

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TESLA, INC.,
Petitioner,

v.

UNICORN ENERGY GMBH,
Patent Owner.

IPR2022-00110
Patent 10,008,869 B2

Before HUBERT C. LORIN, NABEEL U. KHAN, and
CHRISTOPHER L. OGDEN, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background*

Tesla, Inc. (“Petitioner”) filed a Revised Petition to institute an *inter partes* review of claims 1–3, 5–7, 9, 10, 17, 19, 24, 27, and 28 of U.S. Patent No. 10,008,869 B2 (Ex. 1001, “the ’869 patent”) pursuant to 35 U.S.C. § 311 *et seq.* Paper 6 (“Petition” or “Pet.”). Unicorn Energy GmbH (“Patent Owner”) filed a Preliminary Response. Paper 21 (“Preliminary Response” or “Prelim. Resp.”).

We have authority under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted unless the information presented in the Petition and the Preliminary Response 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.” 35 U.S.C. § 314(a) (2018).

After considering the Petition, the Preliminary Response, and the evidence of record, we deny Petitioner’s request to institute an *inter partes* review as to the challenged claims of the ’869 patent on the grounds of unpatentability presented.

B. *Related Proceeding*

The parties identify the following related district court proceeding: *Unicorn Energy GmbH v. Tesla, Inc.*, Case No. 5:21-cv-07476-BLF (N.D. Cal.) (transferred from the Eastern District of Texas, where the case was known as *Unicorn Energy GmbH v. Tesla, Inc.*, Case No. 2:20-cv-00338-JRG). Pet. 3; Paper 4, 1.

C. *Real Parties in Interest*

Petitioner identifies itself as the real party-in-interest. Pet. 3. Patent Owner identifies itself, as well as “Preiß Beteiligungs GmbH, which owns

more than 50% of Patent Owner's stock," as the real parties-in-interest.
Paper 4, 1.

D. The '869 Patent

1. Disclosure

The '869 patent is titled "Supply Network Component for a Supply Network." Ex. 1001, code (54). In particular, the invention relates to a supply network component that can "be an energy store, an energy converter or an energy source or else an energy consumer." *Id.* at 1:18–20. The '869 patent recognizes a problem with certain large lithium battery packs in which a cell defect requires that "the entire battery unit has to be replaced, which results in high costs." *Id.* at 3:38–40. Accordingly, where "[s]olutions for exchanging individual cells or partial regions do not exist," the '869 patent aims "to provide a supply network component which can be used in a mobile and flexible manner and is suitable in particular for use in a scalable supply network." *Id.* at 4:34–42.

Figure 1, reproduced below, shows a schematic view of an embodiment of a supply network component.

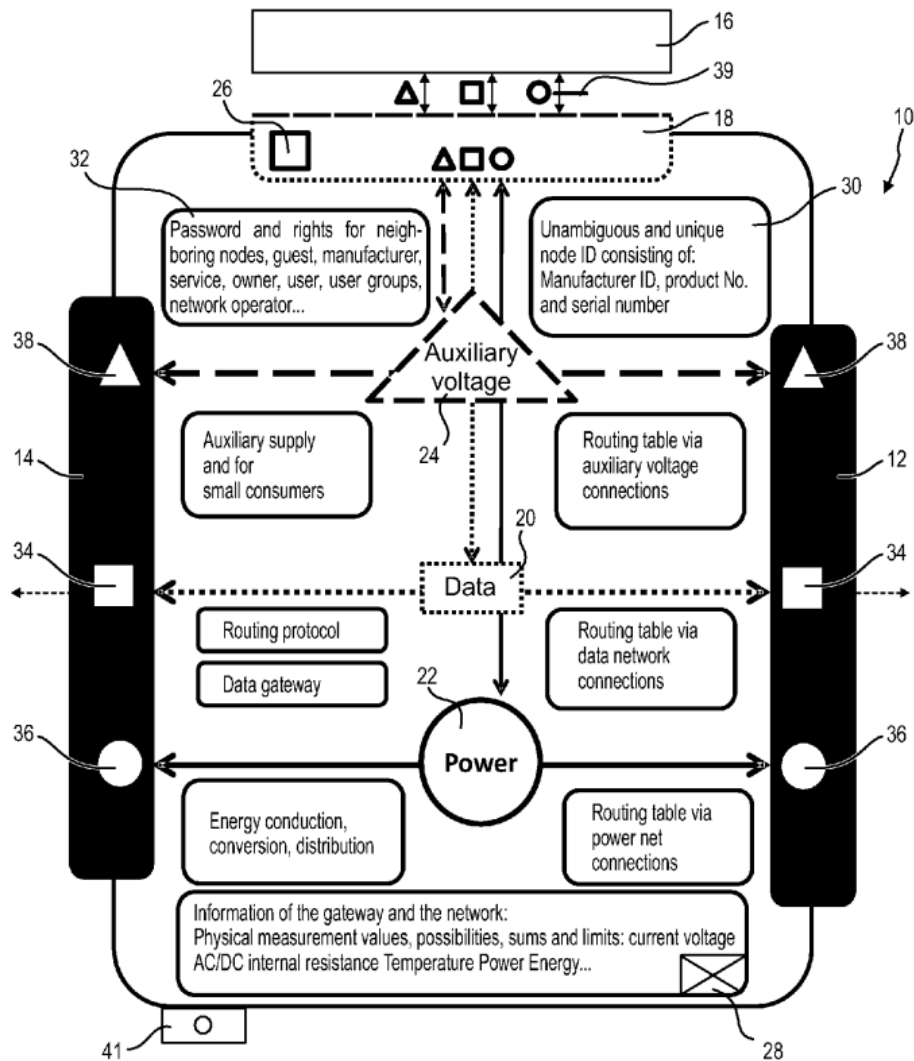


Fig. 1

As shown in Figure 1 above, supply network component 10 includes first contact unit 12 and second contact unit 14, by which the supply network component can be connected to other supply network components in a supply network having electrical energy as the network medium. *Id.* at 13:50–60. Functional group 16, which can be configured “as energy store, energy converter, energy source or as energy consumer,” is connected to the first and second contact units via coupling unit 18, which is also known as a gateway. *Id.* at 13:62–67. Power mesh 22 provides for transport of

electrical energy, while data mesh 20 allows communication among the supply network components, and exists in parallel with the power mesh. *Id.* at 14:1–8. Supply network component 10 may also include switch 39 that “serves to interrupt transmission of the network medium, electrical energy in the present embodiment, from and to the functional group 16.” *Id.* at 14:60–65. Switch 39 enables functional group 16 to be disconnected from power mesh 22 when, for example, “functional group 16 is no longer functional or has been classified as dangerous on account of specific instances of parameters being exceeded.” *Id.* at 14:66–15:5.

2. Claims

The ’869 patent has 28 claims and Petitioner challenges claims 1–3, 5–7, 9, 10, 17, 19, 24, 27, and 28 of the ’869 patent. Pet. 5–6. Claims 1 and 27 are independent. Claims 2, 3, 5–7, 9, 10, 17, 19, and 24, depend from claim 1 and claim 28 depends from claim 27.

Independent claim 1, reproduced below, is illustrative:

1. An energy storing component for a supply network for electrical energy as a network medium, comprising:

at least one contact unit for contacting a further energy storing component of the supply network;

an energy store comprising at least one battery cell, and

at least one gateway for coupling the at least one contact unit with the energy store,

wherein the at least one contact unit has a communication interface for communicating with a further energy storing component of the supply network and a transport interface for transporting the electrical energy to the further energy storing component;

wherein the energy storing component comprises at least one switch for separating the energy store from the network medium, the energy storing component being configured to cooperate with

the communication interface such that the energy storing component is separated from the network medium in response to an autonomous identification of incompatibility of the energy storing component with the present supply network.

Ex. 1001, 21:14–34.

E. The Asserted Grounds

Petitioner challenges claims 1–3, 5–7, 9, 10, 17, 19, 24, 27, and 28 of the '869 patent based on the grounds set forth in the table below.

Ground	Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
I	1–3, 5, 7, 9, 10, 17, 19, 24, 27, 28	103(a)	Robinson ¹
II	1–3, 5–7, 9, 10, 17, 19, 24, 27, 28	103(a)	Robinson, Juzkow ²
III	3	103(a)	Robinson, Scheucher ³ ; Robinson Juzkow, Scheucher
IV	24	103(a)	Robinson, Boskovitch ⁴ ; Robinson, Juzkow, Boskovitch

Pet. 5–6.

Petitioner also relies on the Declaration of Arthur MacCarley, Ph.D., PE (Ex. 1002, “MacCarley Decl.”), which provides evidence in support of the contentions in the Petition. Patent Owner has not submitted a declaration or other testimonial evidence of an expert in support of its contentions.

¹ US 2011/0006603 A1, published Jan. 13, 2011 (Ex. 1006) (“Robinson”).

² “Development of a BB-2590/U rechargeable lithium-ion battery,” *Journal of Power Sources* 80, 286–292 (1999) (Ex. 1035) (“Juzkow”).

³ US 8,026,698 B2, issued Sep. 27, 2011 (Ex. 1037) (“Scheucher”).

⁴ US 6,882,129 B2, issued Apr. 19, 2005 (Ex. 1030) (“Boskovitch”).

II. ANALYSIS

A. Claim Construction

Claim construction in this proceeding is governed by 37 C.F.R. § 42.100(b), which provides:

In an *inter partes* review proceeding, a claim of a patent, or a claim proposed in a motion to amend under §42.121, shall be construed 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), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.

Under the standard set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–19 (Fed. Cir. 2005) (en banc), claim terms are given their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history of record. *See Thorner v. Sony Comput. Ent. Am. LLC*, 669 F.3d 1362, 1365–66 (Fed. Cir. 2012). There is a “heavy presumption” that a claim term carries its ordinary and customary meaning. *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002).

Only those terms that are in controversy need to be construed, and only to the extent necessary to resolve the controversy. *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999).

That being said, we address here the construction of the claim phrase “network medium” as it undergirds our analysis. Ex. 1001, 21:15, 27, and 31 (claim 1); 22:63, 66, and 23:16 (claim 27).

Petitioner states that “the parties agreed [during the district court proceeding] that the preambles of claims 1 and 27 are limiting and that the claimed ‘network medium’ should be limited to ‘electrical energy,’ which is ‘in the... network.’” Pet. 25 (citing in support Exs. 1007–1017).

Also, Petitioner presents a chart listing constructions Patent Owner proposed during the district court proceeding, which includes “network medium” as having been construed to be “electrical energy in the supply network,” where “supply network” is a “scalable collection of interconnected electrical devices for supplying consumers with electrical energy.” *Id.* at 27. Petitioner indicates that this construction is “applied by Petitioner.” *Id.* at 26.

Patent Owner discusses constructions it believes should be given various phrases recited in the claim but does not specifically address “network medium.” *See generally* Prelim. Resp. 6–16.

Accordingly, given the parties do not disagree at this stage on the construction of “network medium,” we apply it in our analysis; that is, “network medium” is electrical energy in a scalable collection of interconnected electrical devices for supplying consumers with electrical energy in our analysis.

B. Legal Standards

A patent claim is unpatentable as obvious if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art; (2) any differences

between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of obviousness or non-obviousness. *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)). Petitioner cannot satisfy its burden of proving obviousness by employing “mere conclusory statements.” *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016).

C. Level of Ordinary Skill in the Art

With regard to the level of ordinary skill in the art, Petitioner contends that:

A POSITA at the time of the alleged invention would have a Bachelor’s or Master’s degree in electrical engineering, or a related field, with at least several years of practical or research experience in the design and development of electrical energy power and storage systems.

Pet. 7 (citing MacCarley Decl. ¶ 13).

Patent Owner does not address the level of ordinary skill in the art.

See generally Prelim. Resp.

We adopt Petitioner’s definition because it is not contested.

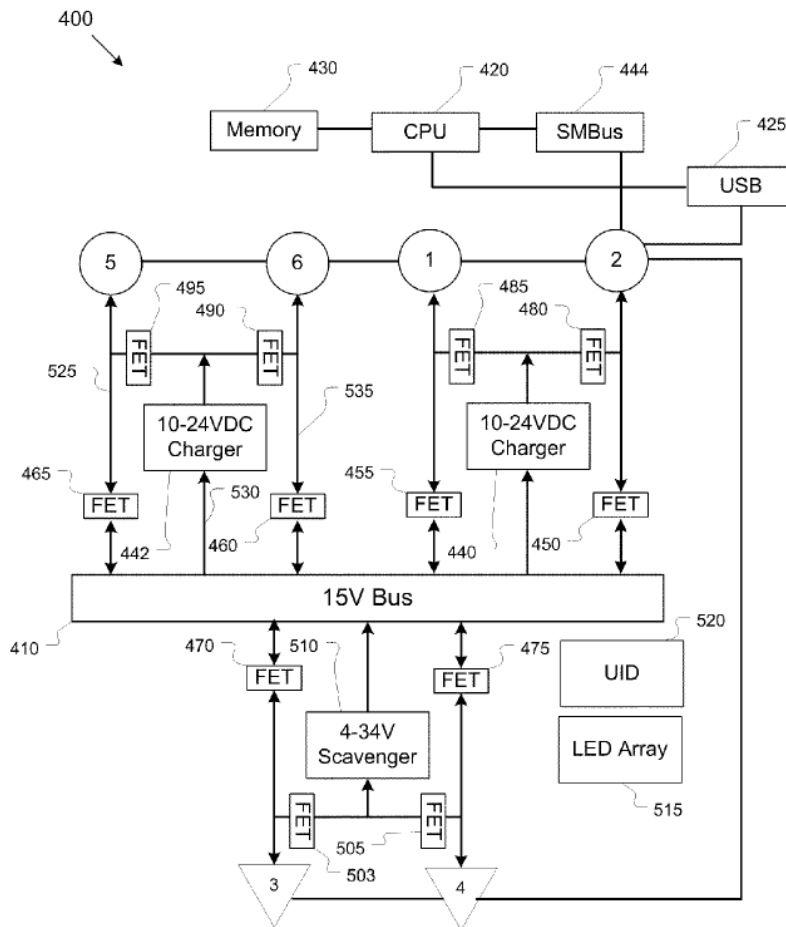
D. Overview of the Prior Art References

1. Robinson (Ex. 1006)

Robinson is titled “Portable Power Manager Operating Methods.” Ex. 1006, code (54). Specifically, Robinson relates to “a portable power manager configured with a plurality of device ports suitable for

simultaneous electrical interconnection with two or more external power devices” so as “to establish a network of power devices and to exchange power between the portable power manager and networked external power devices.” *Id.* ¶ 4.

Figure 4, reproduced below, shows a preferred embodiment of a power manager. *Id.* ¶ 118.



As shown in Fig. 4 above, power manager 400 includes six device ports, each having an electrical connector connected to a common conductor, such as power bus 410. *Id.* Data processing device 420 in the power manager connects to each of the device ports via network interface device 444. *Id.* ¶ 120. “[I]f an operably connected power device or smart cable is

appropriately configured, the data processing device (420) and network interface device (444) cooperate to exchange the power characteristic information and/or power management signals with the operably connected device.” *Id.* Such exchanges may include, for example, a request to change a power characteristic like output current, or a request “to operably disconnect the power device from the bus.” *Id.* ¶ 121. Each device port in the power manager may be connected or disconnected from power bus 410 over one of two power channels, each power channel including a switch “to controllably complete or interrupt” the power channel. *Id.* ¶ 127. The switches are in communication with data processing unit 420 and are opened or closed responsive to power management signals from the data processing unit. *Id.* ¶ 130.

Figure 5, reproduced below, shows a power network configuration including several portable power managers. *Id.* ¶ 148.

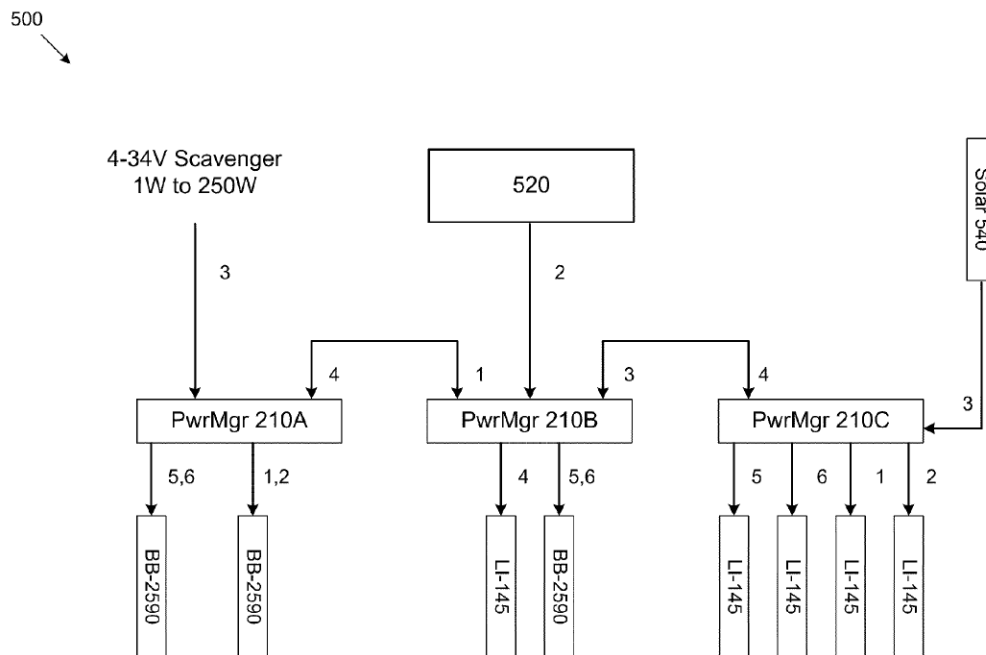


FIGURE 5

As shown in Figure 5 above, three portable power managers 210-A, 210-B, and 210-C, each configured as in the Figure 4 embodiment, are connected together to form power network 500. *Id.* Power manager 210-A, for example, is connected to two BB-2590 battery packs, each pack including two independent rechargeable batteries, with the batteries connected to different device ports of the power manager by different cables. *Id.* “A scavenger power source” may be connected to power manager 210-A by another device port, and may be “a wind turbine, vehicle battery or the like, a fuel cell generator, a gasoline powered generator or 110 or 220 VAC power grid port.” *Id.* ¶ 149. Through respective device ports, power manager 210-A is connected to power manager 210-B, and power manager 210-B is connected to power manager 210-C, and those other power managers are connected to other batteries. *Id.* ¶¶ 150–152.

2. *Juzkow (Ex. 1035)*

Juzkow is an article titled “Development of a BB-2590/U rechargeable lithium-ion battery.” Ex. 1035. Juzkow describes development of the BB-2590/U rechargeable lithium-ion battery as a replacement for existing BB-XX90/U batteries. *Id.* at 286. The BB-2590/U battery “was designed to accommodate 24 ICR-18650 lithium-ion cells as two 12-cell modules” with electronic circuitry “utilized to provide maximum safety and reliability.” *Id.* at 288.

3. *Scheucher (Ex. 1037)*

Scheucher is titled “Scalable Intelligent Power Supply System and Method.” Ex. 1037, code (54). Scheucher generally relates to “interchangeable battery powered electric vehicle management systems which include rechargeable, swap-able and replaceable battery packs at electric vehicle refueling stations.” *Id.* at 1:13–17.

4. *Boskovitch (Ex. 1030)*

Boskovitch is titled “Battery Pack for a Battery-Powered Vehicle.” Ex. 1030, code (54). Boskovitch describes an embodiment in which “a synchronous serial data message is also transmitted on a periodic basis from one battery pack to the other,” and if the message is not received within an expected time frame, “the battery packs will be disconnected from the power source/load.” *Id.* at 8:19–23. “The same disconnect feature may be activated whenever a predetermined fault occurs.” *Id.* at 8:23–25.

E. *Discretion under 35 U.S.C. § 325(d)*

Patent Owner presents arguments (Prelim. Resp. 17–27) that the same or substantially similar art and arguments presented in the Petition were previously presented to the Office and contends that the two-part framework (*see Advanced Bionics, LLC v. MED-EL Elektromedizinische Geräte GmbH*, IPR2019-01469, Paper 6 at 8 (PTAB Feb. 13, 2020) (precedential)) that the Board applies in evaluating such arguments under § 325(d) “strongly favors denying institution under § 325(d)” (Prelim. Resp. 17) in this case.

In view of our determination that Petitioner has not met the threshold for instituting review on the merits, we decline to reach Patent Owner’s arguments for a discretionary denial.⁵

F. *Ground I*

Petitioner challenges claims 1–3, 5, 7, 9, 10, 17, 19, 24, 27, and 28 as unpatentable under 35 U.S.C. § 103(a) in view of Robinson. Pet. 30–69.

⁵ Nor do we comment on the prosecution of U.S. Patent Application No. 14/472,883 that Petitioner discusses – apparently in anticipation of this issue being raised. Pet. 1–2 and 23–25.

1. *Independent claim 1*⁶
a) *“energy storing component”*

Claim 1 is drawn to an “energy storing component” comprising four elements:

- 1[a] a “contact unit” comprising a “communication interface” and a “transport interface”;
- 1[b] an “energy store” comprising a “battery cell”;
- 1[c] a “gateway”; and,
- 1[e] a “switch.”

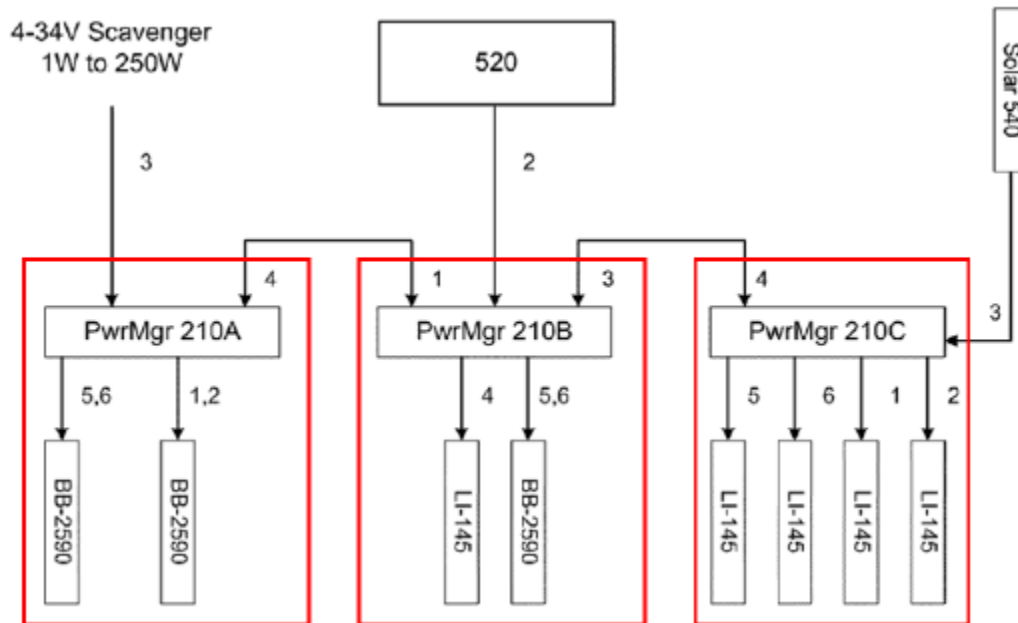
Ex. 1001, 21:14–34.

Claim 1 further functionally limits each of the elements (except the “energy store”) as well as the entire “energy storing component.” We will analyze the functional limitations associated with the “switch” and the “energy storing component” in the next section.

(1) *Petitioner’s contention*

Petitioner contends that “Robinson discloses a scalable collection of interconnected power managers with rechargeable batteries to form power networks with sources, loads, and rechargeable batteries. (E.g., Robinson, [0106], Figs. 3,5.)” Pet. 47–48. To exemplify this, Petitioner provides an annotated version of Fig. 5 of Robinson (reproduced below) which Petitioner argues “depict[s] the networked power managers as devices that store energy (i.e., ‘energy storing components’).” *Id.* at 48; MacCarley Decl. ¶ 161.

⁶ We adopt Petitioner’s parsing of claim 1 in order to follow the presentation in the Petition. *See* Pet. 9–10, 47–69.

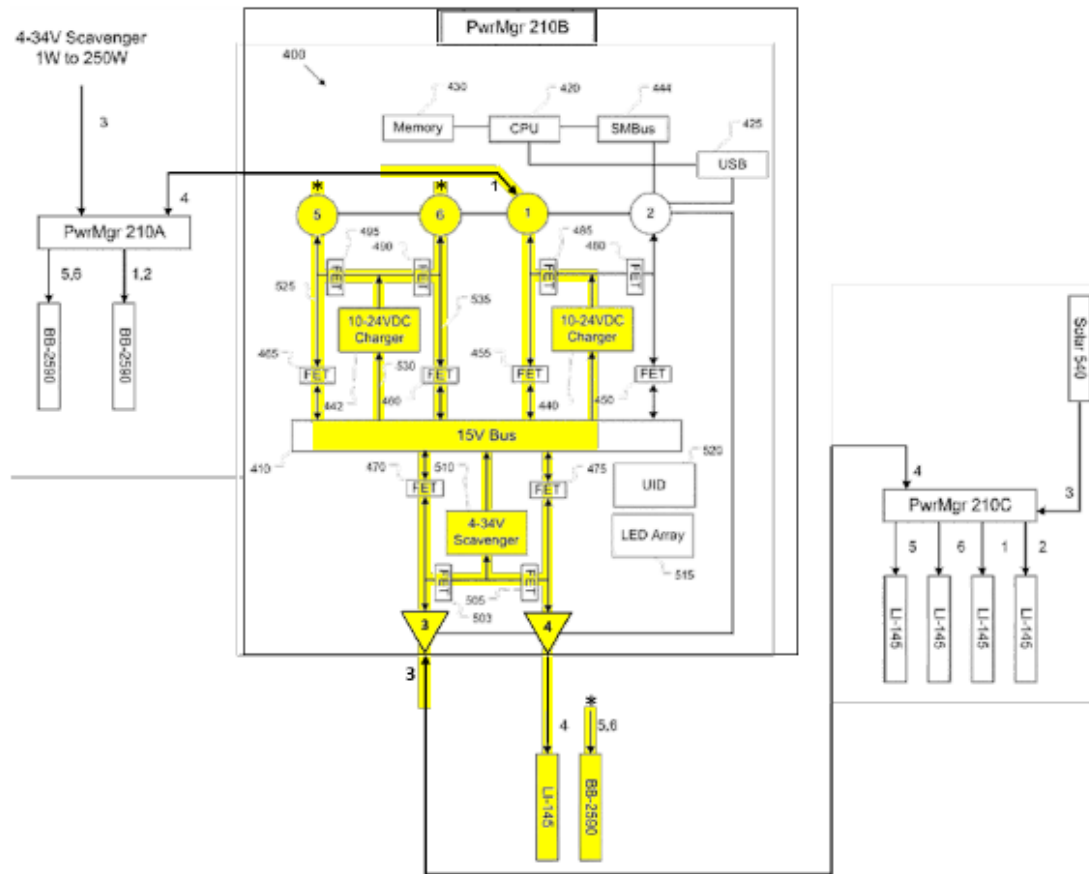


Petitioner’s annotated version of Fig. 5 outlining in red the “energy storing components,” i.e., networked power managers (e.g., 210B) and batteries (e.g., BB–2590).

Petitioner presents three scenarios involving Robinson’s interconnected power managers/rechargeable batteries that Petitioner believes shows that Robinson discloses the four basic elements of the claimed “energy storing component.” Pet. 31–47. Two scenarios are discussed in relation to the embodiment depicted in Figure 1 of the ’869 patent (*see supra*) and one scenario in relation to an embodiment depicted in Figure 10 of the ’869 patent. *Id.* at 31.

In the first scenario, the claim limitation “an energy store comprising at least one battery cell” “may be satisfied by a single ‘battery cell.’ (MacCarley, ¶145.)” *Id.* at 37.

To illustrate how Robinson discloses the four basic elements claimed in this scenario, Petitioner first combines Robinson’s Figs. 4 and 5 (reproduced above) to yield the composite figure (“Robinson Fig. 4/5”) reproduced below:

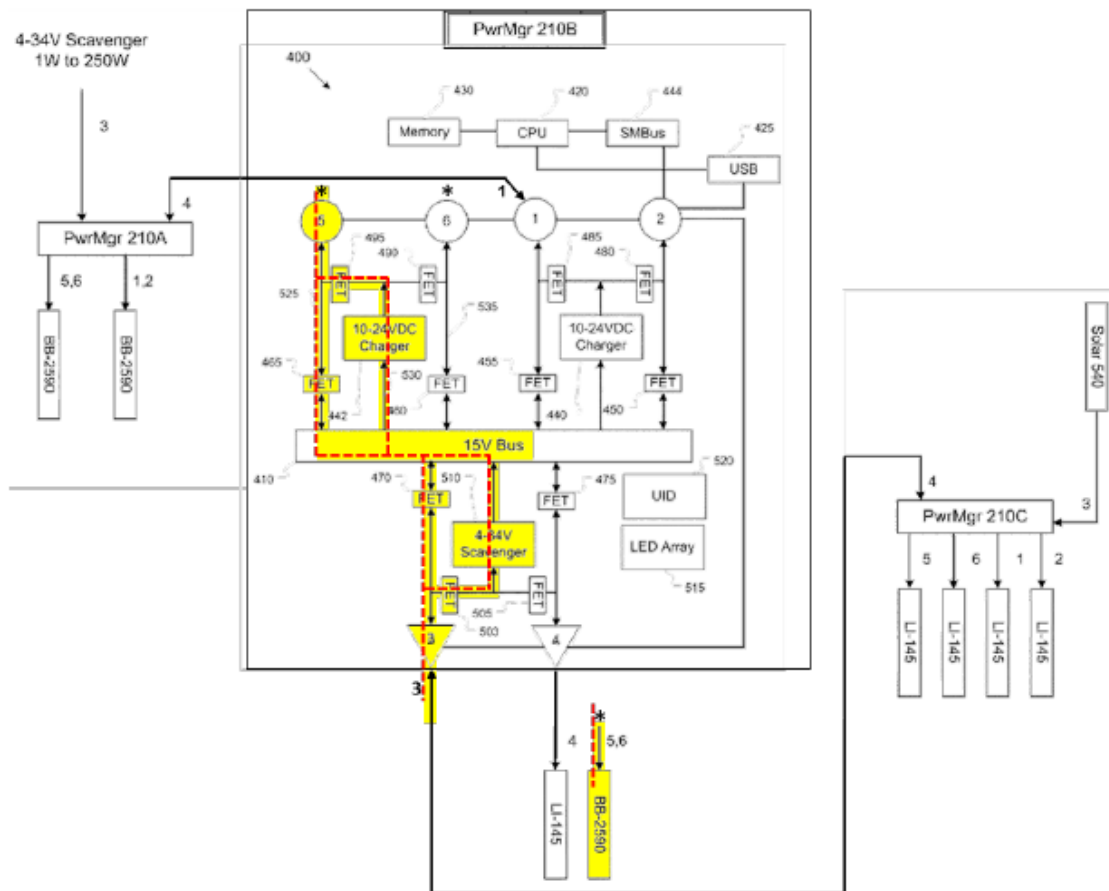


Robinson Fig. 4/5 with electrical pathways highlighted in yellow.

Id. at 32; MacCarley Decl. ¶ 137.

Petitioner explains (as highlighted in yellow in the above figure) that Robinson Fig. 4/5 demonstrates the electrical pathways between power managers 210A and 210C on ports 1 and 3 of power manager 210B and batteries on ports 4, 5, and 6, the pathways passing through a power bus (410). *Id.* at 31–32; MacCarley Decl. ¶¶ 137–138. Petitioner further explains that “[t]he pathways include controllable switches (FETs) and power converters (440, 442, 510) that control whether the operative connection occurs over a first power channel (without power conversion) or a second power channel (with power conversion).” Pet. 32–33 (citing MacCarley Decl. ¶ 138; Ex. 1006 ¶¶ 135–136).

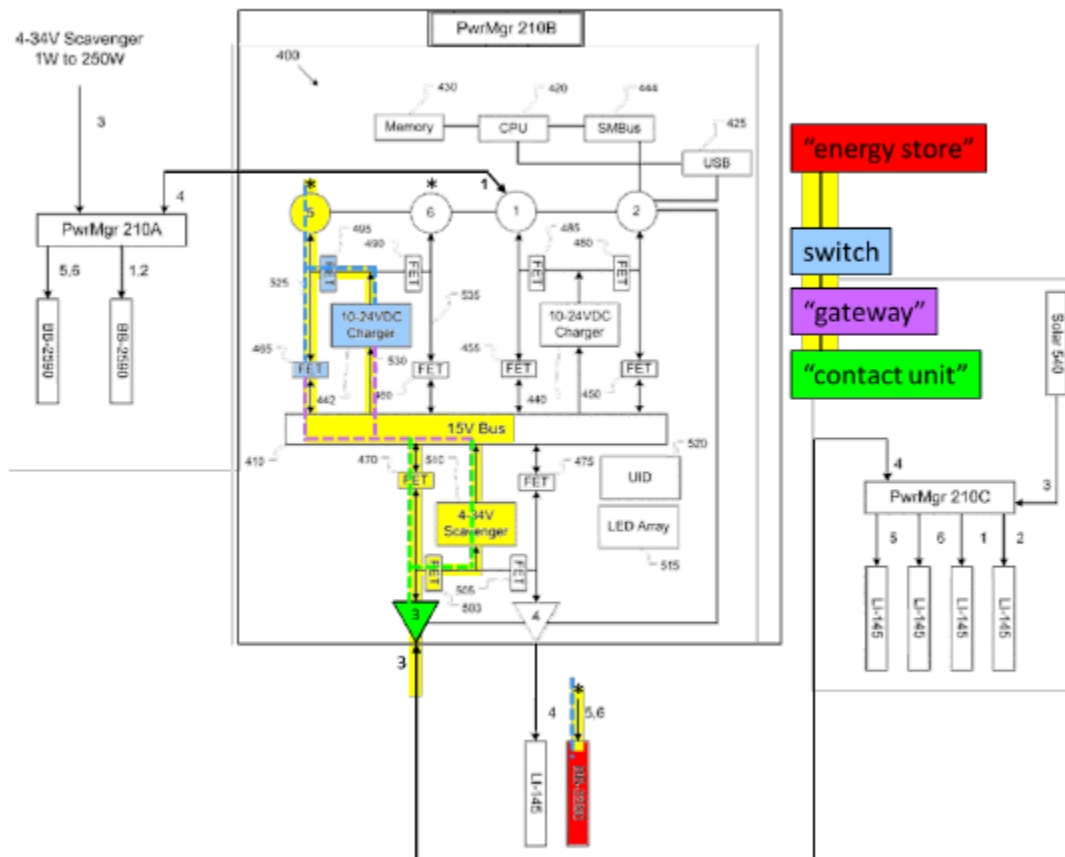
According to Petitioner, Robinson exemplifies “pathways between port 3 (connected to power manager 210C) and port 5 (connected to a battery in BB-2590) with and without power conversion to/from power bus 410 to the ports,” which Petitioner depicts with red dashed lines in annotated Robinson Fig. 4/5, reproduced below:



Robinson Fig. 4/5 highlighting in yellow and red dashed lines the electrical pathway between ports 3 and 5.

Pet. 33; MacCarley Decl. ¶ 139.

Petitioner contends that Robinson Fig. 4/5 shows the four elements along said pathway, as depicted in Petitioner’s annotated version of Robinson Fig. 4/5 reproduced below:



Petitioner’s annotated version of Robinson Fig. 4/5 depicting the “energy store” (red), “switch” (blue), “gateway” (purple dashed line), and “contact unit” (green dashed line).

Pet. 40; MacCarley Decl. ¶ 151.

(2) *Patent Owner's contention*

Patent Owner disagrees with Petitioner, contending instead that Robinson does not disclose an “energy storing component” with the elements as claimed. Prelim. Resp. 30–33. According to Patent Owner, “each power manager [in Robinson] does not include an energy store such that it could be an ‘energy storing component’ because it ‘operates to draw power from external power sources or external energy storage devices operably connected to device ports thereof.’” *Id.* at 32 (emphases omitted) (quoting Ex. 1006 ¶ 61). According to Patent Owner, “Robinson’s power

manager is merely an external controlling device that can connect to a battery-containing unit.” *Id.* at 33 (citing Ex. 1006 ¶¶ 4, 61; Ex. 1003, 208 (prosecution history)).

According to Patent Owner, “Robinson . . . fails to disclose—and, indeed, teaches away from—the *integration* of energy storage and control circuitry into the same storage device as claimed in the ’869 patent.” *Id.* at 42 (emphasis added).

(3) Discussion

Patent Owner’s contention rests on the assumption that the claim requires all the elements of the “energy storing component” to be *integrated* into a single device. *See, e.g.*, Prelim. Resp. 41 (“[T]he claims require the energy store and its controlling circuitry to be part of the same device.”). Patent Owner appears to recognize, however, that Petitioner’s position is based on a broader reading of the claim. *See id.* at 36 (“Petitioner does not read Robinson as teaching a power manager and battery integrated into the same device.”)

It is unnecessary for us to resolve whether the claim requires the elements to be integrated into the same device or not. In any case, for reasons to follow, Petitioner does not sufficiently show that Robinson discloses or renders obvious “the energy storing component being configured to cooperate with the communication interface such that the energy storing component is separated from the network medium” (1[e](2)). We find that the scenario Petitioner describes via its annotated version of Robinson Fig. 4/5 sufficiently shows that Robinson discloses the four basic elements of the claimed “energy storing component.” It is unnecessary to further consider whether Petitioner’s two other scenarios also show that Robinson discloses the four basic elements.

b) Functional limitations

We now turn to the question of whether Petitioner has shown that Robinson discloses the two functional limitations:

- 1[e] (1) “at least one switch for separating the energy store from the network medium” (Ex. 1001, 21:26–28); and
- 1[e] (2) “the energy storing component being configured to cooperate with the communication interface such that the energy storing component is separated from the network medium” (*id.* at 21:28–31).

Both functional limitations include a separability requirement vis-à-vis the “network medium.” The “switch” is “*for separating* the energy store from the network medium” and the “energy storing component” is configured such that it “*is separated* from the network medium.” Thus, the claim requires the “switch” (1[e]) and the “energy storing component” (1[a]–1[e]) to be *separable* from the “network medium.” Given the construction of “network medium” that we are applying (*see supra* Section II.A.; Pet. 27), the “switch” and the “energy storing component” must, moreover, be separable from *electrical energy in a scalable collection of interconnected electrical devices for supplying consumers with electrical energy*.

Petitioner variously identifies the power bus or the “electricity” on the power bus as the “network medium.” *See, inter alia*, Pet. 63 (“the electricity on the power bus (i.e., the ‘network medium’)” (citing MacCarley Decl. ¶¶ 200–215)), 69 (“the power bus (i.e., ‘network medium’)” (citing MacCarley Decl. ¶ 213)). Robinson’s power bus is indicated on Petitioner’s annotated version of Robinson Fig. 4/5 reproduced above by reference element 410 (“15V Bus”).

Petitioner argues that Robinson discloses a “switch” and an “energy storing component” separable from electrical energy in the power bus and that that disclosure satisfies the two functional limitations 1[e](1) and 1[e](2) of the claim. *Id.* at 58–69.

(1) “switch”

Functional limitation 1[e](1) requires “at least one switch for separating the energy store from the network medium” (Ex. 1001, 21:26–28).

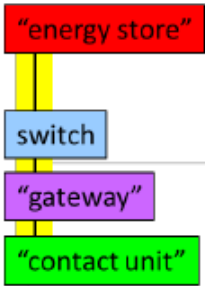
Petitioner identifies a number of elements on its annotated version of Robinson Fig. 4/5 as switches. Petitioner explains:

Robinson discloses claim element 1[e](1). (*See* MacCarley, ¶¶ 193–194.) For example, in Robinson’s power manager embodiment (400) of Figure 4, “each device port has a first controllable switch (450, 455, 460, 465, 470, 475) disposed in the first power channel between the device port and the power bus (410)” and “a second controllable switch (480, 485, 490, 495, 503, 505) disposed in the second power channel between the device port and the power bus (410).” (Robinson, [0136].) “The first controllable switch (465) is closed to connect the device port (5) to the power bus (410) over the first power channel (525) or the first controllable switch (465) is opened to interrupt the first power channel (525) and disconnect the device port (5) from the power bus.” (Robinson, [0127].) Robinson further discloses that “[t]he power converter may also operate as a controllable switching element to connect or disconnect the second power channel (530) device port (5) to and from the power bus (410) by attenuating DC current amplitude essentially to zero.” (Robinson, [0129].)

Pet. 58–59.

Below is Petitioner’s annotated version of Robinson Fig. 4/5 further annotated with thin orange ovals outlining the first controllable switches and thin orange rectangles outlining the second controllable switches identified by Robinson. The first power channel 525 and second power channel 530 indications are outlined with a thicker oval and rectangle, respectively. First

¶ 194).



depicted in red in the figure above. *Id.*

the “network medium”, Petitioner would have to show a switch for

separating the battery unit from electrical energy on the power bus in order to satisfy functional limitation 1[e](1).

In that regard, Petitioner argues that “when port 5 of Robinson’s power manager [i.e., “PowrMgr 210B”] connects to a battery, the power manager is an ‘energy storing component’ that comprises at least one switch [e.g., 465] for separating the energy store [i.e., the battery] from the network medium [i.e., electrical energy on the power bus]” *Id.* at 59.

Petitioner does not further explain how employing one controllable switch (e.g., 465) to interrupt one power channel (e.g., 525) of Robinson’s power manager would necessarily separate the battery unit from *electrical energy* on the power bus as the claim limitation requires. Interrupting one channel does not appear to prevent the other power channel (535) and/or converter (442) from supplying electrical energy to the power bus.

On the other hand, employing the switches/converter to fully separate the battery unit from the power bus raises another problem given what the claim calls for as a whole.

If the battery unit on port 5 of Robinson’s power manager is fully separated from the power bus, the “energy storing component”—that is, Robinson’s power manager/battery unit combination—would cease to function as an “energy storing component.” That would make it impossible to configure the “energy storing component” “to cooperate with the communication interface such that the energy storing component is separated from [electrical energy on the power bus].” (1[e](2)).

Be that as it may, the greater difficulty is with Petitioner’s argument that Robinson discloses 1[e](2).

(2) “energy storing component”

Functional limitation 1[e](2) requires “the energy storing component being configured to cooperate with the communication interface such that the energy storing component is separated from the network medium” (Ex. 1001, 21:28–31).

(a) *Petitioner’s argument*

Petitioner explains that Robinson discloses

that “*the power manager (190) operates independently to monitor the states of locally connected power devices and connect or disconnect[] the locally connected power devices to the local power bus and distribute power in accordance with the local energy management schema. (Robison, [0089].) Robinson also teaches the use of lights to indicate the status of the device port’ s connection:*

A second set of three LED’s or other indicator lights (1240), e.g. colored red, yellow, and green, may also be associated with each device port to indicate three status levels of the device ports such as *green for connected to power bus, yellow for communicating with the power manager but not connected to the power bus or red for no device connected, wrong device type connected or various other error conditions.*

(Robinson, [0189].)

Pet. 62. According to Petitioner,

Robinson teaches that the power manager can be configured with various operating methods that read data from other power devices connected to the supply network, including physical parameters, that the energy management schema uses to autonomously self-determine compatibility/incompatibility with the present supply network and *whether to connect or disconnect (or keep disconnected) the power device ports to/from the electricity on the power bus (i.e., the “network medium”).* (MacCarley, ¶¶200-215.)

Id. at 63 (emphasis added).

From this Petitioner argues that claim limitation 1[e](2) is satisfied when Robinson separates “offending” or incompatible power devices from electrical energy on the power bus using the switches or the power converter; the “offending” power devices being those that may “potentially [cause] damaging electric energy in the network (i.e., ‘network medium’).” Pet. 64 (citing MacCarley Decl. ¶¶ 203–205 and Ex. 1006, ¶¶ 173–174 (“causing the power manager to isolate the offending device from connection to the power bus”)); *see also id.* at 65–69 (citing MacCarley Decl. ¶¶ 206–215, for similar arguments resting on Robinson’s disclosure of separating incompatible power devices from the power bus).

We find that the Robinson passages Petitioner has cited and the relevant paragraphs in the MacCarley Declaration support Petitioner’s contention that Robinson discloses separating “offending” or incompatible power devices from electrical energy on the power bus.

(b) Patent Owner’s argument

Patent Owner disagrees that Robinson’s disclosure of separating “offending” or incompatible power devices from electrical energy on the power bus is sufficient to satisfy 1[e](2).

Patent Owner contends that Robinson does not disclose 1[e](2) “because it does not teach or suggest ‘that the **energy storing component is separated** from the network medium.’” Prelim. Resp. 48.

According to Patent Owner, there is always electrical energy in the power bus. *Id.* at 48–49. Patent Owner explains that Robinson keeps the power manager connected to the external network at all times. *Id.*

Indeed, Robinson confirms that the intended purpose of the power manager is to **remain connected** to the external network “to prevent a power loss.” Robinson, [0174]. Thus, a key function of Robinson is to keep the power manager connected to the network to “prevent

connected power loads from an interruption in power when a power source is either unexpectedly disconnected, drops in voltage or is otherwise unable to meet the power demands of the power bus.” *Id.*; see also Robinson, [206] (“This is an important feature of the power manager of the present invention because a user can fully utilize every battery source without the fear of a power down or performance interruption of a mission critical device being powered by the power manager.”).

Id.

In support, Patent Owner cites inter alia paragraph 99 of Robinson which states in part:

The power manager (210) is specifically configured for man-portable applications and especially configured to avoid power interruptions to mission-critical power devices connected to the power manager. As such, the power manager (210) is preferably operated with two power or energy sources (270), (280) connected to two different device ports at all times and with at least one power or energy source having an operating Voltage that matches a bus Voltage of the power manager.

Id. at 49. According to Patent Owner, this disclosure shows that Robinson discloses “that the power manager keeps ‘two power or energy sources . . . connected to two different device ports at all times’ to ‘avoid power interruptions’ and prevent power loss to the network.” *Id.* (citing Ex. 1006, ¶ 206) (alteration in original).

Patent Owner adds that

[a]s further indicated in Petitioner’s Figure 4/5, (Pet., 60), when the switch isolates the battery pack BB-2590 from the power manager 15V bus, ***the bus remains energized and connected to the rest of the network.*** Thus, by drawing a box around both the power manager and BB-2590 [see Petitioner’s annotated version of Fig. 5, reproduced in section II.F.1.a)], Petitioner describes a ‘device’ that is never ‘separated from the present supply network’ as required by 1[e(2)].

Id. at 49.

(c) *Discussion*

After careful review of the parties' arguments and evidence in support thereof, we find that Petitioner has insufficiently shown that Robinson discloses functional limitation 1[e](2).

The problem with Petitioner's position is that Petitioner does not adequately explain why separating "offending" devices from the power bus, as Robinson discloses, amounts to "the energy storing component [being] separated from the network medium" (1[e](2)).

As previously indicated, the claimed "energy storing component" is the combination of claim elements 1[a], 1[b], 1[c] and 1[e]. Petitioner has directed us to Robinson's power manager/battery pack combination as disclosing said combination of elements, and illustrated it in Petitioner's annotated version of Robinson Fig. 4/5 (*see supra*). That combination includes the power bus.

Also as previously indicated (*see the discussion in Section II.A above*), Petitioner has construed "network medium" as "electrical energy in the supply network," where "supply network" is a "scalable collection of interconnected electrical devices for supplying consumers with electrical energy" and identified the power bus as having that electrical energy. Pet. 27.

It follows from those earlier positions that Petitioner would then have to show that Robinson discloses separating its power manager/battery pack combination from said electrical energy on the power bus in order to show that Robinson discloses (1[e](2)).

But instead Petitioner argues that Robinson's disclosure of separating "offending" power devices from the power bus satisfies (1[e](2)). We do not find that Petitioner adequately explains how separating "offending" power

devices from the power bus satisfies (1[e](2)). Petitioner does not explain, for example, how separating “offending” power devices from the power bus would separate Robinson’s power manager/battery pack combination from *said electrical energy* on the power bus.

We can understand that separating “offending” power devices from the power bus, as Robinson discloses, necessarily separates *their* electrical energy from the power bus. But Petitioner has construed the “network medium” as “electrical energy in the scalable collection of interconnected electrical devices for supplying consumers with electrical energy,” not electrical energy from “offending” power devices. *See* the discussion in Section II.A. above. Petitioner does not explain how electrical energy from the “offending” power devices equates to “electrical energy in the scalable collection of interconnected electrical devices for supplying consumers with electrical energy.”

For this reason, Petitioner’s reliance on Robinson’s disclosure of separating “offending” power devices from the power bus insufficiently supports its contention that Robinson shows an “energy storing component” separable from a “network medium” so as to satisfy 1[e](2).

In addition, Patent Owner persuasively shows that Robinson discloses a system to prevent power loss to the network. Prelim. Resp. 49 (citing Ex. 1006, ¶ 206); *see supra* Section II.F.1.b)(2)(b). Robinson discloses that it seeks to “prevent connected power loads from an interruption in power when a power source is either unexpectedly disconnected, drops in voltage or is otherwise unable to meet the power demands of the power bus.” Ex. 1006, ¶ 174; Prelim. Resp. 48. Robinson supports Patent Owner’s contention that Robinson’s power bus is maintained with electrical energy from the “supply

network.” Prelim. Resp. 49 (“*the bus remains energized and connected to the rest of the network*”).

Given this disclosure, separating “offending” power devices from the power bus would not sufficiently separate Robinson’s power manager/battery pack from “electrical energy in the scalable collection of interconnected electrical devices for supplying consumers with electrical energy” (i.e., “network medium”) on the power bus. Although it would separate the power manager/battery pack combination from any electrical energy associated with the “offending” power devices, it would not necessarily separate it from the “network medium” as Petitioner has construed it.

For the foregoing reasons, we find Petitioner insufficiently shows that Robinson discloses functional limitation 1[e](2).

Nor does Petitioner include an obviousness analysis explaining why one of ordinary skill in the art would have modified Robinson’s system to arrive at an “energy storing component” with said function. *See generally* Pet. 60–69. Therefore, we find Petitioner has also insufficiently shown that Robinson renders functional limitation 1[e](2) obvious to one of ordinary skill in the art.

Finally, to follow up on the problem we raised earlier with respect to Petitioner’s position with respect to 1[e](1), we have noted that Petitioner points to the battery unit on port 5 of Robinson’s power manager and argues that that is separable from electrical energy on the power bus (i.e., the “network medium”). Here, as Petitioner appears to recognize, the battery unit cannot be separated from Robinson’s power manager to satisfy element 1[e](2) because 1[e](2) requires the “energy storing component” (i.e., Robinson’s power manager/battery unit combination) to be configured to

separate from electrical energy on the power bus. In effect, Petitioner treats Robinson's power manager and battery unit as individual elements to satisfy 1[e](1) but must treat it as a single unit to satisfy 1[e](2). In this regard, we agree with Patent Owner: "If the energy storing component is the power manager plus the battery treated as a unit, then Robinson does not teach that unit as being separated from the network medium (even if a particular battery pack within the unit might be)." Prelim Resp. 49.

Summary as to Claim 1

For the foregoing reasons, Petitioner has not shown that Robinson discloses or renders obvious the second functional limitation (1[e](2)) calling for the "energy storing component" to be separable from the "network medium" as that phrase has been construed and therefore has not provided a showing that all the limitations of claim 1 of the '869 patent are disclosed or rendered obvious by Robinson.

We determine that Petitioner has not shown a reasonable likelihood of establishing the obviousness of claim 1 under Ground I.

2. *Claims 2, 3, 5, 7, 9, 10, 17, 19, 24, 27, and 28*

As noted above, Petitioner also challenges claims 2, 3, 5, 7, 9, 10, 17, 19, 24, 27, and 28 as obvious over Robinson. *See* Pet. 5.

All these claims include the second functional limitation (1[e](2)) of claim 1 calling for the "energy storing component" to be separable from the "network medium" that we have determined Petitioner has not sufficiently shown Robinson to be disclosing. Petitioner relies on its position taken with respect to claim 1 for limitation 1[e](2) in challenging the patentability of these claims. *See generally id.* at 69–84. Accordingly, for the reasons discussed with respect to claim 1, Petitioner has not provided a showing that

all the limitations of claims 2, 3, 5, 7, 9, 10, 17, 19, 24, 27, and 28 of the '869 patent are disclosed or rendered obvious by Robinson.

We determine Petitioner has not shown a reasonable likelihood of establishing the obviousness of claims 2, 3, 5, 7, 9, 10, 17, 19, 24, 27, and 28 under Ground I.

G. Grounds II–IV

Petitioner sets forth additional grounds (Grounds II–IV) challenging claims 1–3, 5–7, 9, 10, 17, 19, 24, 27, and 28 based on different combinations of Robinson, Juzkow, Scheucher, and Boskovitch. Pet. 84–96.

Petitioner does specifically address limitation 1(e)(2) but relies on its arguments with respect to Robinson under Ground I. *See, e.g., id.* at 87.

Based on our consideration of Ground I, we determine that for purposes of institution, Petitioner has not shown sufficiently that the cited art combinations disclose or render obvious the subject matter of claims 1–3, 5–7, 9, 10, 17, 19, 24, 27, and 28.

III. CONCLUSION

For the reasons discussed above, we determine that Petitioner has not demonstrated a reasonable likelihood that it would prevail in showing the unpatentability of at least one of claims 1–3, 5, 7, 9, 10, 17, 19, 24, 27, and 28 of the '869 patent. Accordingly, we do not institute an *inter partes* review of the '869 patent.

IV. ORDER

It is

ORDERED that the Petition is denied; and

FURTHER ORDERED that that no *inter partes* review is instituted.

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FOR PETITIONER:

W. Karl Renner
Andrew B. Patrick
Daniel D. Smith
FISH & RICHARDSON P.C.
axf-ptab@fr.com
patrick@fr.com
dsmith@fr.com

Heidi L. Keefe
Adam Pivovar
Samuel K. Whitt
Jennifer Volk-Fortier
COOLEY LLP
hkeefe@cooley.com
apivovar@cooley.com
swhitt@cooley.com
jvolkfortier@cooley.com

FOR PATENT OWNER:

Gary N. Frischling
David Gindler
Sean Hyberg
Jasper Tran
MILBANK LLP
gfrischling@milbank.com
dgindler@milbank.com
shyberg@milbank.com
jtran@milbank.com