			
L233	42	L232 and (charg$3 with vehicle with batter$3)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L234	393	L232 not L233	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L235	9	L234 and (charg$3 with vehicle)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L236	165	(L225 and (charg$3 with vehicle with batter$3)) not (L226 or L227 or L231 not L233 not L235)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L237	17	L236 and (display$3 with (state or level) with charg$3)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L238	148	L236 not L237	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L239	199,372	(slid$3 or (mooving with (indicator or bar or button or pointer))) with (display$3 or interface or gui)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L240	1,508	(L239 and (charg$3 with vehicle)) not (L226 or L227 or L231 or L233 or L235 or L236)	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L241	90	(charg$3 with level with display$3) and L240	US-PGPUB; USPAT; FPRS; EPO; JPO	OR	OFF	2020/11/27 22:17
L242	0	"8244468".PN. and slid$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
L243	0	"8102256".PN. and slid$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:17
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L248	1	"20090189807".pn. and slid$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:18
L249	0	"20090174603".pn. and slid$3	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:18
L250	1	"20090174603".pn.	US-PGPUB; USPAT	OR	OFF	2020/11/27 22:18

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Doc code: IDS
Doc description: Information Disclosure Statement (IDS) Filed

PTO/SB/08a (03-15)
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	17012325
Filing Date	2020-09-04
First Named Inventor	Ambroziak
Art Unit	3649
Examiner Name	Not Yet Known
Attorney Docket Number	CF01-001-02-02

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Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7402978		2008-07-22	Pryor	
	2	7358701		2008-04-15	Field et al.	
	3	7778746		2010-08-17	McLeod et al.	
	4	4347472		1982-08-31	Lemelson	
	5	6618650		2003-09-09	Nakai et al.	
	6	5710502		1998-01-20	Pourmey	
	7	7698078		2010-04-13	Kelty et al.	
	8	6727708		2004-04-27	Dougherty	

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	Attorney Docket Number	CF01-001-02-02

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Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20090021385		2009-01-22	Kelty et al.	
	2	20090139781		2009-06-04	Straubel	
	3	20040010358		2004-01-15	Oesterling et al.	
	4	20030152088		2003-08-14	Kominami et al.	
	5	20080039989		2008-02-14	Pollack et al.	
	6	20090313174		2009-12-17	Hafner et al.	
	7	20110148356		2011-06-23	Lowenthal et al.	
	8	20090001927		2009-01-01	Stamos	
	9	20080162305		2008-07-03	Rousso	

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	First Named Inventor	Ambroziak
	Art Unit	3649
	Examiner Name	Not Yet Known
	Attorney Docket Number	CF01-001-02-02

	10	20090130965		2009-05-21	Galvez-Ramos et al.	
	11	20090189807		2009-07-30	Scalisi	

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	1							

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Examiner Initials*	Cite No	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, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Wikipedia (R) download for article title "Better Place", http://en.wikipedia.org/wiki/Better_Place, dated December 12, 2013; 14 pps	
	2	Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated December 15,2011; 9 pps.	
	3	Final Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated March 29, 2012; 9 pps.	
	4	Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated January 7, 2013; 17 pps.	

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Receipt date: 09/22/2020

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	Filing Date	2020-09-04
	First Named Inventor	Ambroziak
	Art Unit	3649
	Examiner Name	Not Yet Known
	Attorney Docket Number	CF01-001-02-02

	5	Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated August 12, 2013; 15 pps.	
	6	Final Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated February 3, 2014; 21 pps.	
	7	Notice of Allowance for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated October 30, 2017; 7 pps.	
	8	Website: The Tesla Roadster (first generation) Drive Zero Car Guide - Drive Zero "https://www.drivezero.com.au/cars/tesla/tesla-car-guides/tesla-roadster-1-guide/" download date 10/21/2019; 21 pps	
	9	Office Action for Application No. 15/848,017 (Attorney Docket No. CF01-001-02-01) dated January 17, 2020; 21 pps.	
	10	Notice of Allowance or Application No. 15/848,017 (Attorney Docket No. CF01-001-02-01) dated September 21, 2020; 16 pps.	

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EXAMINER SIGNATURE

Examiner Signature	/IGOR N BORISSOV/ (11/27/2020)	Date Considered	11/27/2020

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

ALL REFERENCES CONSIDERED EXCEPT WHERE LINED THROUGH. /I.N.B/

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	17012325
Filing Date	2020-09-04
First Named Inventor	Ambroziak
Art Unit	3649
Examiner Name	Not Yet Known
Attorney Docket Number	CF01-001-02-02

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Carson C.K. Fincham, Reg.#54096/	Date (YYYY-MM-DD)	2020-09-22
Name/Print	Carson C.K. Fincham	Registration Number	54096

This collection of information is required by 37 CFR 1.97 and 1.98. 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 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.**

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3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

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
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PATENT APPLICATION FEE DETERMINATION RECORD Substitute for Form PTO-875	Application or Docket Number 17/012,325	Filing Date 09/04/2020	☐ To be Mailed

ENTITY: ☑ LARGE ☐ SMALL ☐ MICRO

APPLICATION AS FILED - PART I

	(Column 1)	(Column 2)			
FOR	NUMBER FILED	NUMBER EXTRA		RATE ($)	FEE ($)
☐ BASIC FEE (37 CFR 1.16(a), (b), or (c))	N/A	N/A		N/A	
☐ SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A		N/A	
☐ EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	minus 20 =	*		x $100 =	
INDEPENDENT CLAIMS (37 CFR 1.16(h))	minus 3 =	*		x $460 =	
☐ 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

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT	11/25/2020	CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	* 15	Minus	** 20	= 0		x $100 =	0
	Independent (37 CFR 1.16(h))	* 3	Minus	*** 3	= 0		x $480 =	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

		(Column 1)		(Column 2)	(Column 3)			
AMENDMENT		CLAIMS REMAINING AFTER AMENDMENT		HIGHEST NUMBER PREVIOUSLY PAID FOR	PRESENT EXTRA		RATE ($)	ADDITIONAL FEE ($)
	Total (37 CFR 1.16(i))	*	Minus	**	=		x $0 =	
	Independent (37 CFR 1.16(h))	*	Minus	***	=		x $0 =	
	☐ 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.	LDRC
** If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, enter "20".	/CARMEN D WILLIAMS/
*** 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.	

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

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

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

CUSTOMER NO.: 89411
Confirmation No.: 1035

Applicant:	Charge Fusion Technologies, LLC
Inventors:	AMBROZIAK *et al.*
Application No.:	17/012,325
Filed:	September 4, 2020
Title:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES

Attorney Docket No.: CF01-001-02-02

PRELIMINARY AMENDMENT

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

Prior to examining the claims in the present application please enter the following amendments and consider the following remarks.

Electronic Acknowledgement Receipt

EFS ID:	41231349
Application Number:	17012325
International Application Number:	
Confirmation Number:	1035
Title of Invention:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES
First Named Inventor/Applicant Name:	Jeffrey R. Ambroziak
Customer Number:	89411
Filer:	Carson C K Fincham
Filer Authorized By:	
Attorney Docket Number:	CF01-001-02-02
Receipt Date:	25-NOV-2020
Filing Date:	04-SEP-2020
Time Stamp:	17:23:46
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		CF01-001-02-02_AM_PRE_11-25-20.pdf	159371 53a06568197f2e0fcca146dded13609e320021b0	yes	6

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**
	Applicant Arguments/Remarks Made in an Amendment	6	6
	Claims	2	5
	Preliminary Amendment	1	1
Warnings:			
Information:			
	Total Files Size (in bytes):	159371	

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.

REMARKS

Claims **1-16** are currently pending in the present application. Claims **1**, **9**, and **14** are independent.

Upon entry of this preliminary amendment, claims **9-13** will be cancelled without prejudice or disclaimer and new claims **17-20** will be added.

Applicant respectfully submits that all claims are in condition for allowance and the Examiner's early consideration is respectfully requested.

If there remain any questions regarding the present application, the Examiner is cordially requested to contact Carson C.K. Fincham at telephone number (203) 438-6867 or via e-mail at cfincham@finchamdowns.com, upon the Examiner's convenience.

Fees and Petition for Extension of Time to Respond

While no fees are believed to be due at this time, please charge any additional fees that may be required for this Amendment to Fincham Downs, LLC Deposit Account No. 50-5363. Furthermore, should any extension of time be required, please grant such extension of time which may be required to make this Amendment timely, and please charge any fee for such an extension to Fincham Downs, LLC Deposit Account No. 50-5363.

Respectfully submitted,

November 25, 2020
Date

/Carson C.K. Fincham, Reg.#54096/
Carson C.K. Fincham
Registration No. 54,096
Fincham Downs LLC
Attorney for Applicant
cfincham@finchamdowns.com
(203) 438-6867 /voice
(203) 403-3068 /fax

AMENDMENT TO THE CLAIMS

1. (Original) An electrical charging system, comprising:

a communication device;

a processor in communication with the communication device; and

a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:

provide a user interface comprising: (i) a visual indication of an electric vehicle battery capacity, (ii) a visual indication of a current charge level of the electric vehicle battery, and (iii) an input element that permits an operator of the vehicle to provide input defining a desired charge amount of the electric vehicle;

receive, from the communication device and via the user interface, information indicative of one or more charging preferences corresponding to a desired charging of the electric vehicle, wherein the one or more charging preferences are defined by the operator of the vehicle and include an indication of the desired charge amount of the electric vehicle received via the input element that permits the operator of the vehicle to provide input defining the desired charge amount of the electric vehicle;

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a charging schedule for the vehicle; and

cause a charging, in accordance with the charging schedule, of the vehicle.

2. (Original) The electrical charging system of claim 1, wherein the input defining a desired amount of charge comprises an indication of desired distance of travel.

3. (Original) The electrical charging system of claim 1, wherein the input defining a desired amount of charge comprises an indication of a desired travel destination.

4. (Original) The electrical charging system of claim 1, wherein the processor is further configured to output an alert upon determining that it is not possible to charge the vehicle in accordance with the charging schedule.

5. (Original) The electrical charging system of claim 4, wherein outputting the alert further comprises displaying via the user output an indication determining that it is not possible to charge the vehicle in accordance with the charging schedule.

6. (Original) The electrical charging system of claim 4, wherein outputting the alert further comprises determining an updated charging schedule and causing a charging, in accordance with the updated charging schedule, of the vehicle.

7. (Original) The electrical charging system of claim 1, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity.

8. (Original) The electrical charging system of claim 1, wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load.

9-13. (Cancelled)

14. (Original) An electrical charging system of a vehicle, comprising:

a communication device;

a processor in communication with the communication device; and

a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:

receive, from the communication device, information indicative of one or more charging preferences corresponding to a desired charging of a vehicle, wherein the one or more charging preferences are defined by an operator of the vehicle;

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a current charge level of the vehicle and a desired distance of travel of the vehicle, a charging schedule

comprising at least one charging start time and at least one charge end time for the vehicle;

cause a charging, in accordance with the charging schedule, of the vehicle; and

output an indication of the charging schedule of the vehicle.

15. (Original) The electrical charging system of claim 14, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity.

16. (Original) The electrical charging system of claim 14, wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load.

17. (New) An electrical charging system, comprising:

one or more processing devices; and

a non-transitory memory device in communication with the one or more processing devices, the non-transitory memory storing instructions that when executed by the one or more processing devices, result in:

receiving information indicative of a starting location of an electric vehicle;

receiving information indicative of a desired destination of the electric vehicle;

computing, based at least on the starting location, the desired destination, and at least one of current availability of an electric charge provider and a location of the electric charge provider, a charging schedule for the electric vehicle; and

increasing, in accordance with the charging schedule, a level of charge of a battery of the electric vehicle.

18. (New) The electrical charging system of claim 17, wherein the received starting location and desired destination information is defined by a user of the electric vehicle via a graphical user interface adapted to display a vehicle charge indicator element comprising a first portion indicative of an amount of charge residing in a battery of the electric vehicle and a second portion indicative of an uncharged capacity of the battery of the electric vehicle and wherein the

vehicle charge indicator element further comprises a slider by which an amount of charge may be specified.

19. (New) The electrical charging system of claim 18, wherein the instructions, when executed by the one or more processing devices, further result in:

outputting, via the graphical user interface, the charging schedule.

20. (New) The electrical charging system of claim 18, wherein the instructions, when executed by the one or more processing devices, further result in:

identifying, based on the level of charge of the battery and an updated value of the at least one of current availability of the electric charge provider and the location of the electric charge provider, that the level of charge of the battery cannot be increased in accordance with the charging schedule; and

outputting, via the graphical user interface and in response to the identifying, an alert that the level of charge of the battery cannot be increased in accordance with the charging schedule.

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
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www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
17/012,325	09/04/2020	Jeffrey R. Ambroziak	CF01-001-02-02	1035

89411 7590 10/16/2020

Fincham Downs, LLC
90 Grove St.
Suite 205
Ridgefield, CT 06877

EXAMINER	
SPAR, ILANA L	

ART UNIT	PAPER NUMBER
3600	

NOTIFICATION DATE	DELIVERY MODE
10/16/2020	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):

ePAIR@finchamdowns.com

Decision Granting Request for Prioritized Examination (Track I)	**Application No.** 17/012,325	**Applicant(s)** Ambroziak et al.	
	Examiner CHERYL P GIBSON BAYLOR	**Art Unit** OPET	**AIA (FITF) Status** No

1. THE REQUEST FILED 04 September 2020 IS **GRANTED** .

The above-identified application has met the requirements for prioritized examination

A. ☑ for an original nonprovisional application (Track I).
B. ☐ for an application undergoing continued examination (RCE).

2. **The above-identified application will undergo prioritized examination**. The application will be accorded special status throughout its entire course of prosecution until one of the following occurs:

A. filing a **petition for extension of time** to extend the time period for filing a reply;

B. filing an **amendment to amend the application to contain more than four independent claims, more than thirty total claims** , or a multiple dependent claim;

C. filing a **request for continued examination** ;

D. filing a notice of appeal;

E. filing a request for suspension of action;

F. mailing of a notice of allowance;

G. mailing of a final Office action;

H. completion of examination as defined in 37 CFR 41.102; or

I. abandonment of the application.

Telephone inquiries with regard to this decision should be directed to CHERYL GIBSON BAYLOR at (571)272-3213. In his/her absence, calls may be directed to Petition Help Desk at (571) 272-3282.

/CHERYL GIBSON BAYLOR/ Paralegal Specialist, OPET	

PTO/SB/08a (03-15)
Approved for use through 07/31/2016. 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 contains a valid OMB control number.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(Not for submission under 37 CFR 1.99)

Application Number	17012325
Filing Date	2020-09-04
First Named Inventor	Ambroziak
Art Unit	3649
Examiner Name	Not Yet Known
Attorney Docket Number	CF01-001-02-02

U.S.PATENTS Remove

Examiner Initial*	Cite No	Patent Number	Kind Code[1]	Issue Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	7402978		2008-07-22	Pryor	
	2	7358701		2008-04-15	Field et al.	
	3	7778746		2010-08-17	McLeod et al.	
	4	4347472		1982-08-31	Lemelson	
	5	6618650		2003-09-09	Nakai et al.	
	6	5710502		1998-01-20	Pourmey	
	7	7698078		2010-04-13	Kelty et al.	
	8	6727708		2004-04-27	Dougherty	

If you wish to add additional U.S. Patent citation information please click the Add button. Add

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	17012325
	Filing Date	2020-09-04
	First Named Inventor	Ambroziak
	Art Unit	3649
	Examiner Name	Not Yet Known
	Attorney Docket Number	CF01-001-02-02

U.S.PATENT APPLICATION PUBLICATIONS						Remove
Examiner Initial*	Cite No	Publication Number	Kind Code[1]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear
	1	20090021385		2009-01-22	Kelty et al.	
	2	20090139781		2009-06-04	Straubel	
	3	20040010358		2004-01-15	Oesterling et al.	
	4	20030152088		2003-08-14	Kominami et al.	
	5	20080039989		2008-02-14	Pollack et al.	
	6	20090313174		2009-12-17	Hafner et al.	
	7	20110148356		2011-06-23	Lowenthal et al.	
	8	20090001927		2009-01-01	Stamos	
	9	20080162305		2008-07-03	Rousso	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	17012325
	Filing Date	2020-09-04
	First Named Inventor	Ambroziak
	Art Unit	3649
	Examiner Name	Not Yet Known
	Attorney Docket Number	CF01-001-02-02

	10	20090130965		2009-05-21	Galvez-Ramos et al.			
	11	20090189807		2009-07-30	Scalisi			

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FOREIGN PATENT DOCUMENTS Remove

Examiner Initial*	Cite No	Foreign Document Number[3]	Country Code[2] i	Kind Code[4]	Publication Date	Name of Patentee or Applicant of cited Document	Pages,Columns,Lines where Relevant Passages or Relevant Figures Appear	T[5]
	1							

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NON-PATENT LITERATURE DOCUMENTS Remove

Examiner Initials*	Cite No	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, pages(s), volume-issue number(s), publisher, city and/or country where published.	T[5]
	1	Wikipedia (R) download for article title "Better Place", http://en.wikipedia.org/wiki/Better_Place, dated December 12, 2013; 14 pps	
	2	Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated December 15,2011; 9 pps.	
	3	Final Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated March 29, 2012; 9 pps.	
	4	Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated January 7, 2013; 17 pps.	

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	17012325
	Filing Date	2020-09-04
	First Named Inventor	Ambroziak
	Art Unit	3649
	Examiner Name	Not Yet Known
	Attorney Docket Number	CF01-001-02-02

	5	Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated August 12, 2013; 15 pps.	
	6	Final Office Action for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated February 3, 2014; 21 pps.	
	7	Notice of Allowance for Application No. 12/502,041 (Attorney Docket No. CF01-001-02) dated October 30, 2017; 7 pps.	
	8	Website: The Tesla Roadster (first generation) Drive Zero Car Guide - Drive Zero "https://www.drivezero.com.au/cars/tesla/tesla-car-guides/tesla-roadster-1-guide/" download date 10/21/2019; 21 pps	
	9	Office Action for Application No. 15/848,017 (Attorney Docket No. CF01-001-02-01) dated January 17, 2020; 21 pps.	
	10	Notice of Allowance or Application No. 15/848,017 (Attorney Docket No. CF01-001-02-01) dated September 21, 2020; 16 pps.	

If you wish to add additional non-patent literature document citation information please click the Add button Add

EXAMINER SIGNATURE

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through a citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1] See Kind Codes of USPTO Patent Documents at www.USPTO.GOV or MPEP 901.04. [2] Enter office that issued the document, by the two-letter code (WIPO Standard ST.3). [3] For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [4] Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST.16 if possible. [5] Applicant is to place a check mark here if English language translation is attached.

INFORMATION DISCLOSURE STATEMENT BY APPLICANT (Not for submission under 37 CFR 1.99)		
	Application Number	17012325
	Filing Date	2020-09-04
	First Named Inventor	Ambroziak
	Art Unit	3649
	Examiner Name	Not Yet Known
	Attorney Docket Number	CF01-001-02-02

CERTIFICATION STATEMENT

Please see 37 CFR 1.97 and 1.98 to make the appropriate selection(s):

That each item of information contained in the information disclosure statement 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 the information disclosure statement. See 37 CFR 1.97(e)(1).

OR

☐ That no item of information contained in the information disclosure statement was cited in a communication from a foreign patent office in a counterpart foreign application, and, to the knowledge of the person signing the certification after making reasonable inquiry, no item of information contained in the information disclosure statement was known to any individual designated in 37 CFR 1.56(c) more than three months prior to the filing of the information disclosure statement. See 37 CFR 1.97(e)(2).

See attached certification statement.

The fee set forth in 37 CFR 1.17 (p) has been submitted herewith.

☒ A certification statement is not submitted herewith.

SIGNATURE

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

Signature	/Carson C.K. Fincham, Reg.#54096/	Date (YYYY-MM-DD)	2020-09-22
Name/Print	Carson C.K. Fincham	Registration Number	54096

This collection of information is required by 37 CFR 1.97 and 1.98. 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 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.**

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 record s.

2. A record from this system of records may be disclosed, as a routine use, in the course of presenting evidence to a court, magistrate, or administrative tribunal, including disclosures to opposing counsel in the course of settlement negotiations.

3. A record in this system of records may be disclosed, as a routine use, to a Member of Congress submitting a request involving an individual, to whom the record pertains, when the individual has requested assistance from the Member with respect to the subject matter of the record.

4. A record in this system of records may be disclosed, as a routine use, to a contractor of the Agency having need for the information in order to perform a contract. Recipients of information shall be required to comply with the requirements of the Privacy Act of 1974, as amended, pursuant to 5 U.S.C. 552a(m).

5. A record related to an International Application filed under the Patent Cooperation Treaty in this system of records may be disclosed, as a routine use, to the International Bureau of the World Intellectual Property Organization, pursuant to the Patent Cooperation Treaty.

6. A record in this system of records may be disclosed, as a routine use, to another federal agency for purposes of National Security review (35 U.S.C. 181) and for review pursuant to the Atomic Energy Act (42 U.S.C. 218(c)).

7. A record from this system of records may be disclosed, as a routine use, to the Administrator, General Services, or his/her designee, during an inspection of records conducted by GSA as part of that agency's responsibility to recommend improvements in records management practices and programs, under authority of 44 U.S.C. 2904 and 2906. Such disclosure shall be made in accordance with the GSA regulations governing inspection of records for this purpose, and any other relevant (i.e., GSA or Commerce) directive. Such disclosure shall not be used to make determinations about individuals.

8. A record from this system of records may be disclosed, as a routine use, to the public after either publication of the application pursuant to 35 U.S.C. 122(b) or issuance of a patent pursuant to 35 U.S.C. 151. Further, a record may be disclosed, subject to the limitations of 37 CFR 1.14, as a routine use, to the public if the record was filed in an application which became abandoned or in which the proceedings were terminated and which application is referenced by either a published application, an application open to public inspections or an issued patent.

9. A record from this system of records may be disclosed, as a routine use, to a Federal, State, or local law enforcement agency, if the USPTO becomes aware of a violation or potential violation of law or regulation.

Electronic Acknowledgement Receipt

EFS ID:	40625432
Application Number:	17012325
International Application Number:	
Confirmation Number:	1035
Title of Invention:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES
First Named Inventor/Applicant Name:	Jeffrey R. Ambroziak
Customer Number:	89411
Filer:	Carson C K Fincham/Limor Bredmehl
Filer Authorized By:	Carson C K Fincham
Attorney Docket Number:	CF01-001-02-02
Receipt Date:	22-SEP-2020
Filing Date:	04-SEP-2020
Time Stamp:	11:36:29
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	Transmittal Letter	CF01-001-02-02_IDS-TR_2020-09-22.pdf	102823 65acf83925f2545768922cc767ca7cf287dcf04b	no	2

Warnings:

Information:					
2	Information Disclosure Statement (IDS) Form (SB08)	CF01-001-02-02_IDS_2020-09-22.pdf	1036173 406f495f618bb424c3530836ff91ed77b75e729b	no	6
Warnings:					
Information:					
3	Non Patent Literature	Better-Place_NPL-REF1.pdf	1415736 b215b7fac1bcb560495ba4f702604b9692004182	no	14
Warnings:					
Information:					
4	Non Patent Literature	OA_2011-12-15_NPL-REF2.pdf	298298 fec4e6556978046369d7247a0741f1b3a6ca3b93	no	9
Warnings:					
Information:					
5	Non Patent Literature	FOA_2012-03-29_NPL-REF3.pdf	312971 9b353ba090b1a854502fff102b615f6fccdbc2da	no	9
Warnings:					
Information:					
6	Non Patent Literature	OA_2013-01-07_NPL-REF4.pdf	611669 5c1917105371ea2fb1cf508b47fc83c94ba8501d	no	17
Warnings:					
Information:					
7	Non Patent Literature	OA_2013--08-12_NPL-REF5.pdf	498830 fbe9bc45c425112c238f97817ec49c4feb04a3c9	no	15
Warnings:					
Information:					
8	Non Patent Literature	FOA_2014-02-03_NPL-REF6.pdf	763545 ca2e81ac4086d644051a8bd161fc1a45dad9b274	no	21
Warnings:					
Information:					

9	Non Patent Literature	NOA_2017-10-30_NPL-REF7.pdf	402598 51014f3511f8108d805086c030ecbe3207052d1b	no	7
Warnings:					
Information:					
10	Non Patent Literature	Tesla-Roadster_NPL-REF8.pdf	1909950 26755b875db7f2c2411f21fa1f805cfae659ba2b	no	21
Warnings:					
Information:					
11	Non Patent Literature	OA_2020-01-17_NPL-REF9.pdf	14958422 3964849d350a1cced6b3e7023ee070cbb0243390	no	21
Warnings:					
Information:					
12	Non Patent Literature	NOA_2020-09-21_NPL-REF10.pdf	11397678 e16e44cc5af6ed0bf3cd6b2e577bad40dfb7d346	no	16
Warnings:					
Information:					
		Total Files Size (in bytes):	33708693		

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

<u>New Applications Under 35 U.S.C. 111</u>
If a new application is being filed and the application includes the necessary components for a filing date (see 37 CFR 1.53(b)-(d) and MPEP 506), a Filing Receipt (37 CFR 1.54) will be issued in due course and the date shown on this Acknowledgement Receipt will establish the filing date of the application.
<u>National Stage of an International Application under 35 U.S.C. 371</u>
If a timely submission to enter the national stage of an international application is compliant with the conditions of 35 U.S.C. 371 and other applicable requirements a Form PCT/DO/EO/903 indicating acceptance of the application as a national stage submission under 35 U.S.C. 371 will be issued in addition to the Filing Receipt, in due course.
<u>New International Application Filed with the USPTO as a Receiving Office</u>
If a new international application is being filed and the international application includes the necessary components for an international filing date (see PCT Article 11 and MPEP 1810), a Notification of the International Application Number and of the International Filing Date (Form PCT/RO/105) will be issued in due course, subject to prescriptions concerning national security, and the date shown on this Acknowledgement Receipt will establish the international filing date of the application.

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

CUSTOMER NO.: 89411
Confirmation No.: 1035

Applicant: Charge Fusion Technologies, LLC
Inventors: AMBROZIAK *et al.*
Application No.: 17/012,325
Filed: September 4, 2020
Title: SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES

Attorney Docket No.: CF01-001-02-02

Group Art Unit: 3649
Examiner: Not Yet Known

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

TRANSMITTAL of
INFORMATION DISCLOSURE STATEMENT

Applicant submits herewith patents, publications or other information of which they are aware that they believe may be material to the examination of this application, and in respect of which, there may be a duty to disclose.

The filing of this information disclosure statement shall not be construed as (i) a representation that a thorough search has been made; (ii) an admission that the information cited is, or is considered to be, material to patentability; (iii) an admission that no other material information exists; or (iv) an admission that Applicant agrees with any statement(s) in the information cited. Nor shall the filing of this information disclosure statement be construed as an admission against interest in any manner.

This Information Disclosure Statement is filed in accordance with 37 C.F.R. §§1.56, 1.97 and 1.98. The items listed on the accompanying Information Disclosure Statement (IDS) may be deemed to be pertinent to the above-identified application and are made of record to assist the Patent and Trademark Office in examination of this application. The Examiner is respectfully

requested to fully consider the items listed on the enclosed copy of the IDS and to independently ascertain their teaching.

Fees

No fee is believed to be due under 37 C.F.R. § 1.17(p) for this Information Disclosure Statement since it is being filed in compliance with 37 C.F.R. §1.97(b)(3), before the mailing of a first Office Action on the merits.

The Commissioner is hereby authorized to charge any additional fees which may be required for the IDS, or credit any overpayment to Fincham Downs, LLC Deposit Account No. 50-5363.

Respectfully submitted,

September 22, 2020
Date

/Carson C.K. Fincham, Reg.#54096/
Carson C.K. Fincham
PTO Registration No. 54,096
Fincham Downs, LLC
Attorneys for Applicant
203.438.6867/phone
203.403.3068/fax
cfincham@finchamdowns.com

PATENT APPLICATION FEE DETERMINATION RECORD

Substitute for Form PTO-875

Application or Docket Number: 17/012,325

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	75		N/A	
SEARCH FEE (37 CFR 1.16(k), (i), or (m))	N/A	N/A	N/A	330		N/A	
EXAMINATION FEE (37 CFR 1.16(o), (p), or (q))	N/A	N/A	N/A	380		N/A	
TOTAL CLAIMS (37 CFR 1.16(i))	16 minus 20 =	*	x 50 =	0.00	OR		
INDEPENDENT CLAIMS (37 CFR 1.16(h))	3 minus 3 =	*	x 230 =	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	785		TOTAL	

APPLICATION AS AMENDED - PART II

		(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($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT A	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	

		(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($)	OTHER THAN SMALL ENTITY ADDITIONAL FEE($)
AMENDMENT B	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.

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
17/012,325	09/04/2020	2859	785	CF01-001-02-02	16	3

CONFIRMATION NO. 1035

89411
Fincham Downs, LLC
90 Grove St.
Suite 205
Ridgefield, CT 06877

FILING RECEIPT

OC000000120001329

Date Mailed: 09/18/2020

Receipt is acknowledged of this non-provisional utility 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 FIRST INVENTOR, 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 corrected Filing Receipt, including a properly marked-up ADS showing the changes with strike-through for deletions and underlining for additions. If you received a "Notice to File Missing Parts" or other Notice requiring a response for this application, please submit any request for correction 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 provided that the request is grantable.

Inventor(s)

Jeffrey R. Ambroziak, Guilford, CT;
Carson C.K. Fincham, Ridgefield, CT;

Applicant(s)

Charge Fusion Technologies, LLC, Ridgefield, CT;

Power of Attorney: None

Domestic Priority data as claimed by applicant

This application is a CON of 15/848,017 12/20/2017
which is a CON of 12/502,041 07/13/2009 PAT 9853488
which claims benefit of 61/134,646 07/11/2008

Foreign Applications for which priority is claimed (You may be eligible to benefit from the **Patent Prosecution Highway** program at the USPTO. Please see http://www.uspto.gov for more information.) - None.
Foreign application information must be provided in an Application Data Sheet in order to constitute a claim to foreign priority. See 37 CFR 1.55 and 1.76.

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.

If Required, Foreign Filing License Granted: 09/17/2020

The country code and number of your priority application, to be used for filing abroad under the Paris Convention, is **US 17/012,325**

Projected Publication Date: 12/24/2020

Non-Publication Request: No

Early Publication Request: No
**** SMALL ENTITY ****
Title

SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES

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.

PTO/SB/413C (05-11)
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 FIRST ACTION INTERVIEW (FULL PILOT PROGRAM)

Attorney Docket Number: CF01-001-02-02	Application Number (if known):	Filing date: September 4, 2020
First Named Inventor: Ambroziak	Title: SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES	

APPLICANT HEREBY REQUESTS A FIRST ACTION INTERVIEW IN THE ABOVE-IDENTIFIED APPLICATION. **See Instruction Sheet on page 2.**

1. The application must contain three (3) or fewer independent claims and twenty (20) or fewer total claims.

2. The application must not contain any multiple dependent claims.

3. By filing this request:

   Applicant is agreeing to make an election without traverse if the Office determines that the claims are not obviously directed to a single invention; and

   Applicant is agreeing not to request for a refund of the search fee and any excess claims fee paid in the application after the mailing or notification of the pre-interview communication prepared by the examiner.

4. Other attachments: _____

Signature /Carson C.K. Fincham, Reg.#54096/	Date September 4, 2020
Name (Print/Typed) Carson C.K. Fincham	Registration Number 54096

Note: *This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required, see below*.*

■ *Total of 1 forms are submitted.

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 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. **SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.**

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

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

Instruction Sheet for Request for First Action Interview (Full Pilot Program)

(Not to be Submitted to the USPTO)

A grantable request must meet the following conditions:

1. The application must be a new non-reissue utility application filed under 35 U.S.C. 111(a) or an international application that has entered the national stage in compliance with 35 U.S.C. 371(c).

2. The application must contain three (3) or fewer independent claims and twenty (20) or fewer total claims. The application may not contain any multiple dependent claims.

3. The request must be filed electronically using the Office's electronic filing system, EFS-Web.

4. The claims must be directed to a single invention. If the Office determines that the claims are directed to multiple inventions (*e.g.*, in a restriction requirement), the applicant must make an election without traverse.

5. The request must be filed at least one day before a first Office action on the merits of the application appears in the Patent Application Information Retrieval (PAIR) system (*i.e.*, at least one day prior to the date when a first Office action on the merits, notice of allowability or allowance, or action under Ex parte Quayle, 1935 Dec. Comm'r Pat. 11 (1935) appears in the PAIR system). Applicant may check the status of the application using the PAIR system.

6. The request for a first action interview must include a statement that applicant agrees not to file a request for a refund of the search fee and any excess claims fees paid in the application after the mailing or notification of the Pre-Interview Communication. Any petition for express abandonment under 37 CFR 1.138(d), and request for a refund of the search fee and any excess claims fees, filed after the mailing or notification of the Pre-Interview Communication will not be granted.

For more information, see notice "Full First Action Interview Pilot Program" available on the USPTO web site at http://www.uspto.gov/patents/init_events/faipp_full.jsp

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/14 (02-18)
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 contains a valid OMB control number.

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	CF01-001-02-02
	Application Number	
Title of Invention	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES	

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
Mr.	Jeffrey	R.	Ambroziak	

Residence Information (Select One) ● US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
Guilford	CT	US

Mailing Address of Inventor:

Address 1	563 Lake Drive
Address 2	
City	Guilford
State/Province	CT
Postal Code	06347
Country	US

Inventor 2 Remove

Legal Name

Prefix	Given Name	Middle Name	Family Name	Suffix
Mr.	Carson	C.K.	Fincham	

Residence Information (Select One) ◉ US Residency Non US Residency Active US Military Service

City	State/Province	Country of Residence
Ridgefield	CT	US

Mailing Address of Inventor:

Address 1	125 Florida Road
Address 2	
City	Ridgefield
State/Province	CT
Postal Code	06877
Country	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).

PTO/AIA/14 (02-18)
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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	CF01-001-02-02
	Application Number	
Title of Invention	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES	

☐ **An Address is being provided for the correspondence Information of this application.**

Customer Number	89411		
Email Address	docketing@finchamdowns.com	Add Email	Remove Email

Application Information:

Title of the Invention	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES		
Attorney Docket Number	CF01-001-02-02	**Small Entity Status Claimed**	☒
Application Type	Nonprovisional		
Subject Matter	Utility		
Total Number of Drawing Sheets (if any)	10	**Suggested Figure for Publication (if any)**	7

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	89411		

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	CF01-001-02-02
	Application Number	
Title of Invention	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES	

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	15848017	2017-12-20	
Prior Application Status	Patented			Remove
Application Number	Continuity Type	Prior Application Number	Filing Date (YYYY-MM-DD)	Patent Number	Issue Date (YYYY-MM-DD)
15848017	Continuation of	12/502041	2009-07-13	9853488	2017-12-26
Prior Application Status	Expired			Remove
Application Number	Continuity Type	Prior Application Number	Filing or 371(c) Date (YYYY-MM-DD)	
12/502041	Claims benefit of provisional	61/134646	2008-07-11	

Additional Domestic Benefit/National Stage Data may be generated within this form by selecting the **Add** button. Add

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)

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

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	CF01-001-02-02
	Application Number	
Title of Invention	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES	

☐ 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	CF01-001-02-02
	Application Number	
Title of Invention	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES	

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.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	CF01-001-02-02
	Application Number	
Title of Invention	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES	

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	Charge Fusion Technologies, LLC		
Mailing Address Information For Applicant:			
Address 1	64 Danbury Road, Suite 302		
Address 2			
City	Ridgefield	**State/Province**	CT
Country	US	Postal Code	06877
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.

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Application Data Sheet 37 CFR 1.76	Attorney Docket Number	CF01-001-02-02
	Application Number	
Title of Invention	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES	

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	/Carson C.K. Fincham, Reg.#54096/			Date (YYYY-MM-DD)	2020-09-04
First Name	Carson	Last Name	Fincham	Registration Number	54096

Additional Signature may be generated within this form by selecting the Add button. Add

Application Data Sheet 37 CFR 1.76	Attorney Docket Number	CF01-001-02-02
	Application Number	
Title of Invention	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES	

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.

COMBINED ASSIGNMENT OF RIGHTS, TITLE, AND INTEREST IN INVENTION AND DECLARATION (37 CFR 1.63) FOR UTILITY OR DESIGN APPLICATION USING AN APPLICATION DATA SHEET (37 CFR 1.76)

Attorney Docket No.: TL01-001-02-01

THIS AGREEMENT is made as of the last date of execution hereinafter, by and between:
Inventor(s) (Assignor(s)):**

#	Name	Address
1	Jeffrey R. Ambroziak	563 Lake Drive, Guilford, CT 06347
2	Carson C.K. Fincham	125 Florida Road, Ridgefield, CT 06877
3	--	--
4	--	--
5	--	--
6	--	--
7	--	--
8	--	--
9	--	--
10	--	--

and:

**any records denoted with "--" or "N/A", or otherwise not indicating an inventor name, are intentionally not utilized.

Assignee:

Name	Address
Charge Fusion Technologies, LLC	125 Florida Road Ridgefield, CT 06877 US

(collectively, the "Parties").

WHEREAS, Assignor(s) has invented certain new and useful improvements as described by:
Title of Invention:

SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES UTILIZING A TOUCH-SENSITIVE INTERFACE

and as described in: *(the "Application(s)" - check and provide details for all that apply)*

- ☑ United States Non-Provisional Patent Application Serial No(s).: 15/848,017
- ☐ United States Provisional Patent Application Serial No(s).:
- ☐ United States Patent No(s).:
- ☐ International Patent/Patent Application Serial No(s).:

(the "Invention"); and

WHEREAS, the undersigned Inventor(s) hereby declares, with respect to the Application(s), that:

(1) the Application(s) was made or authorized to be made by Inventor(s);

(2) Inventor(s) believes, with respect to any claims in the Application(s), that Inventor(s) is the original inventor or an original joint inventor of an invention claimed in the Application(s);

(3) Inventor(s) has reviewed and understands the contents of the Application(s), including any claims thereof;

(4) Inventor(s) acknowledges the duty to disclose information which is material to patentability as defined in 37 C.F.R. §1.56, including for continuation-in-part applications, material information which became available between the filing date of the prior application and the national or PCT international filing date of the continuation-in-part application; and

(5) all statements made herein Inventor(s)' own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements are made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment of not more than five (5) years, or both, under Section 1001 of Title 18 of the United States Code and that such willful false statements may jeopardize the validity of the above-identified application or any patent issued thereon; and

WHEREAS, Assignee is desirous of acquiring the entire right, title and interest in and to the Invention as set forth herein, and Assignor(s) wishes to transfer all such right, title, and interest in the Invention to Assignee;

NOW THEREFORE, in consideration of any promises, covenants, warranties, and other good and valuable consideration set forth herein or otherwise, receipt whereof being hereby acknowledged, the Parties agree as follows:

1. **Assignment.** Assignor(s) hereby assigns to Assignee, and its successors, representatives and assigns, the following Rights, Title, and Interests, including all rights to and in any and all income, royalties, damages and payments, injunctive and/or equitable relief, now or hereinafter due or payable with respect to: *(check all that apply)*

   ☑ United States of America Rights, Title, and Interest in the Invention, including any and all existing and future patent applications, continuation, divisional, PCT U.S. National stage, and/or reissue applications, and/or reexaminations thereof, and any and all Letters Patent issued there from, and any and all priority rights and/or other benefits accruing or to accrue with respect to the filing of patent applications or securing of patents in the United States and Territories thereof. Assignor(s) also hereby authorizes and requests that the Commissioner of the United States Patent and Trademark Office issue any United States Letters Patent that may issue for the Invention to the Assignee, as assignee of the whole right, title, and interest thereto.

   ☑ Non-U.S. Rights, Title, and Interest in the Invention, including any and all PCT patent applications, PCT Non-U.S. National stage applications, and any and all International Applications, Convention rights, and any and all priority rights and/or other benefits accruing or to accrue with respect to the filing of patent applications or securing of patents in Non-U.S. jurisdictions. Assignor(s) also authorizes the Assignee, its successors and assigns, or anyone it may properly designate, to apply for Letters Patent or similar legal protection (such as certificates of invention or utility models or other governmental grants or issuances), in its own name if desired, in any and all Non-U.S. jurisdictions.

   ☐ Other Rights (*please specify*):

2. **Assignor(s) Representations and Warranties.** Assignor(s) hereby represents and warrants that Assignor(s) has the legal right and authority to execute this Agreement and to validly assign the entire right, clear title, and interest in the Invention to Assignee. Assignor(s) further represents and warrants that Assignor(s) has not and shall not execute any writing or do any act whatsoever conflicting with this Agreement. Assignor(s) further warrants that the Assignor(s), the Assignor(s)'s executors or administrators, will at any time upon request, without additional consideration, but at the expense of the Assignee, its successors and assigns, execute, in a timely manner, such additional writings and do such additional acts as the Assignee, its successors and assigns, may deem desirable to perfect its enjoyment of this grant, and render all assistance in making application for and obtaining, maintaining, and enforcing any Patents or similar legal protection on the Invention in any and all jurisdictions as indicated herein.

3. **Counterparts.** This Agreement may be executed in multiple counterparts, each of which shall constitute an original and all of which, when taken together, shall constitute the single Agreement.

4. **Severability.** If any part of this Agreement shall be held unenforceable for any reason, the remainder of the Agreement shall continue in full force and effect. If any provision of this Agreement is deemed unenforceable by any court of competent jurisdiction, and if limiting such provision would make the provision valid, then such provision shall be deemed to be construed as so limited.

Signature Page(s) follows.

IN WITNESS THEREOF, the Parties have caused this Agreement to be executed as of the last day, month, and year indicated below.

Inventor(s) (Assignor(s)):

Inventor #	Name	Date	Signature
1	Jeffrey R. Ambroziak	19 Dec 17	/Jeffrey R. Ambroziak/
2	Carson C.K. Fincham	12/19/17	
3	---		
4	---		
5	---		
6	---		
7	---		
8	---		
9	---		
10	---		

Assignee:

Name and Title	Date	Signature
Carson C.K. Fincham, Member	12/19/17	

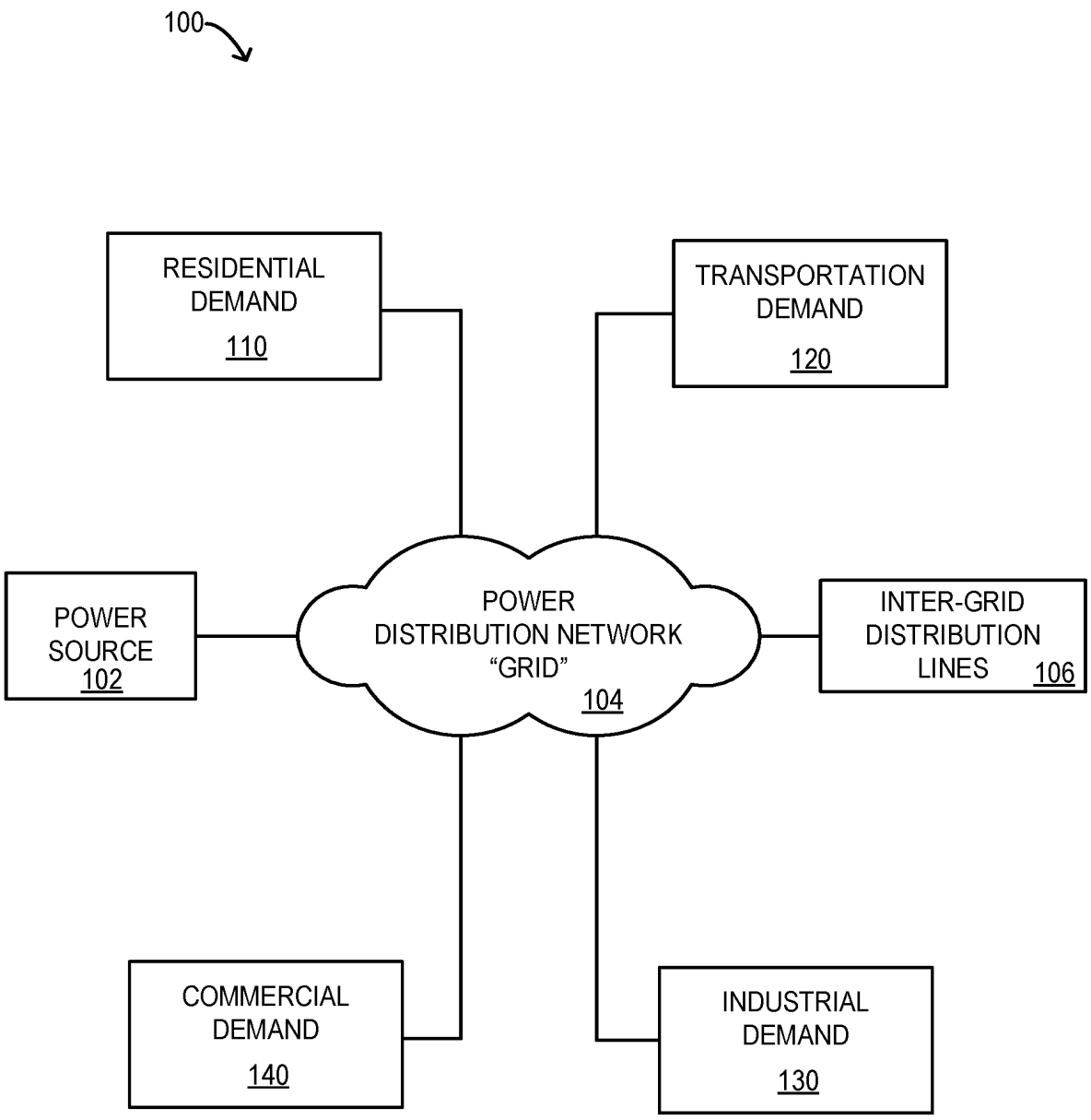

100
RESIDENTIAL DEMAND 110
TRANSPORTATION DEMAND 120
POWER SOURCE 102
POWER DISTRIBUTION NETWORK "GRID" 104
INTER-GRID DISTRIBUTION LINES 106
COMMERCIAL DEMAND 140
INDUSTRIAL DEMAND 130

FIG. 1

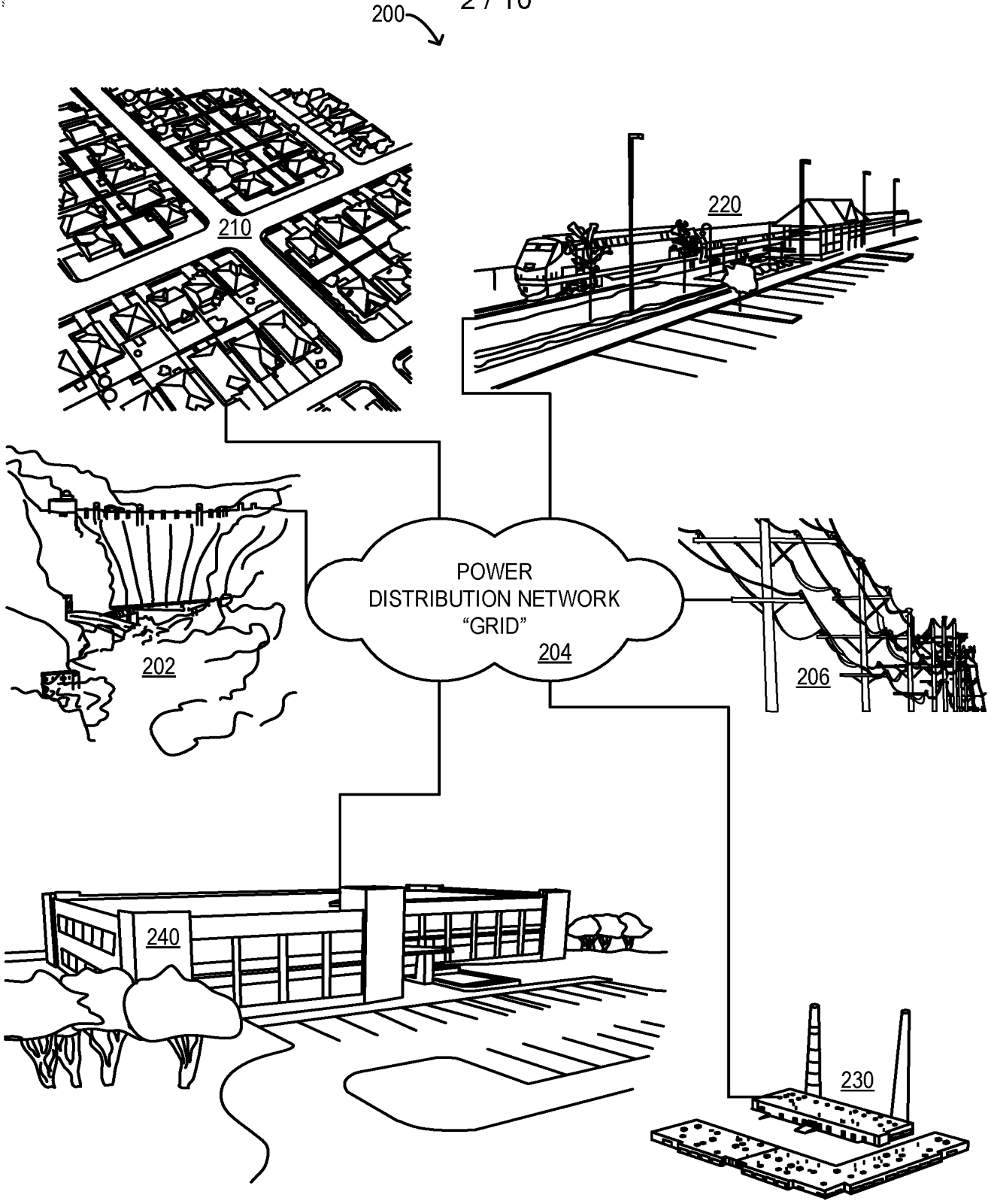

200
210
220
202
POWER
DISTRIBUTION NETWORK
"GRID"
204
206
240
230

FIG. 2

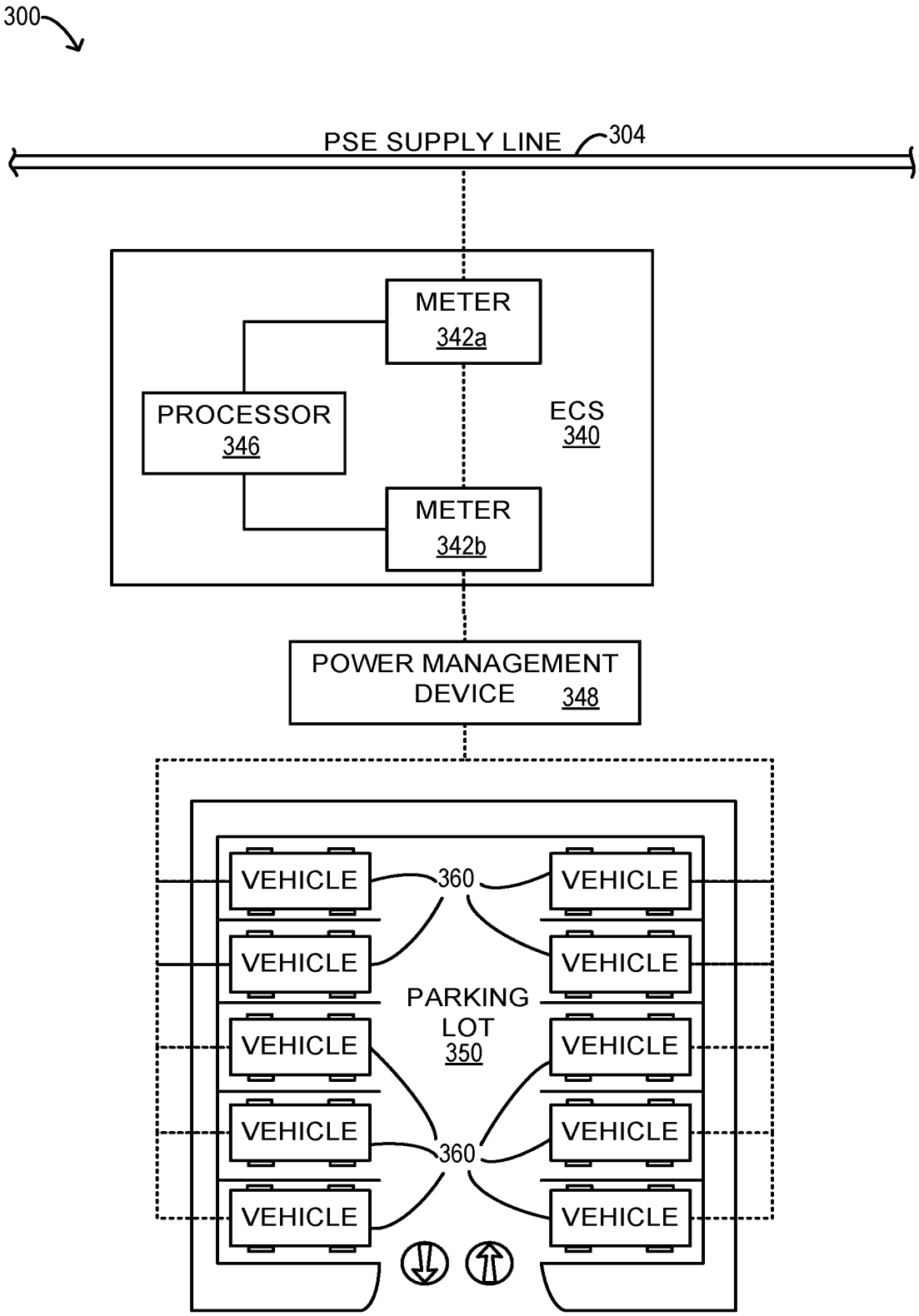

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ECS
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METER
342b
POWER MANAGEMENT
DEVICE
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360
VEHICLE
VEHICLE
VEHICLE
PARKING
LOT
350
VEHICLE
VEHICLE
VEHICLE
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360
VEHICLE
VEHICLE

FIG. 3

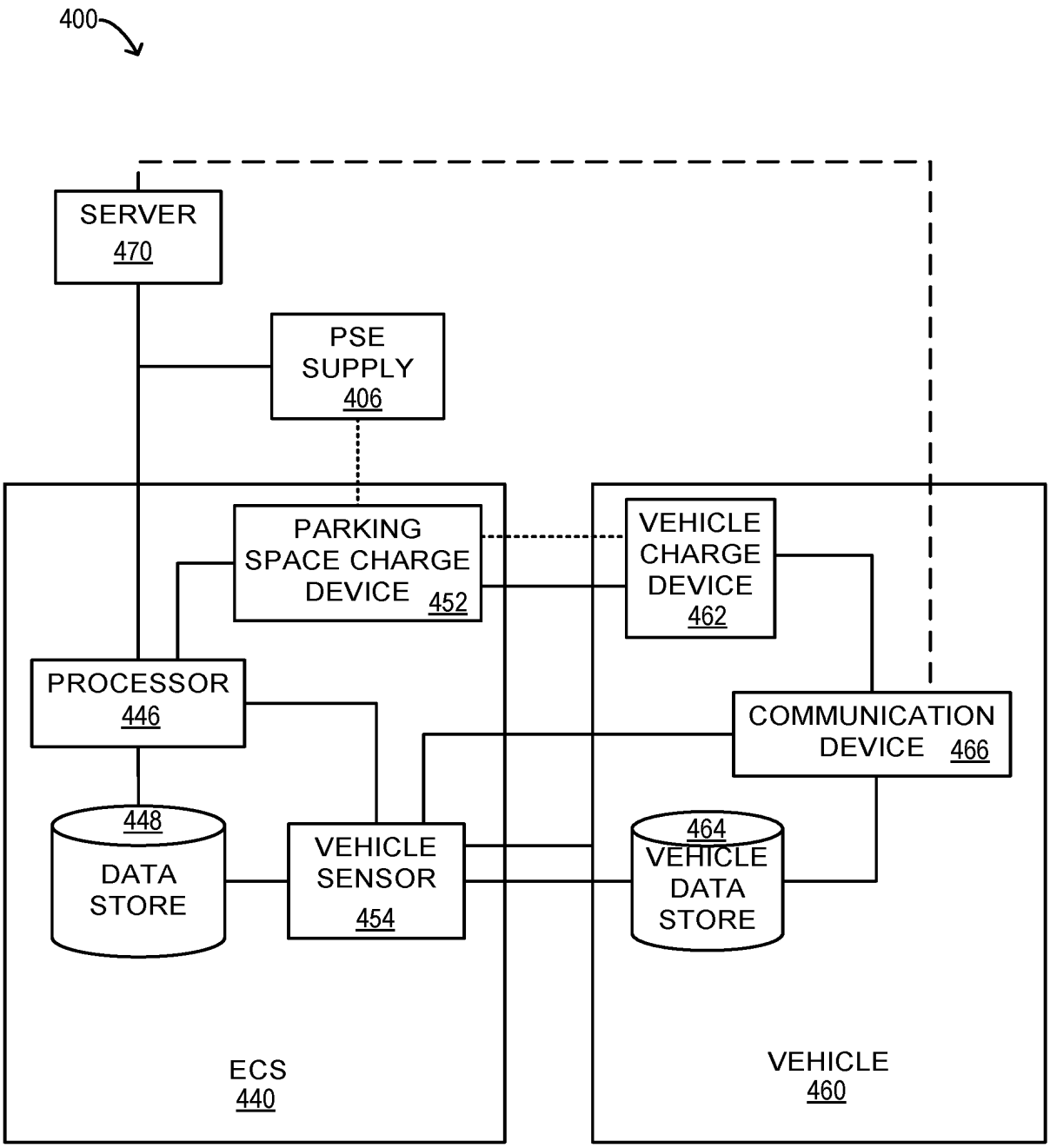

400
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PSE
SUPPLY
406
PARKING
SPACE CHARGE
DEVICE 452
VEHICLE
CHARGE
DEVICE
462
PROCESSOR
446
COMMUNICATION
DEVICE 466
448
DATA
STORE
VEHICLE
SENSOR
454
464
VEHICLE
DATA
STORE
ECS
440
VEHICLE
460

FIG. 4

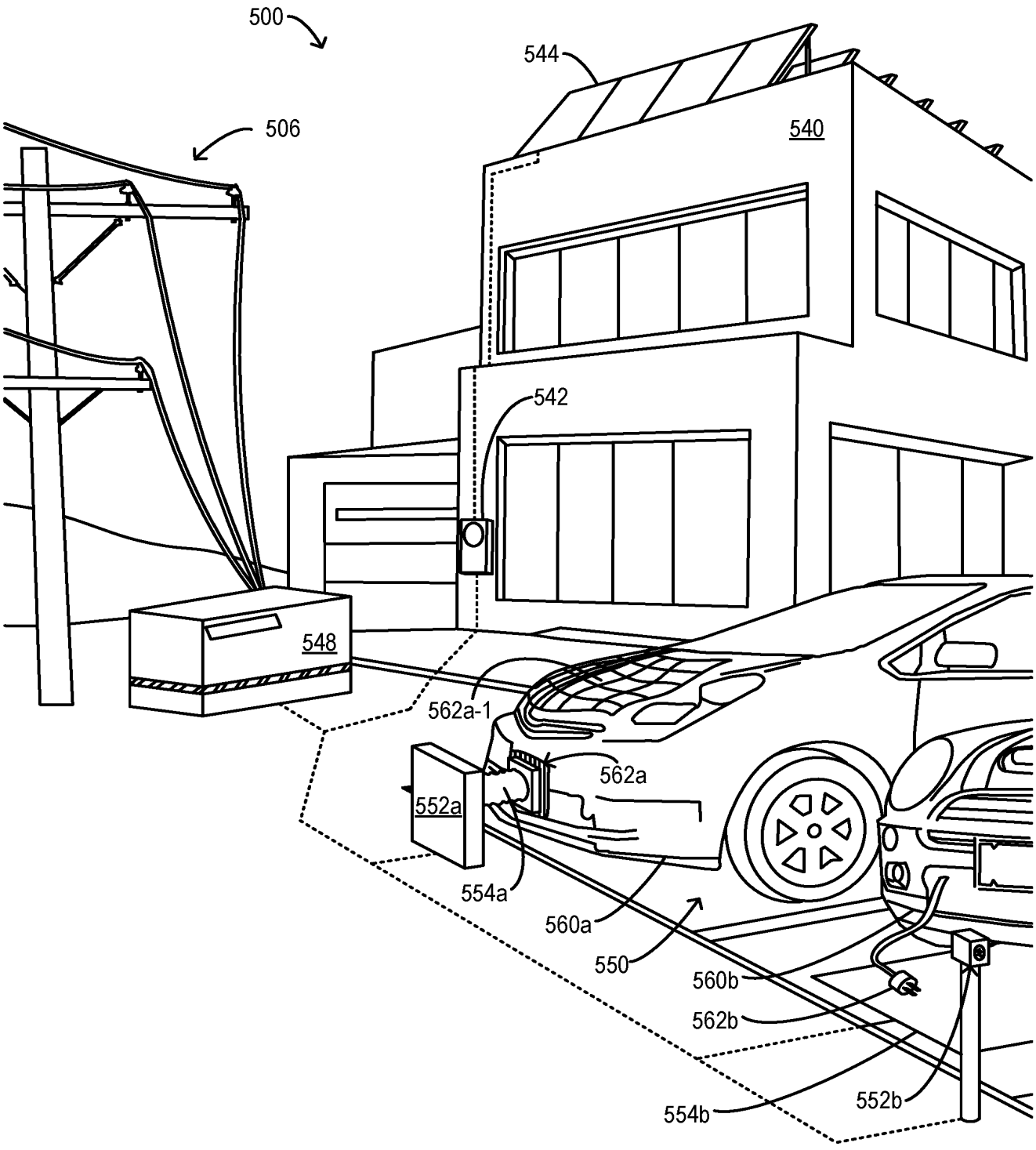

500
544
506
540
542
548
562a-1
562a
552a
554a
560a
550
560b
562b
552b
554b

FIG. 5

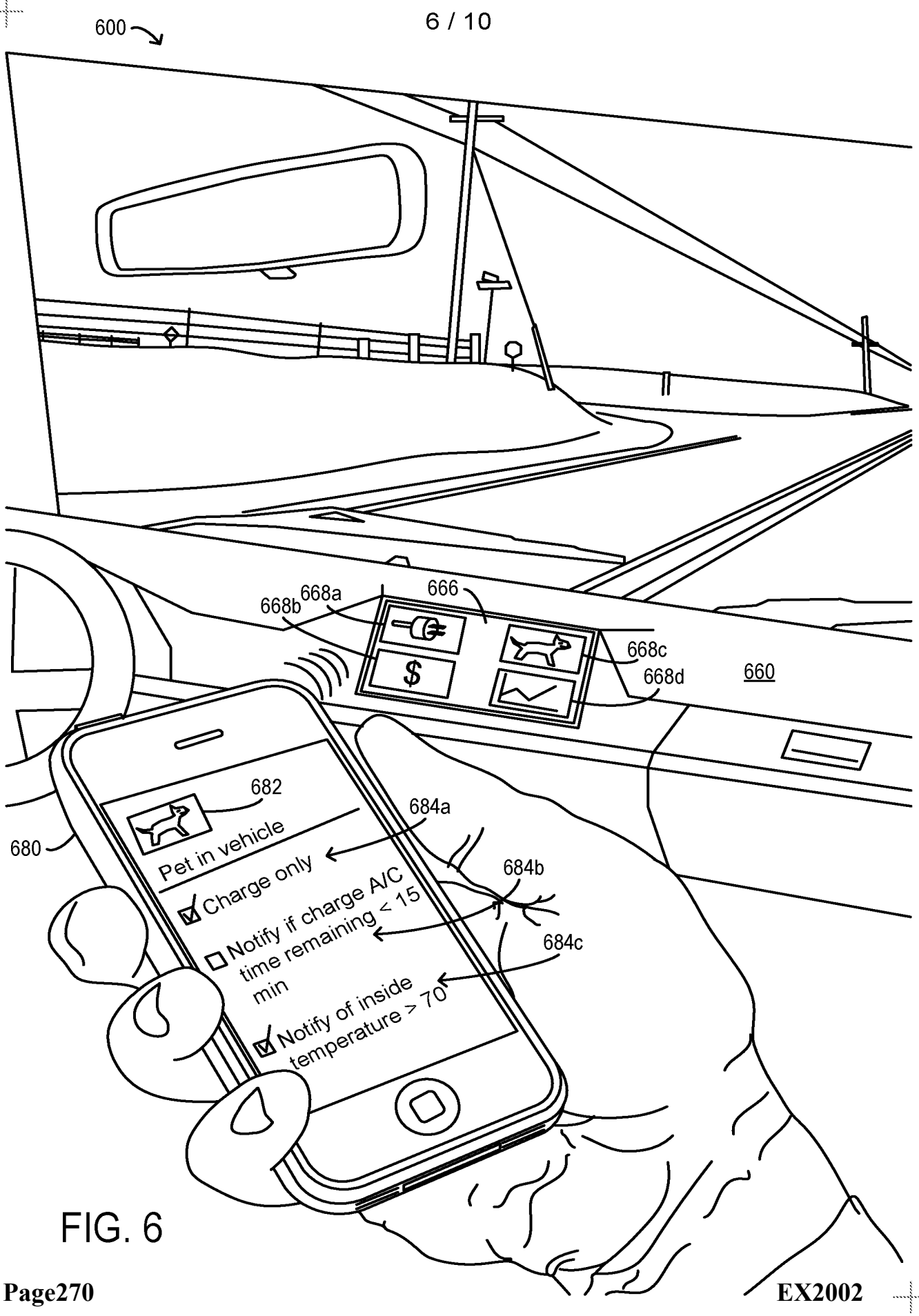

600
668b
668a
666
668c
668d
660
$
682
680
Pet in vehicle
684a
Charge only
684b
Notify if charge A/C time remaining < 15 min
684c
Notify of inside temperature > 70

FIG. 6

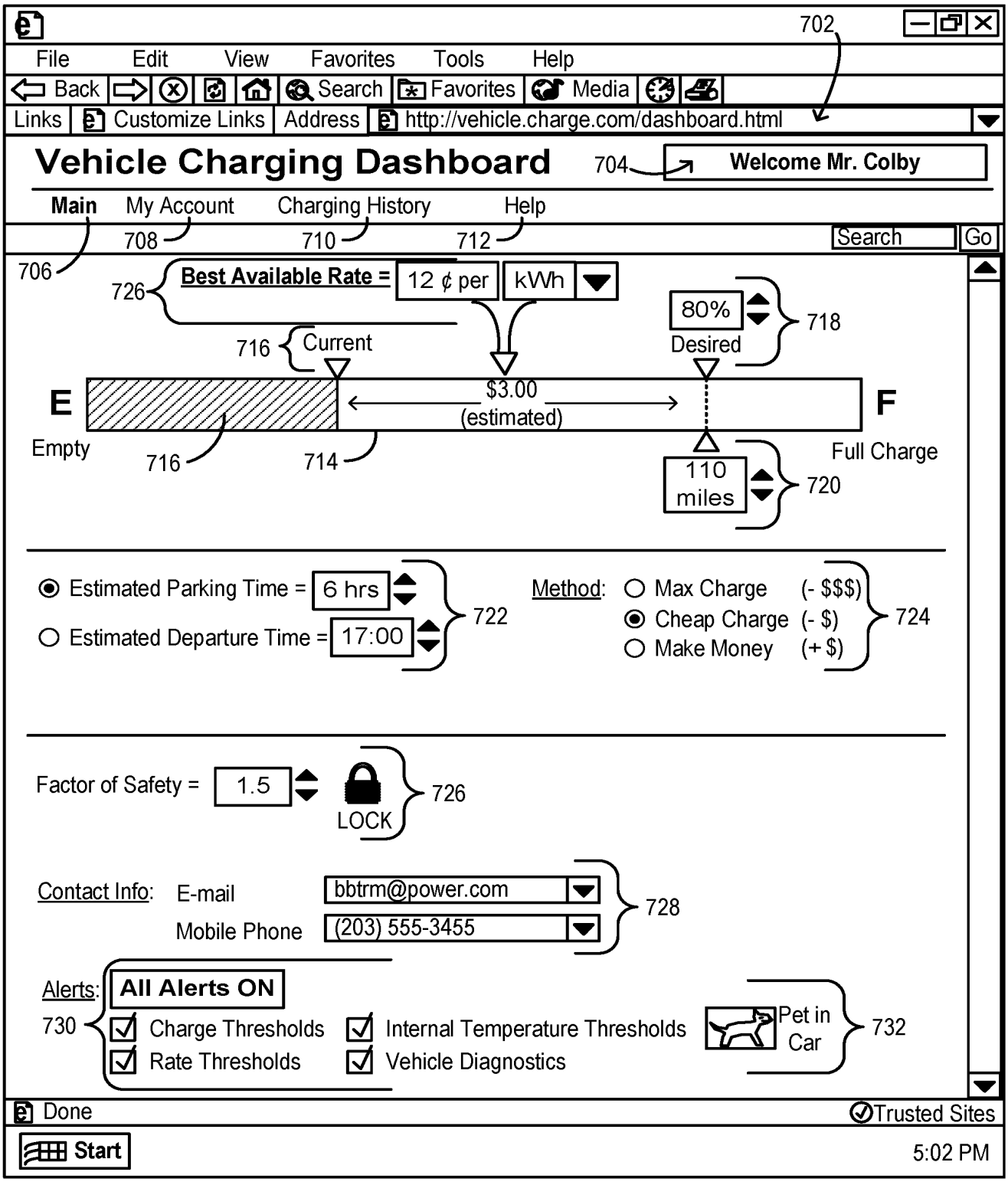

700
702
File Edit View Favorites Tools Help
Back Search Favorites Media
Links Customize Links Address http://vehicle.charge.com/dashboard.html
Vehicle Charging Dashboard
704
Welcome Mr. Colby
Main
My Account
Charging History
Help
706
708
710
712
Search
Go
726
Best Available Rate =
12 ¢ per
kWh
80%
Desired
718
716
Current
$3.00
(estimated)
E
Empty
F
Full Charge
716
714
110
miles
720
Estimated Parking Time =
6 hrs
Estimated Departure Time =
17:00
722
Method:
Max Charge (- $$$)
Cheap Charge (- $)
Make Money (+ $)
724
Factor of Safety =
1.5
LOCK
726
Contact Info:
E-mail
bbtrm@power.com
Mobile Phone
(203) 555-3455
728
Alerts:
All Alerts ON
730
Charge Thresholds
Internal Temperature Thresholds
Rate Thresholds
Vehicle Diagnostics
Pet in Car
732
Done
Trusted Sites
Start
5:02 PM

FIG. 7

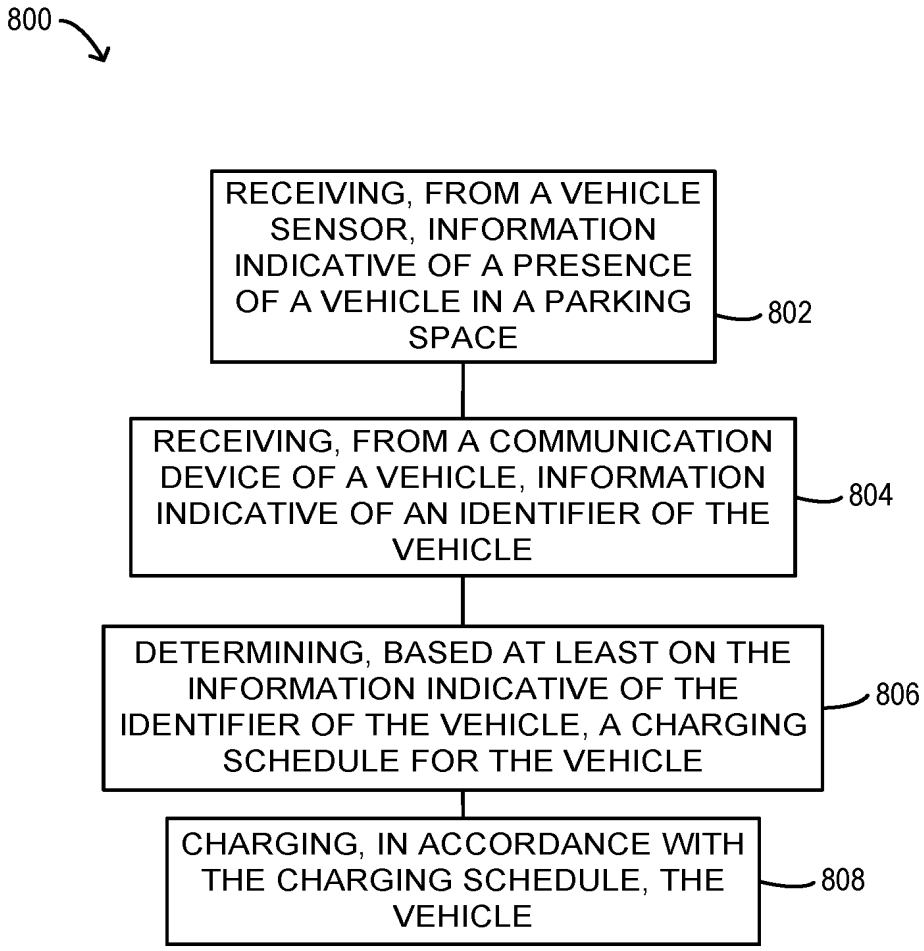

800
RECEIVING, FROM A VEHICLE SENSOR, INFORMATION INDICATIVE OF A PRESENCE OF A VEHICLE IN A PARKING SPACE
802
RECEIVING, FROM A COMMUNICATION DEVICE OF A VEHICLE, INFORMATION INDICATIVE OF AN IDENTIFIER OF THE VEHICLE
804
DETERMINING, BASED AT LEAST ON THE INFORMATION INDICATIVE OF THE IDENTIFIER OF THE VEHICLE, A CHARGING SCHEDULE FOR THE VEHICLE
806
CHARGING, IN ACCORDANCE WITH THE CHARGING SCHEDULE, THE VEHICLE
808

FIG. 8

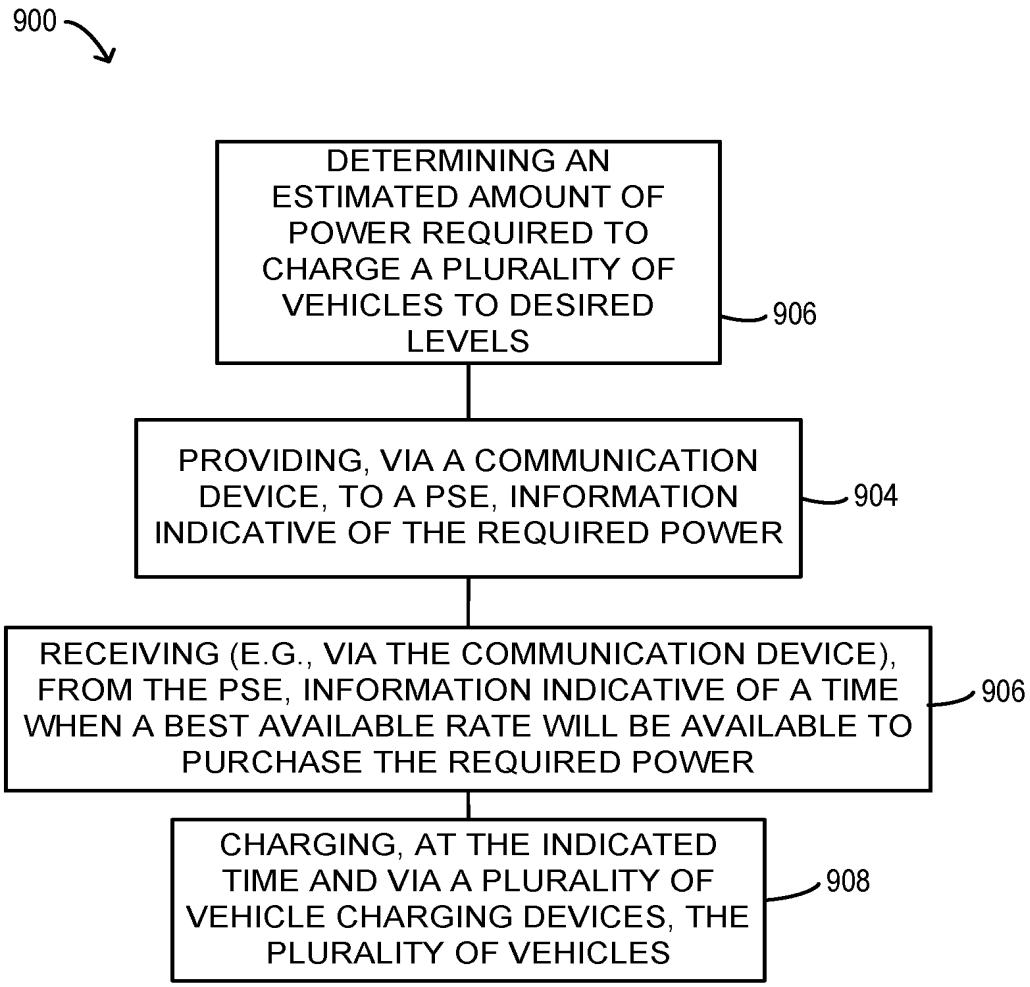

900
DETERMINING AN ESTIMATED AMOUNT OF POWER REQUIRED TO CHARGE A PLURALITY OF VEHICLES TO DESIRED LEVELS
906
PROVIDING, VIA A COMMUNICATION DEVICE, TO A PSE, INFORMATION INDICATIVE OF THE REQUIRED POWER
904
RECEIVING (E.G., VIA THE COMMUNICATION DEVICE), FROM THE PSE, INFORMATION INDICATIVE OF A TIME WHEN A BEST AVAILABLE RATE WILL BE AVAILABLE TO PURCHASE THE REQUIRED POWER
906
CHARGING, AT THE INDICATED TIME AND VIA A PLURALITY OF VEHICLE CHARGING DEVICES, THE PLURALITY OF VEHICLES
908

FIG. 9

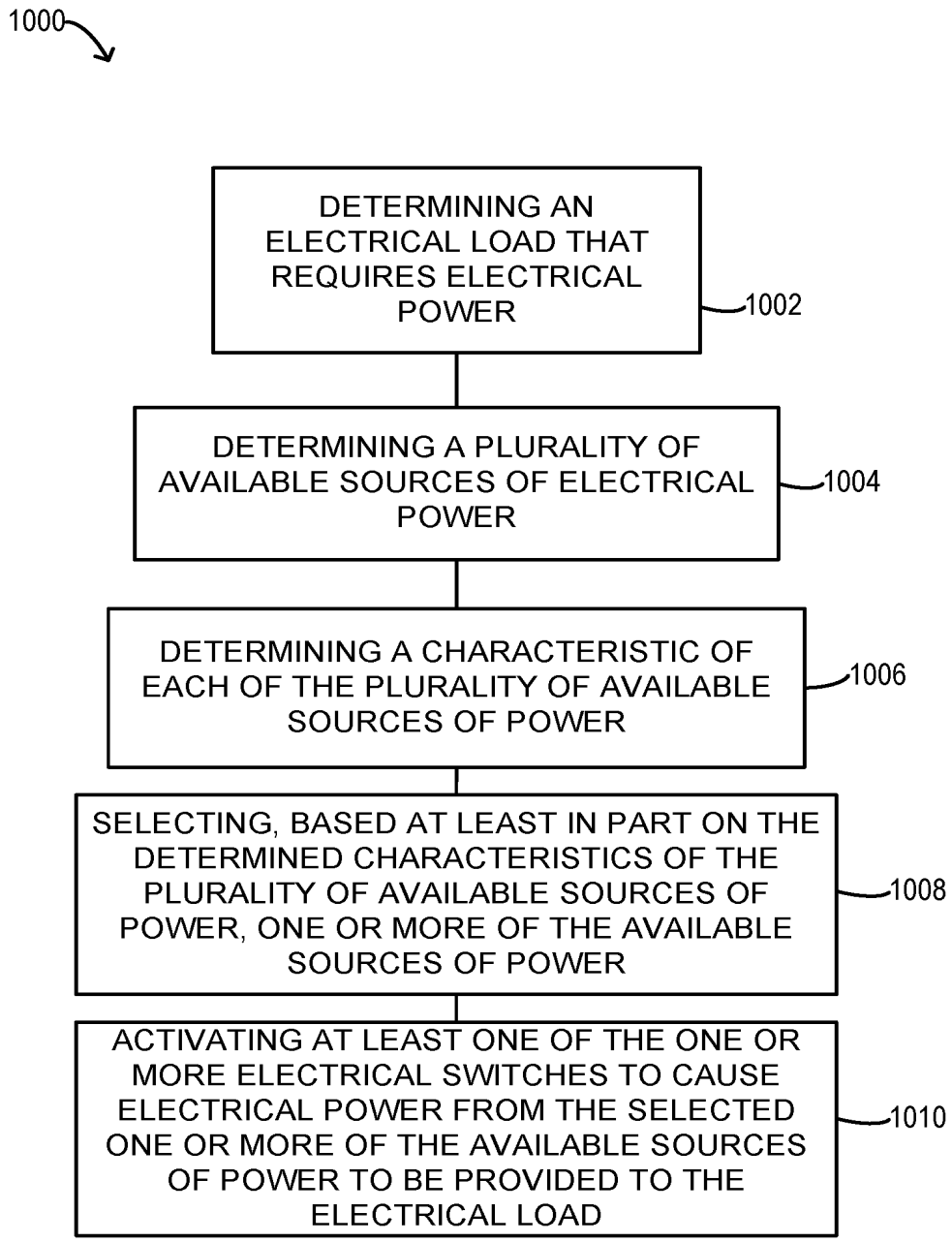

1000
DETERMINING AN ELECTRICAL LOAD THAT REQUIRES ELECTRICAL POWER
1002
DETERMINING A PLURALITY OF AVAILABLE SOURCES OF ELECTRICAL POWER
1004
DETERMINING A CHARACTERISTIC OF EACH OF THE PLURALITY OF AVAILABLE SOURCES OF POWER
1006
SELECTING, BASED AT LEAST IN PART ON THE DETERMINED CHARACTERISTICS OF THE PLURALITY OF AVAILABLE SOURCES OF POWER, ONE OR MORE OF THE AVAILABLE SOURCES OF POWER
1008
ACTIVATING AT LEAST ONE OF THE ONE OR MORE ELECTRICAL SWITCHES TO CAUSE ELECTRICAL POWER FROM THE SELECTED ONE OR MORE OF THE AVAILABLE SOURCES OF POWER TO BE PROVIDED TO THE ELECTRICAL LOAD
1010

FIG. 10

ABSTRACT

Systems and methods for charging electric vehicles and for quantitative and qualitative load balancing of electrical demand are provided.

What is claimed is:

1. An electrical charging system, comprising:

a communication device;

a processor in communication with the communication device; and

a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:

provide a user interface comprising: (i) a visual indication of an electric vehicle battery capacity, (ii) a visual indication of a current charge level of the electric vehicle battery, and (iii) an input element that permits an operator of the vehicle to provide input defining a desired charge amount of the electric vehicle;

receive, from the communication device and via the user interface, information indicative of one or more charging preferences corresponding to a desired charging of the electric vehicle, wherein the one or more charging preferences are defined by the operator of the vehicle and include an indication of the desired charge amount of the electric vehicle received via the input element that permits the operator of the vehicle to provide input defining the desired charge amount of the electric vehicle;

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a charging schedule for the vehicle; and

cause a charging, in accordance with the charging schedule, of the vehicle.

2. The electrical charging system of claim 1, wherein the input defining a desired amount of charge comprises an indication of desired distance of travel.

3. The electrical charging system of claim 1, wherein the input defining a desired amount of charge comprises an indication of a desired travel destination.

4. The electrical charging system of claim 1, wherein the processor is further configured to output an alert upon determining that it is not possible to charge the vehicle in accordance with the charging schedule.

5. The electrical charging system of claim 4, wherein outputting the alert further comprises displaying via the user output an indication determining that it is not possible to charge the vehicle in accordance with the charging schedule.

6. The electrical charging system of claim 4, wherein outputting the alert further comprises determining an updated charging schedule and causing a charging, in accordance with the updated charging schedule, of the vehicle.

7. The electrical charging system of claim 1, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity.

8. The electrical charging system of claim 1, wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load.

9. An electrical charging system, comprising:

a communication device;

a processor in communication with the communication device; and

a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:

receive, from the communication device, information indicative of one or more charging preferences corresponding to a desired charging of a vehicle, wherein the one or more charging preferences are defined by an operator of the vehicle;

determine, based at least on the one or more charging preferences, a factor of safety parameter, and at least one current value of a dynamic attribute of an electric charge provider, a charging schedule for the vehicle; and

cause a charging, in accordance with the charging schedule, of the vehicle.

10. The electrical charging system of claim 9, wherein the one or more charging preferences comprise the factor of safety parameter.

11. The electrical charging system of claim 9, wherein the factor of safety parameter comprises a value less than two.

12. The electrical charging system of claim 9, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity.

13. The electrical charging system of claim 9, wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load.

14. An electrical charging system of a vehicle, comprising:

a communication device;

a processor in communication with the communication device; and

a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:

receive, from the communication device, information indicative of one or more charging preferences corresponding to a desired charging of a vehicle, wherein the one or more charging preferences are defined by an operator of the vehicle;

determine, based at least on the one or more charging preferences and at least one current value of a dynamic attribute of an electric charge provider, a current charge level of the vehicle and a desired distance of travel of the vehicle, a charging schedule comprising at least one charging start time and at least one charge end time for the vehicle;

cause a charging, in accordance with the charging schedule, of the vehicle; and

output an indication of the charging schedule of the vehicle.

15. The electrical charging system of claim 14, wherein the dynamic attribute comprises at least one of: (i) a cost of providing electricity and (ii) an, expected future cost of providing electricity.

16. The electrical charging system of claim 14, wherein the dynamic attribute comprises at least one of: (i) a present electrical provider system load and (ii) an expected future electrical provider system load.

SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES

CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] The present Application claims benefit and priority under 35 U.S.C. §120 to, and is a Continuation of, U.S. Patent Application No. 15/848,017 filed on December 20, 2017 and titled "SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES UTILIZING A TOUCH-SENSITIVE INTERFACE", which itself claims benefit and priority to U.S. Patent Application No. 12/502,041 filed on July 13, 2009 and titled "SYSTEMS AND METHODS FOR ELECTRIC VEHICLE CHARGING AND POWER MANAGEMENT" which issued as U.S. Patent No. 9,853,488 on December 26, 2017 and which itself claims benefit and priority under 35 U.S.C. §119(e) to U.S. Provisional Patent Application Serial No. 61/134,646 filed July 11, 2008, entitled "SYSTEM AND METHOD OF DISTRIBUTION FOR CHARGING ELECTRIC VEHICLES", the entirety of each of which is incorporated by reference herein for all purposes.

BACKGROUND

[0002] Improvements in battery technology provide the potential of economically viable electric-powered modes of transportation including, but not limited to, automobiles, motorcycles, buses, etc. One oft cited drawback of such electrical vehicles is the need to plug them in regularly to replenish their electrical charge. First, such charging will likely require more time than is typically required to fill up an automobile with a petroleum based product. As a result, the owner of an electrical automobile must often times adhere to a schedule of charging that renders the automobile unusable for protracted stretches of time. In addition, there exists a resistance to performing the act of plugging in an automobile and subsequently unplugging the vehicle in order to maintain a charged vehicle.

BRIEF DESCRIPTION OF THE DRAWINGS

[0003] An understanding of embodiments described herein and many of the attendant advantages thereof may be readily obtained by reference to the following detailed description when considered with the accompanying drawings, wherein:

FIG. 1 is a block diagram of a system according to some embodiments;

FIG. 2 is a block diagram of a system according to some embodiments;

FIG. 3 is a block diagram of a system according to some embodiments;

FIG. 4 is a block diagram of a system according to some embodiments;

FIG. 5 is a perspective diagram of a system according to some embodiments;

FIG. 6 is a perspective diagram of a system according to some embodiments;

FIG. 7 is a diagram of an exemplary interface according to some embodiments;

FIG. 8 is a flow diagram of a method according to some embodiments;

FIG. 9 is a flow diagram of a method according to some embodiments; and

FIG. 10 is a flow diagram of a method according to some embodiments

DETAILED DESCRIPTION

I. Introduction

[0004] Applicant has recognized that, in some situations, it may be advantageous to intelligently charge vehicles. In some embodiments, for example, intelligent vehicle charging may comprise receiving (*e.g.*, from a vehicle sensor) information indicative of a presence of a vehicle in a parking space. Intelligent charging may also or alternatively comprise receiving (*e.g.*, from a communication device) information indicative of an identifier of the vehicle, determining, based at least on the information indicative of the identifier of the vehicle, a charging schedule for the vehicle, and/or charging, in accordance with the charging schedule, the vehicle.

[0005] Applicant has also recognized that, in some situations, it may be advantageous to provide intelligent quantitative load balancing for vehicle charging. In some embodiments, for example, intelligent quantitative load balancing for vehicle charging may comprise determining an estimated amount of power required to charge a plurality of vehicles to desired levels. Intelligent quantitative load balancing for vehicle charging may also or alternatively comprise providing (*e.g.*, via a communication device), to a Power Supplying Entity (PSE), information indicative of the required power, receiving (*e.g.*, via the communication device), from the PSE, information indicative of a time when a best available rate will be available to purchase the required power, and/or charging, at the indicated time and via a plurality of vehicle charging devices, the plurality of vehicles.

[0006] Applicant has further recognized that, in some situations, it may be advantageous to provide intelligent qualitative load balancing for electrical loads (*e.g.*, vehicle charging). In some embodiments, for example, intelligent qualitative load balancing for electrical loads may comprise determining an electrical load that requires electrical power, determining a plurality of available sources of electrical power, determining a characteristic of each of the plurality of available sources of power, selecting, based at least in part on the determined characteristics of the plurality of available sources of power, one or more of the available sources of power, and/or activating at least one of electrical switch to cause electrical power from the selected one or more of the available sources of power to be provided to the electrical load.

II. Terms and Definitions

[0007] Throughout the description that follows and unless otherwise specified, the following terms may include and/or encompass the example meanings provided in this section. These terms and illustrative example

meanings are provided to clarify the language selected to describe embodiments both in the specification and in the appended claims, and accordingly, are not intended to be limiting.

[0008] Some embodiments described herein are associated with a "Power Supplying Entity (PSE)". As used herein, the terms "power supplying entity" and "PSE" may generally be utilized interchangeably and may generally refer to any entity (*e.g.*, person, company, and/or organization or group) that is associated with the generation and/or provision, transmission, storage, and/or conversion of electrical energy. A PSE device may comprise any type of device associated with such generation and/or provision, transmission, storage, and/or conversion of electrical energy. Examples of PSE devices may include, but are not limited to, a power generation unit (*e.g.*, a gas, coal, oil, biomass, and/or solar boiler and/or generator), a power generation facility (*e.g.*, a hydroelectric facility), electric transmission lines, a transformer and/or inverter, a battery, a meter, and/or a capacitor.

[0009] Some embodiments described herein are associated with an "Electric Charging System (ECS)". As used herein, the terms "electric charging system" and "ECS" may generally be utilized interchangeably and may generally refer to any combination of hardware, software, firmware, and/or microcode that is operative to conduct, manage, schedule, and/or otherwise facilitate the charging of one or more vehicles. As utilized in some embodiments, an ECS may comprise a system configured to charge a plurality of vehicles (such as electric and/or hybrid-electric vehicles) parked in a parking lot and coupled to accept (*e.g.*, from the ECS and/or a component thereof) electrical power. In some embodiments, such vehicles may be coupled to accept electrical power from an ECS in a wired and/or wireless fashion.

[0010] As used herein, the term "electric vehicle" may generally refer to any vehicle that utilizes, stores, and/or provides electrical power (*e.g.*, buses, trains, cars, semi-trucks, ships, submarines, aircraft, dirt bikes, All Terrain Vehicles (ATV), scooters, and/or lawn mowers). Almost all typical vehicles comprise a battery, for example, and would thus qualify as "electric vehicles". Similarly, the term "electric car" as utilized herein may generally refer to any electric vehicle that may suitably be described as a car. This may include, in some embodiments, passenger cars of any size or class or configuration, passenger trucks such as pickup trucks, vans, etc. Some embodiments are more specifically directed to and/or may be particularly advantageously applied to certain types or classes of electric vehicles and/or electric cars. Electric-drive vehicles or "True Electric Cars (TEC)", for example, comprise a class of vehicles that derive power (and thus motion) by utilizing one or more electric motors. Some electric-drive vehicles may store energy for powering such motors in one or batteries (the typical configuration for a TEC). Some electric-drive vehicles may instead utilize power obtained from operation of a small internal combustion engine, fuel cell, or the like. This class of vehicle is typically referred to as a "hybrid" electric vehicle.

[0011] Some embodiments described herein are associated with a "control system". As used herein, the term "control system" may generally refer to any combination of hardware, software, firmware, and/or microcode that

is operative to carry out and/or facilitate embodiments described herein. For example, a control system may comprise a processor performing instructions of a program to facilitate intelligent vehicle charging. The control system may comprise, according to some embodiments, a single device and/or component or may comprise any practicable number of networked devices.

[0012] Some embodiments described herein are associated with a "network device". As used herein, the term "network device" may generally refer to any device that can communicate via a network. Examples of network devices include a PC, a workstation, a server, a printer, a scanner, a facsimile machine, a copier, a PDA, a storage device (*e.g.*, a disk drive), a hub, a router, a switch, and a modem or a wireless phone. In some embodiments, network devices may comprise one or more network components, such as a Static Random Access Memory (SRAM) device or module, a network processor, and/or a network communication path, connection, port, or cable. Some examples of network devices may include, but are not limited to, servers or controllers, customer devices, vehicles and/or vehicle components, input devices, output devices, and peripheral devices.

[0013] As used herein, the terms "server" and “controller” may be used interchangeably and may generally refer to any device that may communicate with one or more vehicles, PSE devices, ECS devices, one or more third-party servers, one or more remote controllers, one or more customer devices, one or more peripheral devices and/or other network nodes, and may be capable of relaying communications to and/or from each such device. A controller or server may, for example, comprise one or more network devices and/or components.

[0014] Some embodiments described herein are associated with an “input device”. As used herein, the term "input device" may generally refer to any device that is used to receive or process input. An input device may communicate with and/or be part of another device (*e.g.*, a wagering game device). Some examples of input devices include, but are not limited to: a button, a key, one or more softkeys and/or variable function input devices, a bar-code scanner, a magnetic stripe reader, a computer keyboard, a pointing device (*e.g.*, a computer mouse, touchpad, and/or trackball), a point-of-sale terminal keypad, a touch-screen, a microphone, an infrared sensor, a sonic ranger, a computer port, a video camera, a motion detector, an accelerometer, a thermometer, a digital camera, a network card, a Universal Serial Bus (USB) port, a Global Positioning System (GPS) receiver, a Radio Frequency IDentification (RFID) receiver, a RF receiver, a pressure sensor, and a weight scale or mass balance.

[0015] Some embodiments described herein are associated with an “output device”. As used herein, the term "output device" may generally refer to a device that is used to output information. An output device may communicate with and/or be part of another device. Some examples of output devices may include, but are not limited to: a Cathode Ray Tube (CRT) monitor, a Liquid Crystal Display (LCD) screen, a Light Emitting Diode (LED) screen, a printer, an audio speaker (or other sound or noise-producing device), an Infra-red Radiation (IR) transmitter, a RF transmitter, a vibration device, an olfactory emitter, and/or a data port.

[0016] It should be understood that some devices may function and/or operate as both input and output devices. A touch-sensitive display device (or "touch screen"), for example, may both receive input by receiving pressure and/or electrostatic indications via a display screen and may also provide output such as graphics, text, and/or other data via the same display screen.

[0017] Some embodiments herein are associated with "communication". As used herein, the term "communication" may refer to any information, data, and/or signal that is provided, transmitted, received, and/or otherwise processed by an entity, and/or that is shared or exchanged between two or more people, devices, and/or other entities. Communications may be external to one or more devices, internal (*e.g.*, within a device and/or component), wired, wireless, continuous, and/or intermittent. Communications may involve, for example, one or more of transmitting, receiving, relaying, processing, and/or otherwise interfacing with information and/or data. Some, but not all, possible communication networks that may be utilized for such communications include: a Local Area Network (LAN), a Wide Area Network (WAN), the Internet, a telephone line (*e.g.*, a Public Switched Telephone Network (PSTN)), a cable line, a radio channel, an optical communications line, and/or a satellite communications link. A variety of communications protocols may be utilized to facilitate and/or conduct such communications, including but not limited to: Ethernet (or IEEE 802.3), Internetwork Packet Exchange IPX), Service Advertising Protocol (SAP), Asynchronous Transfer Protocol (ATP), Bluetooth®, and/or Transmission Control Protocol (TCP)/Internet Protocol (IP). Communications may be encrypted to ensure privacy and prevent fraud in any of a variety of ways that are or become known or practicable.

[0018] Devices in communication with each other need not be continually transmitting to each other. On the contrary, such devices need only transmit to each other as necessary, and may actually refrain from exchanging data most of the time. For example, a device in communication with another device via the Internet may not transmit data to the other device for weeks at a time.

[0019] As used herein, the terms "information" and "data" may be used interchangeably and may refer to any data, text, voice, video, image, message, bit, packet, pulse, tone, waveform, and/or other type or configuration of signal and/or information. Information may be or include information packets transmitted, for example, in accordance with the IP Version 6 (IPv6) standard as defined by "Internet Protocol Version 6 (IPv6) Specification" RFC 1883, published by the Internet Engineering Task Force (IETF), Network Working Group, S. Deering et al. (December 1995). Information may, according to some embodiments, be compressed, encrypted, and/or otherwise packaged or manipulated in accordance with any method that is or becomes known or practicable.

[0020] In addition, some embodiments described herein are associated with an "indication". As used herein, the term "indication" may be used to refer to any indicia and/or other information indicative of or associated with a subject, item, entity, and/or other object and/or idea. As used herein, the phrases "information indicative of" and "indicia" may be used to refer to any information that represents, describes, and/or is otherwise associated

with a related entity, subject, or object. Indicia of information may include, for example, a code, a reference, a link, a signal, an identifier, and/or any combination thereof and/or any other informative representation associated with the information. In some embodiments, indicia of information (or indicative of the information) may be or include the information itself and/or any portion or component of the information. In some embodiments, an indication may include a request, a solicitation, a broadcast, and/or any other form of information gathering and/or dissemination.

[0021] As used herein, the term "coupled" may generally refer to any type or configuration of coupling that is or becomes known or practicable. Coupling may be descriptive, for example, of two or more objects, devices, and/or components that are communicatively coupled, mechanically coupled, electrically coupled, and/or magnetically coupled. The term "communicatively coupled" generally refers to any type or configuration of coupling that places two or more objects, devices, components, or portions, elements, or combinations thereof in communication. Mechanical, electrical, and magnetic communications are examples of such communications. The term "mechanically coupled" generally refers to any physical binding, adherence, attachment, and/or other form of physical contact between two or more objects, devices, components, or portions, elements, or combinations thereof.

[0022] The term "electrically coupled" indicates that one or more objects, devices, components, or portions, elements, or combinations thereof, are in electrical contact such that an electrical signal, pulse, or current (*e.g.*, electrical energy) is capable of passing between the one or more objects, enabling the objects to electrically communicate with one another. In some embodiments, electrical coupling may enable electrical energy to be transmitted wirelessly between two or more objects and/or devices. The term "magnetically coupled" indicates that one or more objects, devices, components, or portions, elements, or combinations thereof, are within one or more associated magnetic fields. Objects may be electrically and/or magnetically coupled without themselves being physically attached or mechanically coupled. For example, objects may communicate electrically through various wireless forms of communication or may be within (at least partially) a magnetic field, without being physically touching or even adjacent.

III. General Electrical Distribution Systems

[0023] Referring first to FIG. 1, a block diagram of a system 100 according to some embodiments is shown. The various systems described herein are depicted for use in explanation, but not limitation, of described embodiments. Different types, layouts, quantities, and configurations of systems described herein may be utilized without deviating from the scope of some embodiments.

[0024] According to some embodiments, the system 100 may comprise one or more power sources 102 that are coupled to provide electrical power to one or more power distribution networks 104, which are commonly

referred to as electrical "grids". Such electrical grids 104 may, in some embodiments, be coupled via inter-grid distribution lines 106. While such inter-grid power transfer couplings are generally referred to as transmission lines, it should be understood that other forms of inter-grid power transfer couplings may also or alternatively be utilized, whether or not they actually comprise lines, wires, or other physical electrical conduits (*e.g.*, RF and/or microwave wireless power transmission).

[0025] In some embodiments, the system 100 may comprise one or more electrical demands or loads and/or types of such loads to which the electrical grid 104 provides electrical energy. The system 100 may comprise, for example, a residential demand 110, a transportation demand 120, an industrial demand 130, and/or a commercial demand 140. In some embodiments, the system 100 may comprise fewer or more types of electrical demands 110, 120, 130, 140 than are shown in FIG. 1. According to some embodiments, any of the various types of electrical demands 110, 120, 130, 140 may be comprised of one or more electrical loads, nodes, and/or other types and/or configurations of electrical demands.

[0026] In some embodiments, electrical energy from the one or more power sources 102 may be "intelligently" directed, via the grid 104 (and/or specific components thereof not explicitly shown in FIG. 1), to selected electrical nodes or loads and/or to selected types of electrical demands 110, 120, 130, 140. According to some embodiments, one or more of the electrical demands 110, 120, 130, 140 may communicate with the grid 104 to schedule specific known and/or estimated electrical demands or loads. Such scheduling may, for example, be configured to reduce the cost of any such specific known and/or estimated electrical demands or loads (*e.g.*, by taking advantage of time-of-day rates) and/or may be configured to more efficiently manage electrical generation (*e.g.*, by the one or more power sources 102) and/or transmission (*e.g.*, via the grid 104).

[0027] Turning to FIG. 2, a block diagram of a system 200 according to some embodiments is shown. In some embodiments, the system 200 may be similar in configuration and/or functionality to the system 100 of FIG. 1. As shown in FIG. 2, for example, the system 200 may comprise a hydroelectric facility 202 coupled to provide power to a power distribution network/grid 204. The system 200 may also or alternatively comprise transmission lines 206, which may for example, carry electrical energy from the hydroelectric facility 202 to and/or through the grid 204 and/or to one or more other grids (not shown in FIG. 2). The transmission lines 206 may also or alternatively carry electrical energy to one or more of a residential subdivision 210, an electric train facility 220 (*e.g.*, a train station and/or electric train tracks – "third" rails and/or overhead lines), a factory 230, and/or an office building 240. In some embodiments, any or all components 202, 204, 206, 210, 220, 230, 240 of the system 200 may be similar in configuration and/or functionality to any similarly named and/or numbered components of FIG. 1.

[0028] According to some embodiments, electrical energy from the hydroelectric facility 202 may be "intelligently" directed by the grid 204 to, for example, the office building 240. Such direction may be effectuated in response to one or more specific parameters such ed one or more specific characteristics associated with the

hydroelectric facility 202 and/or the office building 240. Such direction may be effectuated via management of one or more electrical switching devices (not explicitly shown in FIG. 2) or may only be "virtually" directed (or re-directed). The grid 204 may, for example, cause one or more electrical switches or gates to be activated (or deactivated), thus sending power from the hydroelectric facility 202 to the office building 240. Some or all of the electrical energy from the hydroelectric facility 202 may be directed to the office building 240 in such a manner.

[0029] In some embodiments, the direction of the electrical energy may only be "virtual". While no specific electrical switching may be effectuated, for example, and thus no specific electrical energy may be directed (or re-directed), the office building 240 may be specifically allotted an amount of energy produced by the hydroelectric facility 202. Such "virtual" redirection is similar to the currently utilized process of allocating or attributing a certain amount of energy from a certain type of power source to a specific customer and/or load (*e.g.*, such as when electric utility customers designate that "their" energy come only from renewable power sources).

[0030] In some embodiments, the office building 240 (and/or the residential subdivision 210, the electric train facility 220, and/or the factory 230) may be tasked with and/or configured to charge electric, hybrid-electric, and/or other types of vehicles. The parking lot shown at the office building 240 may, for example, be outfitted to charge one or more vehicles (not shown in FIG. 2) parked therein. In such embodiments, the office building 240 (and/or an entity associated therewith, such as a parking lot management company) may communicate with the grid 204 to schedule and/or otherwise manage the charging of the vehicles.

IV. Electric Car Charging Systems

[0031] Referring to FIG. 3, for example, a block diagram of a system 300 according to some embodiments is shown. In some embodiments, the system 300 may be similar in configuration and/or functionality to the systems 100, 200 of FIG. 1 and/or FIG. 2 herein. As shown in FIG. 3, for example, the system 300 may comprise a Power Supplying Entity (PSE) supply line 304 coupled to provide power to an Electrical Charging System (ECS) 340. The ECS 340 may comprise one or more electrical meters 342a-b and/or a processor 346. In some embodiments, the ECS 340 may also comprise or be associated with a power management device 348. The system 300 may also or alternatively comprise a parking lot 350 containing one or more parked vehicles 360. In some embodiments, any or all components 304, 340 of the system 300 may be similar in configuration and/or functionality to any similarly named and/or numbered components of FIG. 1 and/or FIG. 2 herein.

[0032] According to some embodiments, the system 300 may be utilized to provide electrical charging services to the one or more vehicles 360. It should be understood that fewer or more vehicles 360 than are shown in FIG. 3 may be included in the system 300. In some embodiments, the ECS 340 and/or the power management

device 348 may communicate with one or more of the vehicles 360 and/or may otherwise obtain information associated with the one or more vehicles 360. The ECS and/or the power management device 348 may, for example, electronically receive information from each vehicle 360 and/or may communicate with a server and/or controller (neither of which is explicitly shown in FIG. 3) to receive information associated with each vehicle 360. Such information may then, for example, be utilized to determine how and/or when to charge each vehicle 360.

[0033] In some embodiments, the ECS 340 may communicate with a PSE (*e.g.*, that operates and/or provides the supply line 304) to determine time-of-day rates for purchasing electrical energy. The ECS 340 and/or the processor 346 thereof may then, for example, utilize the time-of-day rate information to determine a schedule for charging the one or more vehicles 360, such that the schedule results in the lowest estimated cost for charging the one or more vehicles 360. The ECS 340 may also or alternatively communicate with the PSE to otherwise develop a charging schedule such as to facilitate management of electrical energy generation (*e.g.*, by assisting in flattening usage peaks or spikes) or making use of available excess capacity.

[0034] According to some embodiments, the processer 346 may communicate with the electrical meters 342a-b to determine where any electrical energy required by the ECS 340 should be drawn from. In some embodiments, the processor 346 may be included in a single device with one or more of the electrical meters 342a-b (*e.g.*, the combination comprising a single "smart" meter). In the case that one or more of the vehicles 360 comprise batteries and/or electrical generation capabilities (*e.g.*, solar panels), for example, the ECS 340 may have the option of drawing electricity from the supply line 304 or the parking lot 350 (*e.g.*, the collective power available from the vehicles 360). In some embodiments, the processor 346 may determine which available source has cheaper and/or otherwise more desirable energy (*e.g.*, from "green" sources).

[0035] In some embodiments, the power management device 348 may comprise one or more transformers, inverters, filters, switches, gates, and/or other electrical load balancing and/or management devices. The power management device 348 may comprise, for example, an inverter for converting Alternating Current (AC) energy to Direct Current (DC) energy, and/or vice versa. It is anticipated, in accordance with some embodiments, that electric vehicles, hybrid-electric vehicles, and/or other vehicles requiring electrical charging (and/or providing electrical energy) may be configured to require (and/or provide) DC energy (*e.g.*, provided to and/or from one or more batteries).

[0036] In some embodiments, the power management device 348 may manage the charging of the vehicles 360. The In some embodiments, the power management device 348 may, for example, communicate with the vehicles 360 to determine charging requirements and/or may couple to the vehicles to provide wired and/or wireless electrical energy transfer (*e.g.*, charging). In some embodiments, the power management device 348 may also or alternatively manage (alone or in coordination with or conjunction with the processor 346 and/or the electrical meters 342a-b) the flow of electrical energy between the parking lot 350 and the ECS 340.

[0037] The power management device 348 may, such as in the case that at least some of the vehicles 360 are equipped to provide electrical energy (*e.g.*, via electrical generation devices and/or from on-board stored energy sources) for example, utilize any energy provided by one or more vehicles 360 to satisfy (in part or in whole) the charging demands of one or more other vehicles 360. Any net extra energy provided by the parking lot 350 may then, for example, be provided for use by the ECS 340 and/or for selling back to the PSE via the supply line 304.

[0038] Turning now to FIG. 4, a block diagram of a system 400 according to some embodiments is shown. In some embodiments, the system 400 may be similar in configuration and/or functionality to the systems 100, 200, 300 of FIG. 1, FIG. 2, and/or FIG. 3 herein. As shown in FIG. 4, for example, the system 400 may comprise a PSE supply 404 coupled to provide power to an ECS 440. The ECS 440 may comprise various components such as a processor 446 and/or a data store 448. In some embodiments, the ECS 440 may comprise and/or the PSE supply 404 may provide power directly to one or more parking space charge devices 452. The ECS 440 may, in some embodiments, comprise one or more vehicle sensors 454. According to some embodiments, the system 400 may comprise one or more vehicles 460. Any or all of the one or more vehicles 460 may comprise a vehicle charge device 462, a vehicle data store 464, and/or a communication device 466. The system 400 may also or alternatively comprise a server 470. In some embodiments, any or all components 404, 440, 446, 448, 460 of the system 400 may be similar in configuration and/or functionality to any similarly named and/or numbered components of FIG. 1, FIG. 2, and/or FIG. 3 herein.

[0039] In some embodiments, the ECS 440 may be coupled to provide and/or receive electric energy to/from the vehicle 460. As shown in FIG. 4, for example, the parking space charge device 452 may be physically and/or electrically coupled to the vehicle 460 and/or the vehicle charge device 462 thereof. The parking space charge device 452 may, in some embodiments, comprise a wireless charging device configured and coupled to provide electrical energy to the vehicle 460 and/or the vehicle charge device 462 and/or may comprise a physically coupling device configured to mate with the vehicle 460 and/or the vehicle charge device 462.

[0040] According to some embodiments, the vehicle sensor 454 may be coupled (such as in and/or near a parking space) to detect an arrival, proximity, and/or presence of the vehicle 460. The vehicle sensor 454 may, for example, comprise a magnetically actuated device that reacts to the large volume of metal that many vehicles are comprised of, and/or may comprise a pressure sensor (*e.g.*, to detect the weight/mass of the vehicle 460), a motion sensor (which may include both electrical and non-electric devices), and/or other electronic devices. In some embodiments, the vehicle sensor 454 may comprise a communication device such as a Bluetooth® and/or passive-inductive device that is operable to detect the presence of the vehicle 460 utilizing wireless interrogation methodologies. In such a manner, for example, the vehicle sensor 454 may communicate with the communication device 466 and/or the vehicle data store 464, both of the vehicle 460.

[0041] According to some embodiments, the vehicle sensor 454 may receive data from the communication device 466 and/or the vehicle data store 464. The vehicle sensor 454 may receive, for example, an indication of an identifier of the vehicle 460 such as a Vehicle Identification Number (VIN), a license plate number, an electric utility account number, an EZ-Pass® account and/or tag number, and/or another identifier or account number such as a PayPal® account number. Such identifying information may be stored, for example, in the vehicle data store 464 and may be communicated directly to the vehicle sensor 454 of the ECS 440 or via the communication device 466 of the vehicle 460. In some embodiments, other information may also or alternatively be provided by the vehicle 460 to the ECS 440. Preference data defining, at least in part for example, desired vehicle charging parameters, charging schedules, and/or rules regarding how, when, and/or where (*e.g.*, designating specific parking spaces and/or parking lots) the vehicle 460 should be charged and/or how, when, and/or where electrical energy should be received from the vehicle 460 (*e.g.*, via generation of energy by the vehicle 460 and/or via discharging of one or more batteries or capacitors on the vehicle 460).

[0042] In some embodiments, preference data may be received from the vehicle 460 (*e.g.*, as stored in the vehicle data store 464 and/or may be retrieved and/or looked-up in the data store 448 of the ECS 440 and/or via the server 470. The processor 446 may, for example, utilize an identifier of the vehicle 460 (*e.g.*, received by the vehicle sensor 454) to query the vehicle data store 464, the data store 448, and/or the server 470. Preference data associated with the identifier of the vehicle 460 may accordingly be identified, selected, retrieved, and/or otherwise determined (*e.g.*, encoded and/or encrypted identification and/or preference data may be retrieved and then decoded and/or decrypted as needed).

[0043] According to some embodiments, the processor 446 may utilize the identification and/or preference data to determine, select, calculate, and/or otherwise derive a charging schedule for the vehicle 460. Similarly, in the case that the vehicle 460 is configured to provide electrical energy to the ECS 440, the processor 446 may utilize the identification and/or preference data to determine, select, calculate, and/or otherwise derive a schedule and/or routine (*e.g.*, rules-based strategy) for receiving electrical energy from the vehicle 460.

[0044] In some embodiments, the processor 446 may determine (*e.g.*, by communicating with the PSE associated with the PSE supply 404) available market rates (*e.g.*, a time-of-day and/or usage-based rate schedule) for purchasing electrical energy from the PSE supply 404. The processor 446 may utilize such rate information in combination with the identification and/or preference information, for example, to determine the most cost-effective schedule for charging the vehicle 460. In the case that the preference information includes an indication of how much energy is desired to be stored by the vehicle 460 by a certain time, the processor 446 may calculate an estimated time to achieve the desired charge and may identify when, during the available charging window (*e.g.*, a time window bounded by the current time and the desired total charge end time) would be most cost effective (*e.g.*, cheapest) to acquire the desired estimated charge.

[0045] According to some embodiments, such as in the case one or more vehicles 460 in a parking lot (and/or adjacent lots or otherwise within a proximity) are scheduled to charge while one or more other vehicle 460 are scheduled to provide electrical energy to the ECS 440, the processor 446 may determine the charging schedule of a vehicle 460 based at least in part on information regarding electrical energy provisioning by one or more other vehicles 460. In the case that it is determined that a vehicle 460 requires an amount of charge 'A', for example, and that one or more other vehicles 460 are estimated to be capable of providing the amount of charge 'A', the processor 446 may determine that the most cost-effective way of providing the charge to the vehicle 460 is to direct electrical energy from the one or more providing vehicles 460 to the vehicle in need of charge. A rate table and/or other rate and/or cost information associated with and/or descriptive of the provision of electrical energy from one or more vehicles 460 (*e.g.*, directly) to one or more other vehicles 460 may be utilized to facilitate a determination of whether purchasing power from the PSE would be more or less cost-effective than purchasing and/or otherwise acquiring the required power from distributed generation sources such as other vehicles 460 parked nearby (*e.g.*, more near than the nearest source utilized by the PSE).

[0046] In some embodiments, such as in the case that the server 470 manages and/or coordinates multiple ECS 440 facilities, the server 470 may communicate with the PSE supply 406 (and/or another or different device owned and/or operated by the PSE) to determine and/or facilitate determination and/or calculation of vehicles charging schedules. In such a manner, for example, the server 470 may be able to negotiate better rates and/or sooner charging times with the PSE by leveraging bulk electrical energy purchasing.

[0047] According to some embodiments, vehicle identification information and/or vehicle charging preferences and/or parameters may be communicated to the server 470 (and/or data store 448 of the ECS 440) via the communication device 466 of the vehicle 460. An operator of the vehicle 460 whom defines and/or provides such identification and/or preference information, for example, may utilize a navigational and/or other touch-screen or communication device 466 of the vehicle 460 to select, program, define, and/or transmit the desired data. In some embodiments, the communication device 466 may comprise a wireless and/or cellular communication device 466 such as an OnStar® system and/or a cellular telephone operated in proximity to the vehicle 460 (*e.g.*, connected through the vehicle via Bluetooth® technology such as utilized by Uconnect® systems).

[0048] Referring to FIG. 5, a block diagram of a system 500 according to some embodiments is shown. In some embodiments, the system 500 may be similar in configuration and/or functionality to the systems 100, 200, 300, 400 of FIG. 1, FIG. 2, FIG. 3, and/or FIG. 4 herein. As shown in FIG. 5, for example, the system 500 may comprise a PSE supply line 504 coupled to provide power to an ECS 540. The ECS 540 may comprise various components such as a meter 542. In some embodiments, the ECS 540 may comprise and/or the PSE supply line 504 may provide power directly to a power management device 548. In some embodiments, the ECS 540 may also or alternatively generate power such as via one or more distributed generation devices 544

(such as internal combustion generators, batteries, and/or renewable energy generators such as wind, hydro, and/or solar (as shown) generators).

[0049] The ECS 540 may, in some embodiments, comprise and/or be associated with a parking lot 550 comprising one or more parking space charge devices 552a-b and/or one or more vehicle sensors 554a-b. According to some embodiments, the system 500 may comprise one or more vehicles 560a-b. Any or all of the one or more vehicles 560a-b may comprise a vehicle charge device 562a-b. Some vehicles 560a-b (or all vehicles 560a-b), such as the first vehicle 560a depicted in FIG. 5, may comprise a vehicle charge device 560a-1 that is operable to generate and/or otherwise provide electrical energy (*e.g.*, to the ECS 540 and/or to the PSE supply line 506). In some embodiments, any or all components 504, 540, 542, 548, 550, 552a-b, 554, 560a-b, 562a-b of the system 500 may be similar in configuration and/or functionality to any similarly named and/or numbered components of FIG. 1, FIG. 2, FIG. 3, and/or FIG. 4 herein.

[0050] In some embodiments, such as shown in FIG. 5, the ECS 540 may comprise an office and/or other building that includes and/or is otherwise associated with the parking lot 550 for vehicles 560a-b. The office building 540 may typically receive electrical power from the PSE supply line 506 via the power management device 548, which may comprise (as depicted) a transformer (*e.g.*, to step-down the voltage of the PSE supply line 506 to the desired voltage for utilization by the office building 540). The electrical energy flowing from the transformer 548 into the office building 540 may generally be monitored, tabulated, and/or recorded by the meter 542. In some embodiments, such as in the case that the office building 540 generates electrical power, such as via the distributed generation solar panels 544, the meter 542 may also monitor, tabulate, and/or record electrical energy provided and/or sold back to the PSE supply line 506 (*e.g.*, a meter 542 than can record bi-directional electrical flow and/or that can run backwards). In the case that the power management device 548 functions as an inverter to convert DC energy produced by the solar panels 544 into AC energy, the meter 542 may be positioned on the PSE-side of the electrical circuit (*e.g.*, as opposed to the ECS-side of the circuit as shown in FIG. 5).

[0051] In some embodiments, the parking space charge devices 552a-b may be positioned and/or configured to provide electrical energy from the PSE supply line 504 and/or the transformer/inverter 548 to the vehicles 560a-b. As shown in FIG. 5, the parking space charge devices 552a-b may be provided in various forms and/or configurations. A first parking space charge device 552a may comprise a fixed-position, shock-absorbing electrical contact device that is designed to physically and electrically couple with the first vehicle 560a, for example. The first vehicle charge device 562a of the first vehicle 560a may be configured to mate and/or otherwise couple with the first parking space charge device 552a such as by utilizing flat-plate contact and/or other forms of electrical connections (*e.g.*, male/female connections of any know or practicable type).

[0052] According to some embodiments, a second parking space charge device 552b may simply comprise an electrical outlet that is configured to accept a second vehicle charge device 562b of the second vehicle 560b.

Further, while not specifically or explicitly depicted in FIG. 5, a parking space charge device 552a-b may be configured to provide wireless transmission of electrical power to and/or from a vehicle 560a-b.

[0053] In some embodiments, the vehicle charge device 562a-1 may comprise an electrical energy generation device (such as the hood-mounted/integrated solar panels as shown in FIG. 5) that is coupled to provide power to the first parking space charge device 552a. According to some embodiments, the vehicle charge device 562a-1 may comprise any device capable of providing electrical energy such as a battery, a capacitor, an engine powering an alternator, a wind power device, etc.

[0054] In some embodiments, as described herein, the vehicle sensors 554a-b may detect a proximity and/or presence of the vehicles 560a-b and/or may communicate with the vehicles 560a-b (*e.g.*, to receive and/or retrieve vehicle identification information and/or charging preference information). As shown in FIG. 5, a first vehicle sensor 554a may comprise a pressure sensor oriented and/or configured to detect a physical coupling of the first vehicle charge device 562a to the first parking space charge device 552a. In some embodiments, a second vehicle sensor 554b may comprise a ground-integrated pressure sensor (*e.g.*, to detect the weight/mass of a parked second vehicle 560b) and/or may comprise a magnetically-actuated device to detect the presence of large metal/ferrous components typically to be integrated into the second vehicle 560b. In some embodiments, the second vehicle sensor 554b may comprise a plurality of different types of sensors and/or may also or alternatively comprise an electronic communication device such as a Bluetooth® transceiver and/or a camera. The second vehicle sensor 554b may also or alternatively be utilized as a parking space charge device 552a-b that, for example, provides wireless power transmission from underneath the second vehicle 560b.

V. Electric Car Charging Interfaces

[0055] Turning now to FIG. 6, a perspective diagram of a system 600 according to some embodiments is shown. In some embodiments, the system 600 may be similar in configuration and/or functionality to the systems 100, 200, 300, 400, 500 of FIG. 1, FIG. 2, FIG. 3, FIG. 4, and/or FIG. 5 herein. The system 600 may comprise, for example, a vehicle 660 (a portion of the interior of which is depicted in FIG. 6) comprising a communication device 666. In some embodiments, the communication device 666 may provide a plurality of available menu options 668a-d. The system 600 may comprise, in some embodiments, a user device 680 comprising one or more menu options 682 and/or one or more charging preference options 684a-c.

[0056] In some embodiments, the system 600 may be utilized to setup, define, store, and/or update or change preference, option, and/or parameter data that is utilized by an ECS (not shown in FIG. 6) to determine how, when, and/or where to transfer electrical energy to and/or from the vehicle 660. An operator of the user device 680 may, for example, select the menu option 682 (and the user device 680 may receive an indication of such selection), which is depicted as being a menu option defining a situation of a pet being in the vehicle 660. The

operator may then, for example, (i) determine whether it is desired that the vehicle 660 only be allowed to be charged in such a circumstance – as opposed to allowing the vehicle 660 to provide and/or sell stored and/or vehicle-generated power (*e.g.*, the first preference option 684a), (ii) determine whether it is desired that the operator be notified if the current charge level of the vehicle 660 falls below a level that allows the Air Conditioning (A/C) to remain on for fifteen (15) minutes (*e.g.*, the second preference option 684b), and/or (iii) determine whether it is desired that the operator be notified if the temperature inside the vehicle 660 climbs above seventy (70) degrees (*e.g.*, the third preference option 684c).

[0057] In such a manner, for example, the user device 680 may receive indications of the desired parameters to be utilized in governing charging (and/or electrical transmission from) the vehicle 660. The user device 660 may then, for example, transmit indications of such preferences to a central server (not shown in FIG. 6; such as the server 470 of FIG. 4) and/or transmit indications of such preferences to the vehicle 660 (*e.g.*, via the communication device 666). An ECS may accordingly access such preference data and utilize the data to manage, define, and/or govern how, when, and/or where electrical energy is transmitted to and/or from the vehicle 660.

[0058] In some embodiments, such preference data may be defined, stored, managed, and/or updated or changed via the communication device 666. The operator of the vehicle 660 may, for example, select a first menu option 668a to define settings regarding desired charge levels, charging times, desired travel distances and/or itineraries, etc. The operator of the vehicle 660 may also or alternatively select a second menu option 668b to define settings regarding rules and/or parameters governing how electrical energy should be sold to the ECS. The operator of the vehicle 660 may also or alternatively select a third menu option 668c to define settings regarding rules and/or parameters governing how electrical energy should be received and/or provided and/or what types of alerts should be established when a pet is on the vehicle (*e.g.*, similar to the menu option 682 shown on the user device 680). The operator of the vehicle 660 may also or alternatively select a fourth menu option 668d to access current charge levels, battery statistics, charging history, electrical energy purchase and/or sale history, account balance information, etc.

[0059] Turning now to FIG. 7, a diagram of an exemplary interface 700 according to some embodiments is shown. In some embodiments, the exemplary interface 700 may be utilized in conjunction with and/or to effectuate and/or facilitate operation of the systems 100, 200, 300, 400, 500, 600 of FIG. 1, FIG. 2, FIG. 3, FIG. 4, FIG. 5, and/or FIG. 6 herein. The exemplary interface 700 may comprise, for example, a Uniform Resource Locator (URL) address bar 702 that shows the current Internet address of the displayed interface 700, a personalized welcome bar 704, and/or various menu and/or tab option such as a "main" menu item 706, a "My Account" menu item 708, a "charging history" menu item 710, and/or a "help" menu item 712.

[0060] The "My Account" menu item 708 may generally, for example, contain data descriptive of account setup and/or preference data such as billing parameters, contact information, etc. The "charging history" menu item

710 may generally contain data descriptive of metrics regarding how, when, and/or where a vehicle has been interfaced with an ECS. The "help" menu item 712 may generally provide data regarding help and assistance for using the interface 700 and/or for setting up various vehicle charging parameters and/or preferences.

[0061] In some embodiments, the "main" menu item 706 may comprise a "dashboard" and/or primary screen via which vehicle charging parameters may be established, stored, viewed, and/or changed. The "main" menu item 706 may comprise, for example, a vehicle charge indicator 714 that visually indicates a current charge level 716 of the vehicle. Similarly, a desired charge percent level 718 may be both shown and alterable. A user may select the desired charge percent level 718, for example, and may slide the marker on the vehicle charge indicator 714 to a new described location and/or may utilize the exemplary up/down arrow controls to increase or decrease the desired charge percent level 718.

[0062] The user may also or alternatively view and/or change the desired charge range level 720. An estimate of how far the vehicle can travel on a given charge amount (which may be a general average and/or may be computed based on a specific itinerary and/or past driving habits) can be determined, for example, and utilized to express the desired charge level in terms of distance capable of being traveled. In such a manner, for example, a user may determine a desired distance to travel (*e.g.*, how far it is from home to work or vice versa) and may set the desired charge range level 720 to match the desired distance.

[0063] In some embodiments, the "main" menu item 706 may comprise a time to charge definition field 722. Knowing, for example, that the vehicle will be sitting in a parking lot at the user's workplace for the next six (6) hours, an ECS may determine when would be most cost-effective and/or otherwise desirably during that charging window to provide the necessary electrical energy to the vehicle. In some embodiments, the ECS may determine that the window is too short to provide the necessary charge (*e.g.*, even if the entire charging window was to be utilized to charge the vehicle) and may notify (*e.g.*, via the interface 700) the user of the potential problem/deficiency. As shown in FIG. 7, the time to charge definition field 722 may provide the user with several options such as defining the time to charge in terms of number of parked hours expected and/or in terms of expected departure time.

[0064] In some embodiments, the "main" menu item 706 may comprise a monetary charge setting field 724. The monetary charge setting field 724, for example, may allow the user to specify whether the vehicle should be charged as much as possible during the charging window and/or otherwise charged regardless of energy rate costs, whether the vehicle should be charged "intelligently" during the charging window to minimize energy rate costs (*e.g.*, taking advantage of time-of-day energy rates), and/or whether the vehicle should be allowed to sell energy to make money for the user (*e.g.*, by providing energy generated by the vehicle and/or by depleting battery levels of the vehicle to some specified minimum amount).

[0065] In some embodiments, the "main" menu item 706 may comprise a factor of safety field 726 via which the user may set a factor of safety to be utilized in calculations regarding charging levels and schedules for the

vehicle. The "main" menu item 706 may also or alternatively comprise contact information 728 for the user. The contact information 728 may be utilized by the interface 700 (and/or an ECS), for example, to send alerts and/or messages to the user and/or other designated parties. The "main" menu item 706 may comprise, for example, an alerts field 730 that allows the use to specify various conditions and/or events that may trigger alerts and/or actions with respect to the vehicle. The user may turn "All Alerts On", for example, and/or may individually activate (i) charge thresholds (*e.g.*, minimum, maximum, and/or desired charge thresholds), (ii) rate thresholds (*e.g.*, minimum, maximum, and/or desired rate thresholds), (iii) internal temperature thresholds *e.g.*, minimum, maximum, and/or desired temperature thresholds), and/or (iv) vehicle diagnostics (*e.g.*, poor battery health, low oil, low tire pressure, alarm conditions, and/or maintenance reminders).

[0066] As shown in FIG. 7, the "main" menu item 706 may comprise a "pet in car" button 732. The "pet in car" button 732 may, for example, automatically set alerts and/or charge parameters to levels conducive to maintaining the comfort and safety of a pet left in a parked vehicle. In such a manner, for example, a user may safely leave a pet in a parked vehicle by establishing and/or setting charging parameters designed to keep the A/C on to maintain a cool vehicle and/or to keep the heat on to maintain a warm vehicle (*e.g.*, depending upon the relevant season and/or external weather conditions).

[0067] The interface 700 may receive indications of any or all desired parameters, options, and/or settings designated and/or defined by a user. Such information may then, for example, be stored in relation to an identifier of the vehicle and/or the user and may accordingly be utilized by an ECS (or a plurality of ECS facilities) to mange transmission of electrical energy to and/or from one or more desire vehicles.

VI. Processes

[0068] Various embodiments will now be described with references to methods, procedures, and/or processes associated with some embodiments. The methods, procedures, and/or processes described herein may generally be performed by any of the systems 100, 200, 300, 400, 500, 600 of FIG. 1, FIG. 2, FIG. 3, FIG. 4, FIG. 5, and/or FIG.6 and/or any of the many components and/or specific devices described herein. Other configurations of systems and devices may also or alternatively be utilized to perform the methods described herein without deviating from the scope of some embodiments. The procedures described herein do not necessarily imply a fixed order to the actions, and embodiments may be performed in any order that is practicable. Note that any of the methods described herein may be performed by hardware, software (including microcode), firmware, or any combination thereof. For example, a storage medium may store thereon instructions that when executed by a machine result in performance according to any of the embodiments described herein.

[0069] Referring to FIG. 8, for example, a flow diagram of a method 800 according to some embodiments is shown. The method 800 may be performed, for example, by an ECS and/or one or more components thereof as described herein. In some embodiments, the method 800 may comprise receiving (*e.g.*, from a vehicle sensor) information indicative of a presence of a vehicle in a parking space, at 802. The sensor may detect proximity of the vehicle via motion sensing, pressure sensing, light sensing, metal detecting, and/or wireless electronic transmission sensing, for example. In some embodiments, the sensor may detect an actual physical coupling of the vehicle to a charge management device, may detect an electrical coupling of the vehicle to the charge management device, and/or may detect and/or analyze a positioning of the vehicle (*e.g.*, to determine whether the vehicle is properly positioned, oriented, and/or outfitted for charging services).

[0070] The method 800 may also or alternatively comprise receiving (*e.g.*, from a communication device of a vehicle) information indicative of an identifier of the vehicle, at 804. Vehicle identification information may be read and/or scanned from a camera image of the vehicle or a portion thereof (*e.g.*, a license plate and/or a VIN area), for example, and/or may be electrically determined such as by receiving signals from the vehicle. In some embodiments, charging preference and/or parameter information may also or alternatively be obtained. The vehicle identifier may be utilized to look-up the preference information, for example, and/or the preference information may be directly provided.

[0071] The method 800 may also or alternatively comprise determining, based at least on the information indicative of the identifier of the vehicle, a charging schedule for the vehicle, at 806. The preference information stored in relation to the vehicle identification information may, for example, be utilized to determine one or more rules and/or parameters that govern electrical transmissions to and/or from the vehicle (and/or a group or class of vehicles). In some embodiments, an ECS and/or control system may calculate, based on the charging parameters and/o preferences, how much energy the vehicle needs, how much energy is desired for the vehicle, when the needed and/or desired charge levels should be reached by, desired charging rate cost thresholds, etc.

[0072] The method 800 may also or alternatively comprise charging, in accordance with the charging schedule, the vehicle, at 808. One or more parking space charge devices may, for example, couple to provide (and/or receive) electrical energy from the vehicle in accordance with the determined schedule and/or regimen.

[0073] Referring to FIG. 9, a flow diagram of a method 900 according to some embodiments is shown. The method 900 may be performed, for example, by an ECS and/or one or more components thereof as described herein. In some embodiments, the method 900 may comprise determining an estimated amount of power required to charge a plurality of vehicles to desired levels, at 902. Utilizing information received and/or determined regarding the plurality of vehicles, for example, the ECS may compute an estimated amount of energy required to satisfy the desired charging regimens of the plurality of vehicles and/or an estimated amount of time required to achieve and/or implement such charging regimens.

[0074] The method 900 may also or alternatively comprise providing (*e.g.*, via a communication device), to a PSE, information indicative of the required power, at 904. The requirements and/or estimates determined and/or calculated at 902, for example, may be provided to the PSE.

[0075] The method 900 may also or alternatively comprise receiving (*e.g.*, via the communication device), from the PSE, information indicative of a time when a best available rate will be available to purchase the required power, at 906. The PSE may analyze the charging requirement information provided by the ECS and may provide a suggested schedule to the ECS. In some embodiments, the information provided by the PSE may simply comprise rate and/or usage information, and the ECS may utilize such information to formulate and/or derive appropriate charging schedules.

[0076] The method 900 may also or alternatively comprise charging, at the indicated time and via a plurality of vehicle charging devices, the plurality of vehicles, at 908. The charging at 908 may, in some embodiments, be similar to the charging conducted at 808 of the method 800 herein.

[0077] Referring to FIG. 10, a flow diagram of a method 1000 according to some embodiments is shown. In some embodiments, the method 1000 may comprise determining an electrical load that requires electrical power, at 1002. A processor may determine an electrical draw on a circuit, for example, and/or may communicate with an entity associated with a load (*e.g.*, an ECS and/or an electric vehicle) to determine the requirements of the load.

[0078] The method 1000 may also or alternatively comprise determining a plurality of available sources of electrical power, at 1004. An ECS and/or "intelligent" electric switching device may, for example, be provided with a list of available power sources and/or may query to determine and/or discover available sources of power.

[0079] The method 1000 may also or alternatively comprise determining a characteristic of each of the plurality of available sources of power, at 1006. Various characteristics such as voltage, amperage, available quantity, consistency of generation, cost, generation type, and/or distance to the load (*e.g.*, either "as-the-crow-flies" or along one or more specific electrical traces and/or transmission paths) may, for example, be looked-up and/or determined. In some embodiments, information transmitted with electrical energy may provide some or all of the characteristic information.

[0080] The method 1000 may also or alternatively comprise selecting, based at least in part on the determined characteristics of the plurality of available sources of power, one or more of the available sources of power, at 1008. One or more stored rules may govern, for example, how a preferred power source is selected. In some embodiments, preferred power sources may comprise power sources that are located closer to the electrical load than other power sources. Such power sources may be more desirable, for example, due to the smaller amount of losses (and accordingly, increased efficiency) associated with delivering power from such sources to the load.

[0081] In some embodiments, the "greenness" and/or relative environmental friendliness of energy produced by a specific power source may be determined as a characteristic. Preferred power sources may then, for example, comprise renewable energy sources (*e.g.*, regardless of distance from the load), taking into account externalities that may otherwise not be taken into account when operating electrical switching equipment. In some embodiments, various characteristics may be scored and power sources may be assigned an overall point total. The power source listing may then be ranked, for example, and the highest ranking power source (or the highest ranking number of power sources; *e.g.*, the top three (3)) may be selected as the preferred power source(s).

[0082] The method 1000 may also or alternatively comprise activating at least one of the one or more electrical switches to cause electrical power from the selected one or more of the available sources of power to be provided to the electrical load, at 1010.

VII. Other Details of Embodiments

A. Wireless Charging Nodes

[0083] A parking space or other expanse suitable for maintaining an automobile in a generally stationary fashion is equipped with a means for wirelessly charging an automobile. Various methods for wirelessly transmitting an electrical charge are known including, but not limited to, resonant inductive coupling, and wireless microwave transmission. In addition, a company referred to as Powercast™ has demonstrated power transmission for quite a distance using RF (Radio Frequency) technology to beam EM waves in a direction to a transceiver which then converts the EM waves back to electricity. While described with reference to various technologies for enabling the wireless transmission of electrical energy, the exemplary embodiments described are not limited to any particular mode or process of such wireless transmission. Rather, the invention is broadly drawn to encompass any and all technologies that facilitate or otherwise enable the provision of electricity, electrical energy, and/or electrical power from a source to a receiver without a physical connection (*i.e.*, a wire or other physical electricity conducting medium) between the source and receiver. While many embodiments described herein are directed to wireless charging and/or energy transmission between vehicles and a power grid, some embodiments herein may be practiced utilizing plug-in and/or physical coupling to provide energy transmission. Load distribution, balancing, and/or pricing embodiments may, for example, be practiced in conjunction with any electrical transmission apparatus that is or becomes known or practicable (*e.g.*, not limited to wireless charging and/or transmissions).

[0084] When an automobile is positioned within a distance suitable for the provision of wireless electrical power, the provision of electrical power is enabled. In one embodiment, electrical power is wirelessly transmitted from a transmitter positioned underground or flush with the surface of the ground or pavement. In

another embodiment, a transmitter is configured around the periphery of a space such that it is in sufficient proximity to a parked or stationary automobile to enable the transmission of electrical power.

[0085] The presence of an automobile may be sensed, as by a pressure sensor or via short range electronic communication such as Bluetooth or the like. In the latter instance, data may be transmitted between the automobile and a transceiver associated with the electrical transmitter. Such data may include, for example, a unique automobile identifier (*e.g.*, a Vehicle Identification Number (VIN)), an account identifier (*e.g.*, a credit card account, bank account, EZ-Pass® Account, Pay-Pal® Account, and/or electrical supplier account), and user selected parameters defining user charging preferences.

[0086] For example, upon pulling up to a space enabled/operable to provide electricity in a wireless fashion from one or more transmitters embedded flush with the surface of the pavement, a sensor receives an interrogation signal sent via Bluetooth® from the automobile sent as function of the automobile being put into park (and/or put into neutral, the parking brake being engaged, the engine being shut off, and/or the key being turned to a specific position – *e.g.*, position "IV" may comprise a position dedicated to indicating that the driver describes to activate one or more charging and/or power transmission sequences). The sensor receives an identifier of the automobile and interfaces with a central server to retrieve account information of an owner of the automobile. Likewise, such information can be stored in a memory device associated with the automobile and sent to the sensor. In addition, either sent from the automobile or retrieved from a server using the identifier, the sensor receives information regarding parameters defining how the automobile is to be charged. For example, such information might define a maximum rate willing to be paid for electricity. In addition, such information might specify a time by which the car is to be a certain percent charged. For example, a user may have specified that the car is not to be charged if the cost of electricity is over $.10/kWh. The user may also have specified that the automobile needs to be 80% charged at the end of eight hours. In some embodiments, the user may indicate a desired charging level (and/or a desired charging level may be automatically calculated) based on a desired distance of travel. In the case that the vehicle/charging facility is located 20 miles from the driver's home, for example, the driver (and/or the vehicle or charging station) may determine that the vehicle should be charged to have enough power to travel the 20 miles home (with or without a factor of safety and/or reserve travel capacity).

[0087] In the above example, the information may be entered into a central server for retrieval by the electrical charging system (ECS)(comprising the sensor and means for electrical charging), such as via a web page configuration page accessible by the driver or entered into the automobile such as via a dashboard based interface. Any other well known method incorporating a graphical user interface (GUI) may be employed to enter data into the automobile based memory or server. For example, an iPhone® interface may communicate via Bluetooth® with a memory device and processor resident in the automobile to make and/or change parameter selections. [Microsoft Sync…]

[0088] Once the information is received, the ECS operates to determine an appropriate charging schedule. For example, a driver parks his car in a space having an ECS. The driver knows that his car will sit in the space all work day, hence the chosen charging duration of eight hours. The ECS, perhaps relying on other retrieved information specifying the charging characteristics of the automobile, computes that it will take approximately three hours of charging to charge the automobile to a minimum of 80% charged. The ECS, via communication with the power supplier, determines that the present cost of electricity is $.12/kWh but will fall to $.09/kWh in two hours. The system therefore waits for two hours before charging the automobile for approximately three hours.

[0089] In addition to computing and implementing a charging regimen to meet the user specified parameters, the ECS can communicate with the user/driver to alert the driver to potential problems. For example, with reference to the example above, the ECS may determine that the cost of electricity will be below $.10/kWh for only two of the next eight hours. The ECS may send a message to this effect to the user via a user specified node, such as a message on a dashboard display device, a message sent to a cell phone, an email account or the like. The user may be enabled to reply so as to modify or override a predetermined parameter selection. For example, the user may relax the maximum price for electricity attribute. In addition, the predefined parameter selections may include directions for actions to be taken when the predetermined charging regime cannot be met.

[0090] When charging is enabled, the system stores and makes accessible information regarding the operation of the ECS. For example, the user/driver can access real time (or near real time) charging information via a web page interface. For example, the user may enter a userid and password to view charging/account information. The viewable information may be maintained by the entity supplying the electrical power and/or by the proprietor of the ECS (which may be the same entity). The user may see that, at present, the ECS has scheduled charging to begin in two hours and proceed for the next three hours at a rate of $.085/kWh at which time the automobile will be 80% charged. At such time, the user may change selected parameters, such as the degree of desired charging and request an updated charging profile. For example, the user may change the requested charge percentage to be 100%. In response, ECS recomputes a charging regimen for display to the user/driver.

[0091] In the above described manner, the driver predefines a charging profile that is read and acted upon the ECS without required further input from the user/driver. By employing a central server, the charging regimen can be maintained as the user/driver leaves one ECS and parks at another ECS.

B. Load Balancing

[0092] As noted briefly above, when computing a charging regimen to match the user defined charging parameters, the ECS may communicate with a system or systems operated by the power supplying entity

(PSE). In this manner, load balancing can be affected. For example, by communicating with the power supplier, the ECS may be able to obtain/"lock in" a desirable price for electricity at present or at a time in the future. For example, at peak times when electricity is most expensive, the PSE may inform the ECS that it will commit to providing three hours of electricity at $.085/kWh in two hours provided that it not provide any electricity for the next two hours. If thousands of cars are in communication with a PSE via an ECS and are somewhere within a charging regimen at any one time, such a shifting of the provision of electricity to a future time operates to balance the load at the PSE so as better obtain maximally efficient electricity generation.

[0093] Such load balancing may be implemented in real time. For example, if the PSE experiences an unexpected peak consumption requiring the inefficient firing up of additional electricity providing elements, the PSE can communicate with the ECSs to request a delay in providing electricity to automobiles. With reference to the above example, the ECS has determined that the automobile requires only three hours over the course of the next eight hours to charge the automobile to the requested level. As a result, the ECS can delay providing electricity to the automobile for up to five hours as load balancing requires.

[0094] In one embodiment, electric cars are power generating entities. For example, the top and sides of an automobile may be fitted with solar panels. A typical automobile so outfitted may comprise approximately 60ft2 of solar panels. In addition, solar panels can be extended to incorporate more surface area, for example, when the automobile is substantially stationary. When parked outside, as in an outdoor parking lot with individual spaces configured to contain ECSs, a modest sized parking lot full of automobiles fitted with solar panels can generate a relatively large amount of electricity.

[0095] When fitted with solar panels, the ECS can operate to receive electricity from an automobile. For example, a user/driver may store amongst the preselected charging attributes that he will sell electricity generated by his automobile at a minimum price of $.11/kWh or at any price when the automobile does not need to be charged. For example, to shed some load, a PSE, currently charging $.14/kWh requests the ECSs to delay the charging of five hundred cars. The ECSs reply that five hundred cars can be delayed and, in addition, two hundred cars (perhaps some of which are included in the five hundred) have the capacity to sell electricity at various prices because they are either already charged or have specified a preference to sell electricity when possible (for the sake of simplicity, in the present example, they all agree to sell at $.11/kWh). The PSE instructs the ECSs to receive electricity from the two hundred automobiles while crediting the accounts of the users/drivers providing electricity.

[0096] In another embodiment, the automobiles using the ECS are not electric cars but have likewise been fitted with solar panels and equipments required to transmit electricity to an ECS. One problem with encouraging the widespread use of solar panels, such as on the roofs of existing houses, is the large cost of installation and maintenance. By installing solar panels at an automobile factory, economies of scale are introduced. In addition, the surfaces of an automobile are readily accessible for maintenance purposes. In

addition, most automobiles spend extended periods of time exposed to sunlight during the daylight hours. If exposed while connected to an ECS, such automobiles provide a large, at present untapped, source of electricity. Furthermore, if such automobiles are provided with a battery to store power when away from an ECS, the stored power can be transferred to a PSE via an ECS when possible.

C. Energy Costs

[0097] Electrical energy costs are typically comprised of two components: (i) an electrical energy generation charge, and (ii) an electrical energy transmission charge. While electrical energy generation charges vary depending upon the supplier of electrical energy (*e.g.*, customers choosing to be supplied solely by renewable sources may pay more than customers receiving a mix of electrical energy), transmission charges are generally fixed. In some embodiments, electrical energy transmission costs may vary depending upon various factors such as a distance of an electrical load from one or more electrical sources. Electric vehicles provided with electrical charging energy from an ECS, for example, may be charged one transmission rate for electrical energy that comes from the PSE (*e.g.*, "the grid"), while they may be charged a second (and likely lower) transmission rate for electrical energy supplied by other vehicles coupled to the ECS (*e.g.*, since there is a very short transmission distance and/or very small transmission losses). Similarly, an office building receiving energy from an ECS in an adjacent parking lot may pay little or no transmission costs while it may pay standard transmission costs when purchasing power from the grid/PSE.

[0098] In some embodiments, the actual distance between loads and sources may be utilized to calculate an appropriate transmission charge and/or to look-up an appropriate transmission charge in a pre-stored table and/or other data store. According to some embodiments, other factors such as total expected transmission losses, installation and/or maintenance costs of utilized transmission components, etc., may be utilized to determine an appropriate transmission rate or cost. While a load may pull energy from a nearby source, for example, a transmission means such as an undersea cable or microwave transmission tower may comprise relatively expensive infrastructure that causes the transmission rate to be higher than if the source pulled power from a further source from which power could be delivered via a much less expensive means (*e.g.*, a standard utility pole and power line configuration). In some embodiments, the cheapest available electrical transmission rate may be determined and/or the associated source(s) may be selected as the most appropriate source from which power should be supplied. According to some embodiments, the transmission route via which the smallest expected losses will occur may be determined and/or selected. In such a manner, for example, the power grid may be most efficiently managed to reduce transmission losses and maximize availability and usage of available power.

[0099] In some embodiments, the 'quality' of available electricity/energy from various sources may be compared and/or analyzed to determine from which available power source the power should be supplied. Some power sources and/or transmission means may provide power that is more consistent (*e.g.*, with respect to supplied frequency, voltage, and/or amperage) than power/energy provided from other sources. For critical loads such as power supply to hospitals, for example, the closest power source may comprise an ECS from an adjacent parking lot/parking garage, but that source may provide intermittent and/or otherwise lower-quality energy than, say, a large hydropower facility several miles (or more) away, that is estimated to be capable of consistently providing steady and/or high quality power for longer periods of time (*e.g.*, at night and/or during inclement weather). According to some embodiments, the 'quality' may also or alternatively be determined based on various externalities such as perceived environmental benefits and/or "greenness" of available power and/or power choices perceived to benefit the locality/local economy (*e.g.*, coal power may be preferred and/or selected for a source in a small town in western Pennsylvania, even though other sources may be cheaper, higher quality, closer, and/or "greener", because the local and/or state or regional economy may be determined to be best served by purchasing relatively "local" products).

[0100] In some instances, electricity generated by solar panels attached to one or more automobiles in communication with one or more ECS may provide enough electricity to fully charge all of the automobiles in communication with the ECS. For example, the parking lot of a single office building may install an ECS that enables charging at a plurality of parking spaces. The automobiles utilizing the ECS may provide enough electricity, via solar panels, to meet all of the charging needs of the automobiles and may then divert additional electricity to the building.

[0101] Various exemplary embodiments described above allow for a multi-tiered approach to utilizing an ECS wherein additional benefits are realized with each additional tier of functionality. Such benefits include, but are not limited to, the following:

- First, enabling the charging of automobiles (EVS) and other vehicles in a variety of environments allows for the charging of vehicles in an efficient manner. For example, vehicles typically remain parked in a single place for long periods of time each day. The ECS and described methods for using the ECS permit a vehicle to recharge, generally, throughout the day at times most convenient to the owner/operator of the vehicle. In the instance that the charging is enabled via wireless charging, the additional effort required by the operator of the vehicle is negligible;
- Second, when the ECS is capable of communicating with the automobile, data may be exchanged to control the charging process. User defined preferences, stored at the automobile, on a server, or at any location accessible by the ECS can direct the charging process. In addition to enabling charging according to user defined preferences, the ECS may enable access by the user, such as via a web page, to view the charging status of the automobile in real time. By accessing profile information

indicative of the individual performance of the automobile (such as prior charging times, battery life, battery performance, etc.), the ECS can customize the charging process as desired;

- Third, when the ECS is enabled to communicate with a power generating entity, load balancing is enabled. In the scenario where millions of automobiles utilize an ECS, thus substantially shifting energy consumption from petroleum based products in the form of gasoline, diesel fuel and the like to nuclear or coal generated electricity, exemplary embodiments enable load balancing to, for example, permit the efficient operation of such electricity generating facilities; and
- Fourth, when automobiles incorporate solar panels, electricity can be generated and added to the grid, or otherwise utilized to power entities in communication with the ECS, via the ECS.

VIII. Rules of Interpretation

[0102] Numerous embodiments are described in this disclosure, and are presented for illustrative purposes only. The described embodiments are not, and are not intended to be, limiting in any sense. The presently disclosed invention(s) are widely applicable to numerous embodiments, as is readily apparent from the disclosure. One of ordinary skill in the art will recognize that the disclosed invention(s) may be practiced with various modifications and alterations, such as structural, logical, software, and electrical modifications. Although particular features of the disclosed invention(s) may be described with reference to one or more particular embodiments and/or drawings, it should be understood that such features are not limited to usage in the one or more particular embodiments or drawings with reference to which they are described, unless expressly specified otherwise.

[0103] The present disclosure is neither a literal description of all embodiments nor a listing of features of the invention that must be present in all embodiments.

[0104] Neither the Title (set forth at the beginning of the first page of this disclosure) nor the Abstract (set forth at the end of this disclosure) is to be taken as limiting in any way as the scope of the disclosed invention(s).

[0105] The term "product" means any machine, manufacture and/or composition of matter as contemplated by 35 U.S.C. §101, unless expressly specified otherwise.

[0106] The terms "an embodiment", "embodiment", "embodiments", "the embodiment", "the embodiments", "one or more embodiments", "some embodiments", "one embodiment" and the like mean "one or more (but not all) disclosed embodiments", unless expressly specified otherwise.

[0107] The terms “the invention” and “the present invention” and the like mean “one or more embodiments of the present invention.”

[0108] A reference to "another embodiment" in describing an embodiment does not imply that the referenced embodiment is mutually exclusive with another embodiment (*e.g.*, an embodiment described before the referenced embodiment), unless expressly specified otherwise.

[0109] The terms "including", "comprising" and variations thereof mean "including but not limited to", unless expressly specified otherwise.

[0110] The terms "a", "an" and "the" mean "one or more", unless expressly specified otherwise.

[0111] The term "plurality" means "two or more", unless expressly specified otherwise.

[0112] The term "herein" means "in the present disclosure, including anything which may be incorporated by reference", unless expressly specified otherwise.

[0113] The phrase "at least one of", when such phrase modifies a plurality of things (such as an enumerated list of things) means any combination of one or more of those things, unless expressly specified otherwise. For example, the phrase at least one of a widget, a car and a wheel means either (i) a widget, (ii) a car, (iii) a wheel, (iv) a widget and a car, (v) a widget and a wheel, (vi) a car and a wheel, or (vii) a widget, a car and a wheel.

[0114] The phrase "based on" does not mean "based only on", unless expressly specified otherwise. In other words, the phrase "based on" describes both "based only on" and "based at least on".

[0115] Where a limitation of a first claim would cover one of a feature as well as more than one of a feature (*e.g.*, a limitation such as "at least one widget" covers one widget as well as more than one widget), and where in a second claim that depends on the first claim, the second claim uses a definite article "the" to refer to the limitation (*e.g.*, "the widget"), this does not imply that the first claim covers only one of the feature, and this does not imply that the second claim covers only one of the feature (*e.g.*, "the widget" can cover both one widget and more than one widget).

[0116] Each process (whether called a method, algorithm or otherwise) inherently includes one or more steps, and therefore all references to a "step" or "steps" of a process have an inherent antecedent basis in the mere recitation of the term 'process' or a like term. Accordingly, any reference in a claim to a 'step' or 'steps' of a process has sufficient antecedent basis.

[0117] When an ordinal number (such as "first", "second", "third" and so on) is used as an adjective before a term, that ordinal number is used (unless expressly specified otherwise) merely to indicate a particular feature, such as to distinguish that particular feature from another feature that is described by the same term or by a similar term. For example, a "first widget" may be so named merely to distinguish it from, *e.g.*, a "second widget". Thus, the mere usage of the ordinal numbers "first" and "second" before the term "widget" does not indicate any other relationship between the two widgets, and likewise does not indicate any other characteristics of either or both widgets. For example, the mere usage of the ordinal numbers "first" and "second" before the term "widget" (1) does not indicate that either widget comes before or after any other in order or location; (2)

does not indicate that either widget occurs or acts before or after any other in time; and (3) does not indicate that either widget ranks above or below any other, as in importance or quality. In addition, the mere usage of ordinal numbers does not define a numerical limit to the features identified with the ordinal numbers. For example, the mere usage of the ordinal numbers "first" and "second" before the term "widget" does not indicate that there must be no more than two widgets.

[0118] When a single device or article is described herein, more than one device or article (whether or not they cooperate) may alternatively be used in place of the single device or article that is described. Accordingly, the functionality that is described as being possessed by a device may alternatively be possessed by more than one device or article (whether or not they cooperate).

[0119] Similarly, where more than one device or article is described herein (whether or not they cooperate), a single device or article may alternatively be used in place of the more than one device or article that is described. For example, a plurality of computer-based devices may be substituted with a single computer-based device. Accordingly, the various functionality that is described as being possessed by more than one device or article may alternatively be possessed by a single device or article.

[0120] The functionality and/or the features of a single device that is described may be alternatively embodied by one or more other devices that are described but are not explicitly described as having such functionality and/or features. Thus, other embodiments need not include the described device itself, but rather can include the one or more other devices which would, in those other embodiments, have such functionality/features.

[0121] Devices that are in communication with each other need not be in continuous communication with each other, unless expressly specified otherwise. On the contrary, such devices need only transmit to each other as necessary or desirable, and may actually refrain from exchanging data most of the time. For example, a machine in communication with another machine via the Internet may not transmit data to the other machine for weeks at a time. In addition, devices that are in communication with each other may communicate directly or indirectly through one or more intermediaries.

[0122] A description of an embodiment with several components or features does not imply that all or even any of such components and/or features are required. On the contrary, a variety of optional components are described to illustrate the wide variety of possible embodiments of the present invention(s). Unless otherwise specified explicitly, no component and/or feature is essential or required.

[0123] Further, although process steps, algorithms or the like may be described in a sequential order, such processes may be configured to work in different orders. In other words, any sequence or order of steps that may be explicitly described does not necessarily indicate a requirement that the steps be performed in that order. The steps of processes described herein may be performed in any order practical. Further, some steps may be performed simultaneously despite being described or implied as occurring non-simultaneously (*e.g.*, because one step is described after the other step). Moreover, the illustration of a process by its depiction in a

drawing does not imply that the illustrated process is exclusive of other variations and modifications thereto, does not imply that the illustrated process or any of its steps are necessary to the invention, and does not imply that the illustrated process is preferred.

[0124] Although a process may be described as including a plurality of steps, that does not indicate that all or even any of the steps are essential or required. Various other embodiments within the scope of the described invention(s) include other processes that omit some or all of the described steps. Unless otherwise specified explicitly, no step is essential or required.

[0125] Although a product may be described as including a plurality of components, aspects, qualities, characteristics and/or features, that does not indicate that all of the plurality are essential or required. Various other embodiments within the scope of the described invention(s) include other products that omit some or all of the described plurality.

[0126] An enumerated list of items (which may or may not be numbered) does not imply that any or all of the items are mutually exclusive, unless expressly specified otherwise. Likewise, an enumerated list of items (which may or may not be numbered) does not imply that any or all of the items are comprehensive of any category, unless expressly specified otherwise. For example, the enumerated list "a computer, a laptop, a PDA" does not imply that any or all of the three items of that list are mutually exclusive and does not imply that any or all of the three items of that list are comprehensive of any category.

[0127] Headings of sections provided in this disclosure are for convenience only, and are not to be taken as limiting the disclosure in any way.

[0128] "Determining" something can be performed in a variety of manners and therefore the term "determining" (and like terms) includes calculating, computing, deriving, looking up (*e.g.*, in a table, database or data structure), ascertaining, recognizing, and the like.

[0129] A “display” as that term is used herein is an area that conveys information to a viewer. The information may be dynamic, in which case, an LCD, LED, CRT, Digital Light Processing (DLP), rear projection, front projection, or the like may be used to form the display. The aspect ratio of the display may be 4:3, 16:9, or the like. Furthermore, the resolution of the display may be any appropriate resolution such as 480i, 480p, 720p, 1080i, 1080p or the like. The format of information sent to the display may be any appropriate format such as Standard Definition TeleVision (SDTV), Enhanced Definition TV (EDTV), High Definition TV (HDTV), or the like. The information may likewise be static, in which case, painted glass may be used to form the display. Note that static information may be presented on a display capable of displaying dynamic information if desired. Some displays may be interactive and may include touch screen features or associated keypads as is well understood.

[0130] A control system, as that term is used herein, may be a computer processor coupled with an operating system, device drivers, and appropriate programs (collectively “software”) with instructions to provide the

functionality described for the control system. The software is stored in an associated memory device (sometimes referred to as a computer readable medium). While it is contemplated that an appropriately programmed general purpose computer or computing device may be used, it is also contemplated that hard-wired circuitry or custom hardware (*e.g.*, an application specific integrated circuit (ASIC)) may be used in place of, or in combination with, software instructions for implementation of the processes of various embodiments. Thus, embodiments are not limited to any specific combination of hardware and software.

[0131] A "processor" means any one or more microprocessors, Central Processing Unit (CPU) devices, computing devices, microcontrollers, digital signal processors, or like devices. Exemplary processors are the INTEL PENTIUM or AMD ATHLON processors.

[0132] The term "computer-readable medium" refers to any medium that participates in providing data (*e.g.*, instructions) that may be read by a computer, a processor or a like device. Such a medium may take many forms, including but not limited to, non-volatile media, volatile media, and transmission media. Non-volatile media include, for example, optical or magnetic disks and other persistent memory. Volatile media include DRAM, which typically constitutes the main memory. Transmission media include coaxial cables, copper wire and fiber optics, including the wires that comprise a system bus coupled to the processor. Transmission media may include or convey acoustic waves, light waves and electromagnetic emissions, such as those generated during RF and IR data communications. Common forms of computer-readable media include, for example, a floppy disk, a flexible disk, hard disk, magnetic tape, any other magnetic medium, a CD-ROM, Digital Video Disc (DVD), any other optical medium, punch cards, paper tape, any other physical medium with patterns of holes, a RAM, a PROM, an EPROM, a FLASH-EEPROM, a USB memory stick, a dongle, any other memory chip or cartridge, a carrier wave as described hereinafter, or any other medium from which a computer can read. The terms “computer-readable memory” and/or “tangible media” specifically exclude signals, waves, and wave forms or other intangible media that may nevertheless be readable by a computer.

[0133] Various forms of computer readable media may be involved in carrying sequences of instructions to a processor. For example, sequences of instruction (i) may be delivered from RAM to a processor, (ii) may be carried over a wireless transmission medium, and/or (iii) may be formatted according to numerous formats, standards or protocols. For a more exhaustive list of protocols, the term “network” is defined below and includes many exemplary protocols that are also applicable here.

[0134] It will be readily apparent that the various methods and algorithms described herein may be implemented by a control system and/or the instructions of the software may be designed to carry out the processes of the present invention.

[0135] Where databases are described, it will be understood by one of ordinary skill in the art that (i) alternative database structures to those described may be readily employed, and (ii) other memory structures besides databases may be readily employed. Any illustrations or descriptions of any sample databases

presented herein are illustrative arrangements for stored representations of information. Any number of other arrangements may be employed besides those suggested by, *e.g.*, tables illustrated in drawings or elsewhere. Similarly, any illustrated entries of the databases represent exemplary information only; one of ordinary skill in the art will understand that the number and content of the entries can be different from those described herein. Further, despite any depiction of the databases as tables, other formats (including relational databases, object-based models, hierarchical electronic file structures, and/or distributed databases) could be used to store and manipulate the data types described herein. Likewise, object methods or behaviors of a database can be used to implement various processes, such as those described herein. In addition, the databases may, in a known manner, be stored locally or remotely from a device that accesses data in such a database. Furthermore, while unified databases may be contemplated, it is also possible that the databases may be distributed and/or duplicated amongst a variety of devices.

[0136] As used herein a "network" is an environment wherein one or more computing devices may communicate with one another. Such devices may communicate directly or indirectly, via a wired or wireless medium such as the Internet, LAN, WAN or Ethernet (or IEEE 802.3), Token Ring, or via any appropriate communications means or combination of communications means. Exemplary protocols include but are not limited to: Bluetooth™, Time Division Multiple Access (TDMA), Code Division Multiple Access (CDMA), Global System for Mobile communications (GSM), Enhanced Data rates for GSM Evolution (EDGE), General Packet Radio Service (GPRS), Wideband CDMA (WCDMA), Advanced Mobile Phone System (AMPS), Digital AMPS (D-AMPS), IEEE 802.11 (WI-FI), IEEE 802.3, SAP, SAS™ by IGT, OASIS™ by Aristocrat Technologies, SDS by Bally Gaming and Systems, ATP, TCP/IP, GDS published by the Gaming Standards Association of Fremont CA, the best of breed (BOB), system to system (S2S), or the like. Note that if video signals or large files are being sent over the network, a broadband network may be used to alleviate delays associated with the transfer of such large files, however, such is not strictly required. Each of the devices is adapted to communicate on such a communication means. Any number and type of machines may be in communication via the network. Where the network is the Internet, communications over the Internet may be through a website maintained by a computer on a remote server or over an online data network including commercial online service providers, bulletin board systems, and the like. In yet other embodiments, the devices may communicate with one another over RF, cable TV, satellite links, and the like. Where appropriate encryption or other security measures such as logins and passwords may be provided to protect proprietary or confidential information.

[0137] Communication among computers and devices may be encrypted to insure privacy and prevent fraud in any of a variety of ways well known in the art. Appropriate cryptographic protocols for bolstering system security are described in Schneier, APPLIED CRYPTOGRAPHY, PROTOCOLS, ALGORITHMS, AND SOURCE CODE IN C, John Wiley & Sons, Inc. 2d ed., 1996, which is incorporated by reference in its entirety.

[0138] The term "whereby" is used herein only to precede a clause or other set of words that express only the intended result, objective or consequence of something that is previously and explicitly recited. Thus, when the term "whereby" is used in a claim, the clause or other words that the term "whereby" modifies do not establish specific further limitations of the claim or otherwise restricts the meaning or scope of the claim.

[0139] It will be readily apparent that the various methods and algorithms described herein may be implemented by, *e.g.*, appropriately programmed general purpose computers and computing devices. Typically a processor (*e.g.*, one or more microprocessors) will receive instructions from a memory or like device, and execute those instructions, thereby performing one or more processes defined by those instructions. Further, programs that implement such methods and algorithms may be stored and transmitted using a variety of media (*e.g.*, computer readable media) in a number of manners. In some embodiments, hard-wired circuitry or custom hardware may be used in place of, or in combination with, software instructions for implementation of the processes of various embodiments. Thus, embodiments are not limited to any specific combination of hardware and software.

[0140] The present disclosure provides, to one of ordinary skill in the art, an enabling description of several embodiments and/or inventions. Some of these embodiments and/or inventions may not be claimed in the present application, but may nevertheless be claimed in one or more continuing applications that claim the benefit of priority of the present application. Applicant intends to file additional applications to pursue patents for subject matter that has been disclosed and enabled but not claimed in the present application.

Electronic Patent Application Fee Transmittal

Application Number:	
Filing Date:	
Title of Invention:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES
First Named Inventor/Applicant Name:	Jeffrey R. Ambroziak
Filer:	Carson C K Fincham
Attorney Docket Number:	CF01-001-02-02

Filed as Small Entity

Filing Fees for Track I Prioritized Examination - Nonprovisional Application under 35 USC 111(a)

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
Basic Filing:				
UTILITY FILING FEE (ELECTRONIC FILING)	4011	1	75	75
UTILITY SEARCH FEE	2111	1	330	330
UTILITY EXAMINATION FEE	2311	1	380	380
REQUEST FOR PRIORITIZED EXAMINATION	2817	1	2000	2000
Pages:				
Claims:				
Miscellaneous-Filing:				

Description	Fee Code	Quantity	Amount	Sub-Total in USD($)
PUBL. FEE- EARLY, VOLUNTARY, OR NORMAL	1504	1	0	0
PROCESSING FEE, EXCEPT PROV. APPLS.	2830	1	70	70

Petition:	
Patent-Appeals-and-Interference:	
Post-Allowance-and-Post-Issuance:	
Extension-of-Time:	
Miscellaneous:	
Total in USD ($)	**2855**

Electronic Acknowledgement Receipt

EFS ID:	40475686
Application Number:	17012325
International Application Number:	
Confirmation Number:	1035
Title of Invention:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES
First Named Inventor/Applicant Name:	Jeffrey R. Ambroziak
Customer Number:	89411
Filer:	Carson C K Fincham
Filer Authorized By:	
Attorney Docket Number:	CF01-001-02-02
Receipt Date:	04-SEP-2020
Filing Date:	
Time Stamp:	12:07:24
Application Type:	Utility under 35 USC 111(a)

Payment information:

Submitted with Payment	yes
Payment Type	CARD
Payment was successfully received in RAM	$2855
RAM confirmation Number	E202094C08022962
Deposit Account	505363
Authorized User	Carson Fincham

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	TrackOne Request	CF01-001-02-02_REQ_PE_09-04-20.pdf	124747 411d4660d6ea1e81a732c925269d99ecf3228869	no	2
Warnings:					
Information:					
2	First Action Interview - Enrollment Request	CF01-001-02-02_FAIP_09-04-20.pdf	744435 f123fbb4f1027a84d96dd5692c83b4c9bd33f659	no	3
Warnings:					
Information:					
3	Application Data Sheet	CF01-001-02-02_ADS_09-04-20.pdf	1256421 9706105cdd6a21037b865cc4b6c20bb7a79fa342	no	9
Warnings:					
Information:					
4	Oath or Declaration filed	CF01-001-02-02_DEC_09-04-20.pdf	925229 74aa60c45c2606437b16fe73ddf80a583fbef4e4	no	3
Warnings:					
Information:					
5	Drawings-only black and white line drawings	CF01-001-02-02_FIG_09-04-20.pdf	232146 b6b68390ac1816ead7425c4567eb2470235ebcd2	no	10
Warnings:					
Information:					
6		CF01-001-02-02_AP_09-04-20.pdf	344548 a25ba7341f526de4e3b709cc969639a5b63367e5	yes	36

	Multipart Description/PDF files in .zip description		
	Document Description	**Start**	**End**

	Abstract		36		36
	Claims		33		35
	Specification		1		32
Warnings:					
Information:					
7	Fee Worksheet (SB06)	fee-info.pdf	40169 54eafd97103f1d0c6045ce5f817c64ca6e666b0d	no	2
Warnings:					
Information:					
		Total Files Size (in bytes):	3667695		

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.

Doc Code: TRACK1.REQ
Document Description: TrackOne Request

PTO/AIA/424 (04-14)

CERTIFICATION AND REQUEST FOR PRIORITIZED EXAMINATION UNDER 37 CFR 1.102(e) (Page 1 of 1)

First Named Inventor:	Ambroziak	Nonprovisional Application Number (if known):	
Title of Invention:	SYSTEMS AND METHODS FOR CHARGING ELECTRIC VEHICLES		

APPLICANT HEREBY CERTIFIES THE FOLLOWING AND REQUESTS PRIORITIZED EXAMINATION FOR THE ABOVE-IDENTIFIED APPLICATION.

1. The processing fee set forth in 37 CFR 1.17(i)(1) and the prioritized examination fee set forth in 37 CFR 1.17(c) have been filed with the request. The publication fee requirement is met because that fee, set forth in 37 CFR 1.18(d), is currently $0. The basic filing fee, search fee, and examination fee are filed with the request or have been already been paid. I understand that any required excess claims fees or application size fee must be paid for the application.

2. I understand that the application may not contain, or be amended to contain, more than four independent claims, more than thirty total claims, or any multiple dependent claims, and that any request for an extension of time will cause an outstanding Track I request to be dismissed.

3. The applicable box is checked below:

I. ☑ Original Application (Track One) - Prioritized Examination under § 1.102(e)(1)

i. (a) The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a). This certification and request is being filed with the utility application via EFS-Web.

---OR---

(b) The application is an original nonprovisional plant application filed under 35 U.S.C. 111(a). This certification and request is being filed with the plant application in paper.

ii. An executed inventor's oath or declaration under 37 CFR 1.63 or 37 CFR 1.64 for each inventor, **or** the application data sheet meeting the conditions specified in 37 CFR 1.53(f)(3)(i) is filed with the application.

II. ☐ Request for Continued Examination - Prioritized Examination under § 1.102(e)(2)

i. A request for continued examination has been filed with, or prior to, this form.
ii. If the application is a utility application, this certification and request is being filed via EFS-Web.
iii. The application is an original nonprovisional utility application filed under 35 U.S.C. 111(a), or is a national stage entry under 35 U.S.C. 371.
iv. This certification and request is being filed prior to the mailing of a first Office action responsive to the request for continued examination.
v. No prior request for continued examination has been granted prioritized examination status under 37 CFR 1.102(e)(2).

Signature /Carson C.K. Fincham, Reg.#54096/	Date September 4, 2020
Name (Print/Typed) Carson C.K. Fincham	Practitioner Registration Number 54096

Note: *This form must be signed in accordance with 37 CFR 1.33. See 37 CFR 1.4(d) for signature requirements and certifications. Submit multiple forms if more than one signature is required.**

☑ *Total of 1 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.