



Inter Partes Review U.S. Patent No. 11,563,338

Oral Argument, March 31, 2026

Tesla Inc. v. Charge Fusion Technologies, LLC
Case No. IPR2025-00032

The Disputes

1. Meaning of “amount of charge”
2. Whether the following claim limitations are obvious:
 - ▶ “a slider by which an amount of charge may be specified” (e.g., I[h])
 - ▶ “vehicle charge indicator element” (e.g., I[h])
 - ▶ “vehicle sensor” limitation (e.g., I[e])
 - ▶ “sending an alert” (e.g., I[n])
 - ▶ “a web page” (e.g., claim 2)
 - ▶ “a smartphone (e.g., claim 5)

Petitioner's Grounds

'338 Grounds	Basis	Disputed Claims
Ground 1: Ferro, Oyobe, Donnelly, Letendre, Zeigler, and Galvez-Ramos	§ 103	1-4, 6-7, 9-13, 15-16, 18-22, 24-25, 27
Ground 2: Ferro, Oyobe, Donnelly, Letendre, Zeigler, and Galvez-Ramos, Knockeart	§ 103	5, 8, 14, 17, 23, 26
Ground 3: Ferro, Donnelly, Letendre, Sutardja	§ 103	28 and 29

Amount of Charge

Reflecting this description to the slider embodiment, the user would specify “a given charge amount” which, in context of the Figure 7 embodiment of the ’338 Patent, would be “80%”. The system would then determine “an estimate of how far the vehicle can travel on [the] given charge amount” of “80%” and display that “estimate” as “110 miles”. EX1001, 15: 2-7 and FIG. 7.

PO Sur-Reply (Paper 23), 6.

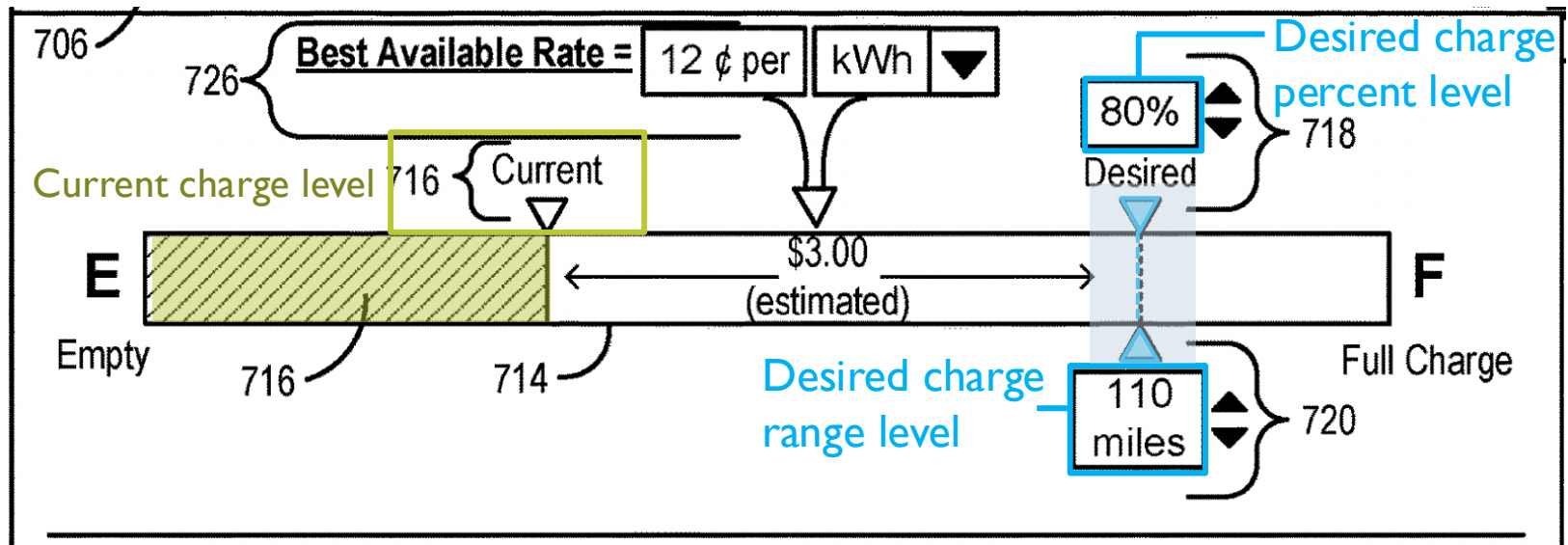


Amount of Charge

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, 15:1-15:11.

Amount of Charge



Ex. 1001, FIG. 7 (annotated excerpt).

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, Claim 1 (h).

Amount of Charge

- ▶ The terms “charge amount” and “charge level” are used interchangeably.

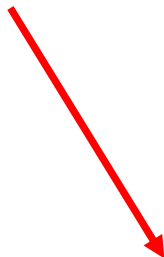
The user may also or alternatively view and/or change the desired charge range level 720. An estimate of how far the vehicle can travel on a given charge amount (which may be a general average and/or may be computed based on a specific itinerary and/or past driving habits) can be determined, for example, 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, 14:62-15:11.

Predefined Threshold is Not Limited to Pet Mode

**No connection
(i.e., no antecedent
basis)**

$I(j)-I(m)$



$I(n)$

receive a selection of a mode of operation of the electric vehicle that is defined by a stored temperature at 65 which a temperature control system of the electric vehicle is to be set to maintain the interior temperature of the electric vehicle while the electric vehicle remains in a parked state;
display via the graphical user interface an indication of a status of the selected mode of operation of the electric vehicle, wherein the selected mode of operation comprises maintaining the interior temperature of the electric vehicle suitable for a pet located within the electric vehicle;
operate the temperature control system of the electric vehicle in accordance with the selected mode of operation for a duration of time;

determine that an amount of charge residing in a battery of the electric vehicle has reached a predefined threshold; and
send an alert to an operator of the electric vehicle indicative of the charge residing in the battery having reached the predefined threshold.

Ex. 1001, 29:64-30:17.

Predefined Threshold Includes Ranges

if the cost of electricity is over \$0.10/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).

Ex. 1001, 19:47-57 (annotated).

No Inconsistency in Prior Decisions

'338 Patent

receive a selection of a mode of operation of the electric vehicle that is defined by a stored temperature at 65 which a temperature control system of the electric vehicle is to be set to maintain the interior temperature of the electric vehicle while the electric vehicle remains in a parked state;
display via the graphical user interface an indication of a status of the selected mode of operation of the electric vehicle, wherein the selected mode of operation comprises maintaining the interior temperature of the electric vehicle suitable for a pet located within the electric vehicle;
operate the temperature control system of the electric vehicle in accordance with the selected mode of operation for a duration of time;

determine that an amount of charge residing in a battery of the electric vehicle has reached a predefined threshold; and
send an alert to an operator of the electric vehicle indicative of the charge residing in the battery having reached the predefined threshold.

Ex. 1001, 29:64-30:17.

'135 Patent

display via the user interface a visual indicia for selecting a mode of operation of the electric vehicle the selected mode of operation operating to determine and maintain an interior temperature of the electric vehicle suitable for a pet located within the electric vehicle;
receive an indication of an activation of the selected mode of operation of the electric vehicle; and

operate a climate control mechanism of the electric vehicle while the vehicle is in a parked state and in accordance with the selected mode of operation for a duration of time until the amount of charge residing in the battery reaches a predetermined level.

Ex. 1094, 29:36-47.

Connection to climate control is claimed for "threshold"

Amount of Charge

Conclusion

“an amount of charge” includes at least setting a charge percent level (%) OR a charge range level (distance)

The Disputes

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2. Whether the following claim limitations are obvious:
 - ▶ “a slider by which an amount of charge may be specified” (e.g., I[h])
 - ▶ “vehicle charge indicator element” (e.g., I[h])
 - ▶ “vehicle sensor” limitation (e.g., I[e])
 - ▶ “sending an alert” (e.g., I[n])
 - ▶ “a web page” (e.g., claim 2)
 - ▶ “a smartphone (e.g., claim 5)

The Prior Art Teaches I[h]

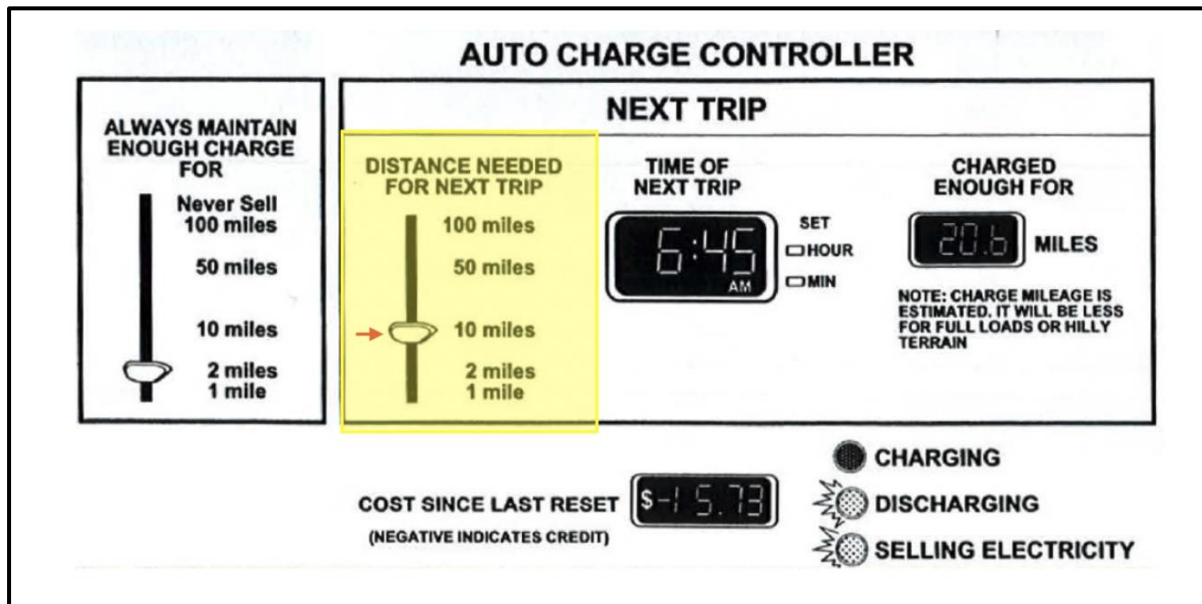
wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface and adapted to display a vehicle charge indicator element comprising a first 55 portion indicative of an amount of charge residing in a battery of the electric vehicle and a second 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 60 an amount of charge may be specified;

Ex. 1001, 29:52-61.

The Prior Art Teaches I[h]

- ▶ Kempton and Letendre (1997) article refers to the controls as “sliders”

Ex. 1073 (Kempton), 6.



Ex. 1007 (Letendre), 9 (annotated excerpt).

The driver has two parameters to set—the length of the expected next trip (in the case shown in Figure 1, 10 miles at 6:45 the next morning), and the minimum range that must always be maintained, e.g. for an emergency

Ex. 1007 (Letendre), 11.

The Prior Art Teaches I[h]

wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface and adapted to display a vehicle charge indicator element comprising a first 55 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 60 an amount of charge may be specified;

Ex. 1001, 29:52-61.

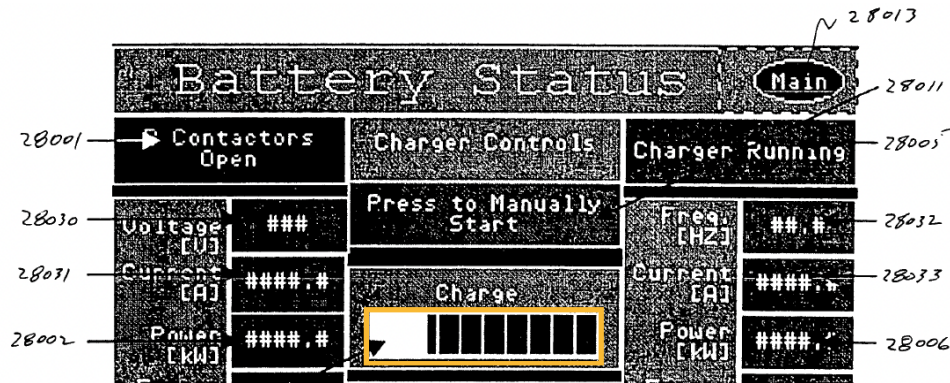
- ▶ Donnelly teaches a GUI for an electric vehicle with a bar graph



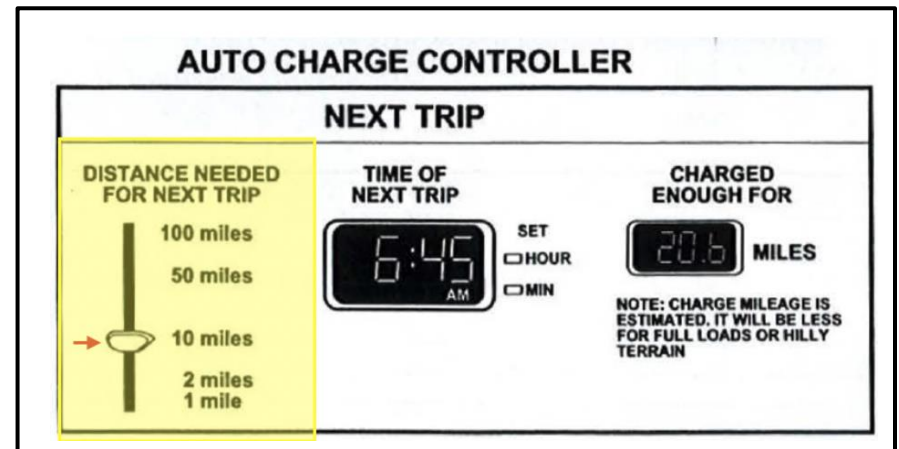
Ex. 1006 (Donnelly), 23:31-33.

The Prior Art Teaches I[h]

- ▶ PO challenges the POSITA's ability to resolve scale differences



Ex. 1006 (Donnelly), FIG. 28
(annotated excerpt).



Ex. 1007 (Letendre), 9 (annotated excerpt).

The Prior Art Teaches I[h]

“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference....Rather, the test is what **the combined teachings** of the references would have suggested to those of ordinary skill in the art.”

MCM Portfolio LLC v. Hewlett-Packard Co.,
812 F.3d 1284, 1294 (Fed. Cir. 2015).

The Prior Art Teaches I[h]

- ▶ PO argues subcomponents of “vehicle charge indicator element” (i.e., “first portion,” “second portion,” “slider”) must be “all integrated together”PO Response (Paper 17), 26.

wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface and 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, 29:52-61.

The Prior Art Teaches I[h]

- ▶ To the extent PO argues specific coding is required – there is no such requirement in the claim nor is specific coding described in the specification.

PO Response (Paper 17), 26.

Where software constitutes part of carrying out an invention, “writing code for such software is within the skill of the art, not requiring undue experimentation, once its functions have been identified.”

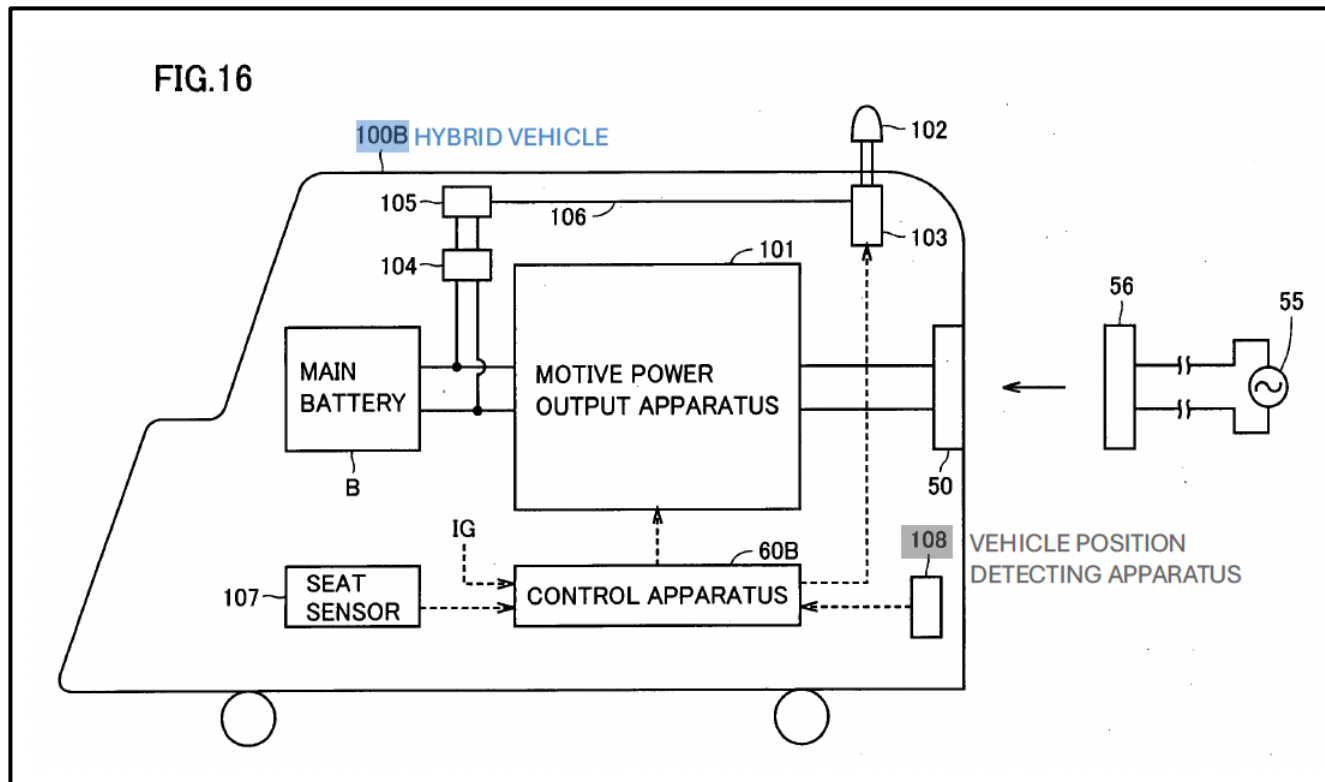
Fonar Corp., v. General Elect. Co., 107 F.3d, 1543, 1549 (Fed. Cir. 1997).

The Prior Art Teaches I [e]

1. An electrical charging system, comprising:
 - a vehicle sensor;
 - a communication device;
 - a processor in communication with the vehicle sensor and the communication device; and 35
 - a memory in communication with the processor, the memory storing instructions that when executed by the processor cause the processor to:
 - receive, from the vehicle sensor, information indicative 40
 - of a presence of an electric vehicle in a parking
 - space;

Ex. 1001, 29:31-41.

The Prior Art Teaches I[e]



Ex. 1005 (Oyobe),
Fig. 16 (annotated).

20 **[0142]** Vehicle position detecting apparatus 108 detects whether or not hybrid vehicle 100B is parked at the location where charging equipment is installed.

Ex. 1005 (Oyobe),
[0141]-[0143].

The Prior Art Teaches I [e]

- ▶ Ferro teaches manual charging initiation

[0109] Thus, in this illustrative embodiment, the process for generating dynamic energy transaction plan 424 begins when electric vehicle 400 arrives at charging station 403 and indicates an intention to charge, de-charge, or store electric energy on electric vehicle 400. Electric vehicle 400 may indicate an intention to begin a charging transaction by plugging into an electric outlet for charging/discharging electric power, selecting an option for charging/discharging electric power at an input/output device associated with charging station 403, informing an operator or attendant of charging station 403, or otherwise indicating a desire to begin a charging transaction.

Ex. 1004 (Ferro), [0109].

- ▶ Ferro also teaches wireless charging, but without implementation details

[0036] Electric vehicle 116 connects to charging station 118 via an electrical outlet or other electricity transfer mechanism. The electricity may also be optionally transferred via wireless energy transfer, also referred to as wireless power transfer, in which electrical energy is transferred to a load, such as electric vehicle 116, without interconnecting wires.

Ex. 1004 (Ferro), [0036].

The Prior Art Teaches I[e]

PO's motivation to combine argument was previously rejected

The sufficiency of implementation details noted by Patent Owner are generally that Ferro teaches its vehicle and charging station connected to a network, as well as ways in which charging can be manually initiated. PO Resp. 57–58 (citing Ex. 1006 ¶¶ 37, 109). This disclosure does not detract from Petitioner's proposed modifications.

FWD, IPR2023-00062, Paper 35, p. 28.



The Prior Art Teaches I[n]

determine that an amount of charge residing in a battery of the electric vehicle has reached a predefined threshold; and

send an alert to an operator of the electric vehicle indicative of the charge residing in the battery having reached the predefined threshold.

Ex. 1001, 30:12-17.

- ▶ PO challenges whether displaying an alert on the screen is “send[ing] an alert to the operator. POR (Paper 17), 47-53.

- ▶ The specification says it is:

“[T]he ECS can communicate with the user/driver to alert the driver...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”

Ex. 1001, 20:18-26.

The Prior Art Teaches Claims 2, 11, and 20

Exemplary Claim 2:

2. The electrical charging system of claim 1, wherein the graphical user interface is adapted to display a web page.

Ex. 1001, 30:18-19.

Letendre's Teachings:

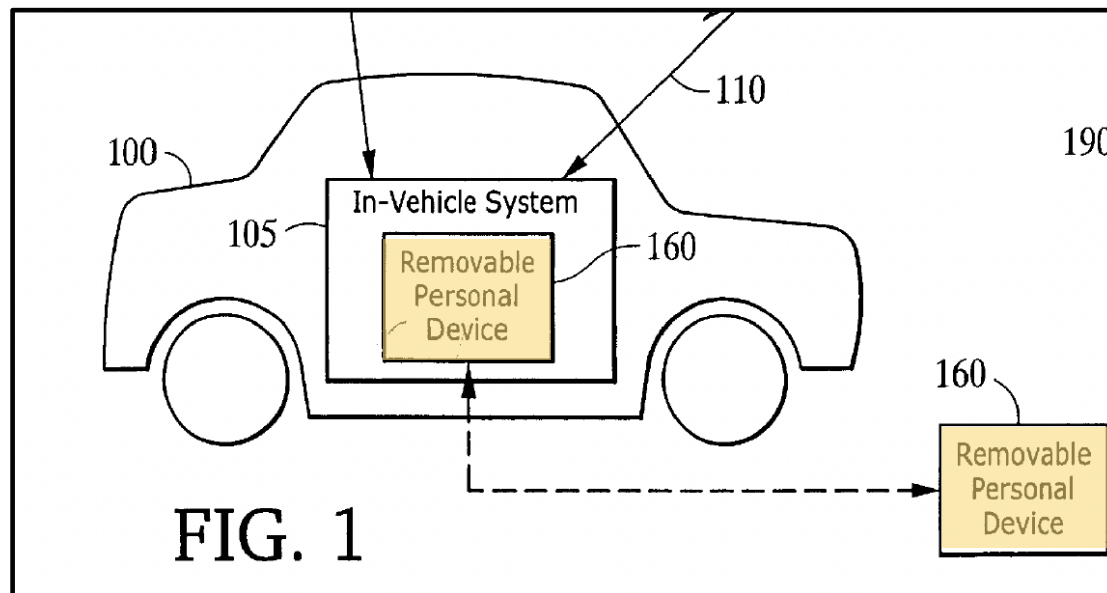
vehicle owners settings. An example control panel is shown in Figure 1. Whether the control is physical, on the dash, or on a Web page, the idea is basically the same. The driver has two parameters to set—the length of the expected next trip (in the case shown in Figure 1, 10 miles at 6:45 the next morning), and the minimum range that must always be maintained, e.g. for an emergency room trip, two miles. (As we will see in

Ex. 1007 (Letendre), 10-11.

The Prior Art Teaches Claims 5, 8, 14, 17, 23, and 26

- ▶ These dependent claims further require a smartphone

Knockart's Teachings:



Ex. 1010 (Knockart), Fig 1 (excerpt, annotated).

Conclusion

Oral Argument, March 31, 2026

Tesla Inc. v. Charge Fusion Technologies, LLC
Case No. IPR2025-00032

APPENDIX



Claim 1

1. An electrical charging system, comprising:

a vehicle sensor;

a communication device;

a processor in communication with the vehicle sensor and the communication device; and 35

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

I(e) receive, from the vehicle sensor, information indicative of a presence of an electric vehicle in a parking 40 space;

receive, from the communication device, 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 an operator of the electric vehicle; 45

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 electric vehicle; 50

I(h) wherein at least one of the one or more charging preferences is defined by user input received via a graphical user interface and adapted to display a vehicle charge indicator element comprising a first 55 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 60 an amount of charge may be specified;

charge, in accordance with the charging schedule, the electric vehicle;

receive a selection of a mode of operation of the electric vehicle that is defined by a stored temperature at 65 which a temperature control system of the electric vehicle is to be set to maintain the interior temperature

of the electric vehicle while the electric vehicle remains in a parked state;

display via the graphical user interface an indication of a status of the selected mode of operation of the electric vehicle, wherein the selected mode of operation comprises maintaining the interior temperature of the electric vehicle suitable for a pet located within the electric vehicle;

operate the temperature control system of the electric vehicle in accordance with the selected mode of operation for a duration of time;

I(n) determine that an amount of charge residing in a battery of the electric vehicle has reached a predefined threshold; and

I(n) send an alert to an operator of the electric vehicle indicative of the charge residing in the battery having reached the predefined threshold.

Inter Partes Review
U.S. Patent Nos. 11,990,788 and
11,631,987

Oral Argument, March 31, 2026

Tesla Inc. v. Charge Fusion Technologies, LLC
Case No. IPR2025-00152/00153

Petitioner's Grounds

'788 Grounds	Basis	Disputed Claims
Ground 1: Sutardja, Donnelly, Letendre	§ 103	1-4, 6-9, 11-14
Ground 2: Sutardja, Donnelly, Letendre, Seelig	§ 103	5, 10, 15
Ground 3: Sutardja, Donnelly, Letendre, Knockeart	§ 103	16-17

'987 Grounds	Basis	Disputed Claims
Ground 1: Ferro, Oyobe, Donnelly, Letendre, Seelig	§ 103	1-4, 6-11, 13-18, 20-27, 29-30
Ground 2: Ferro, Oyobe, Donnelly, Letendre, Seelig, Knockeart	§ 103	5, 12, 19, 28

Similarity to '338 Patent Discussion

'338 Patent	'788 Patent	'987 Patent
"amount of charge"		 *only claims 1-21
A slider setting an "amount of charge"		
Vehicle charge indicator element	modifying Sutardja and element is "unitary"	element is "unitary"
"parking space"		
"send an alert"		
"display a web page"		
"smartphone"	 *claim 17	 *claims 5, 12, 19, 28

 = same argument

 = does not apply

The Amount of Charge Argument Applies to the '788 and '987 IPRs:

1. '987 IPR – “amount of charge” appears only in claims 1-22
2. '788 limitation I [b][vi] requires “wherein the desired charge level of the battery represents a specific amount of charge desired to reside in the battery.”

New Disputes in the '788 and '987 IPRs:

1. “Unitary” vehicle charge indicator element (Both)
2. Printed subject matter (Both)
3. Seelig’s teaching of a “charge initiation signal” (Both)
4. The '788 IPR’s reliance on Sutardja

'987 Patent Owner Response (Paper 18), 16-19, 23-25, 51-53; Petitioner’s '987

▶ Reply,(Paper 19), 7-11, 20-21; '788 Patent Owner Response (Paper 18), 14-19, 36-39;

Petitioner’s '987 Reply (Paper 19), 8-12, 17-19.

Petitioner’s DX-36

- ▶ **“at least includes** a bar graph comprising the charged, uncharged, and slider portions, such as illustrated in FIG. 7”

[illegible]

- ▶ '788 Petition (Paper I), 6-7; '987 Petition (Paper I), 4-5.

“Unitary” Vehicle Charge Indicator Element

- ▶ The prior art teaches a “unitary” vehicle charge indicator element

Regarding '788:

Regardless, the Petition mapped Claim 1[b][iii] as a single element by “includ[ing] Letendre’s graphical slider **on the charge level bar graphic presented on the GUI**, where the operator moves the slider to specify a desired charge.” Pet., 40 (emphasis added); EX1003, ¶171. Therefore, the Petition identifies a prior art combination that satisfies the “unitary vehicle charge indicator element” limitation even under PO’s erroneous construction, as discussed further below at IV.A.

Regarding '987:

Regardless, the Petition mapped Claim 1[i] as a single element by “includ[ing] Letendre’s graphical slider **on the charge level bar graph of the GUI as a *third portion***, where the operator moves the slider to specify a desired charge.” Pet., 60 (emphasis added); EX1003, ¶236. Even if the “indicator element” term requires the subcomponents to be “all integrated together,” the limitation is met.

Printed Subject Matter

▶ Exemplary Claim language:

(i) a first portion indicative of an amount of charge residing in a battery of the electric vehicle;
(ii) a second portion indicative of an uncharged capacity of the battery of the electric vehicle; and

Ex. 1001 ('788 Patent), 29:50-53.

▶ Printed Matter Doctrine:

1. **Step 1** – Claim language claims the content of information
2. **Step 2** – Functional relationship to the substrate; interrelated to the rest of the claim

Praxair Distrib., Inc. v. Mallinckrot Hosp. Prods. IP Ltd., 890 F.3d 1024, 1032 (Fed. Cir. 2018).

Seelig Teaches a Control Signal

transmit a control signal to a parking space charge 50
device that starts a charging, in accordance with the
charging schedule, of the vehicle;

'987 Patent at 29:50-52;

See also '788 Patent, claims 5, 10, 15.

- ▶ PO admits Seelig teaches a “charge initiation signal, which starts charging for a predetermined time[.]” PO response ('788 Patent), 37-38.
- ▶ PO does not dispute that Seelig’s “charge initiation signal” is transmitted to a parking space. PO response ('788 Patent), 37-38.
PO response ('987 Patent), 51-53.

Seelig Teaches a Control Signal

- ▶ **Combination:** Ferro initiates a request to begin charging, and Seelig's charge initiation signal is then sent to the parking space charge device to charge the vehicle according to Ferro's charge transaction plan

'987 Petition (Paper I), 40-48.

[0060] In this example, the charging phase begins when energy transaction execution engine 316 sends the transaction plan generated by dynamic energy transaction planner 310 for approval by dynamic energy transaction plan approval service 312, initiates the request to begin charging the electric vehicle, monitors and logs the health and safety of charging process 318, and receives requests from energy transaction

Ex. 1004 (Ferro), [0060].

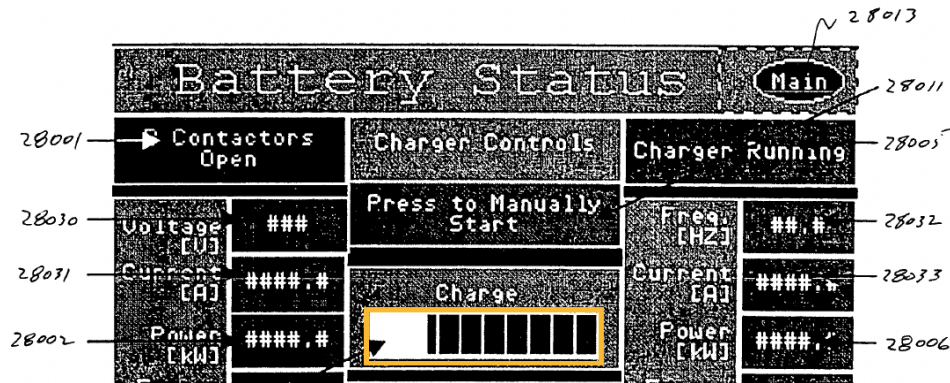
'788 Patent: Sutardja

► Sutardja's Teachings:

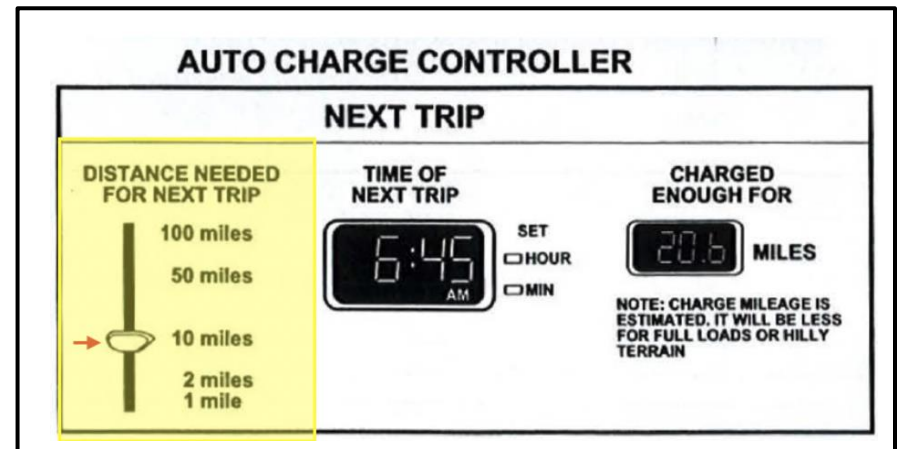
1. “[A] user” may “set charging parameters for charging the battery”
EX1011 (Sutardja), [0243], [0262].
2. Control module receives the data input by the user
EX1011 (Sutardja), [0244].
3. Charging monitoring module informs control module “when the battery 14 is charged to a predetermined level (e.g., full charge) that may be indicated by the charging parameters.” EX1011 (Sutardja), [0270].

'788 Patent: Sutardja

- ▶ PO challenges the POSITA's ability to resolve scale differences



Ex. 1006 (Donnelly), FIG. 28
(annotated excerpt).



Ex. 1007 (Letendre), 9 (annotated excerpt).

- ▶ '788 Petition (Paper I), 40-43; Patent Owner's '788 Response (Paper I8), 30-31; Petitioner's '788 Reply (Paper I9), 14-16.

Conclusion

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