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Paper No. 32
Date: October 13, 2015

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WEBASTO ROOF SYSTEMS, INC.,
Petitioner,

v.

UUSI, LLC,
Patent Owner.

Case IPR2014-00650
Patent 7,579,802 B2

Before GLENN J. PERRY, HYUN J. JUNG, and JASON J. CHUNG, *Administrative Patent Judges.*

CHUNG, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

A. Procedural Background

Webasto Roof Systems, Inc. ("Petitioner"), filed a Corrected Petition (Paper 4, "Pet.") to institute an *inter partes* review of claims 1, 6–9, 11, 15, and 16 of U.S. Patent No. 7,579,802 (Ex. 1001, "the '802 patent") pursuant to 35 U.S.C. §§ 311–319.

UUSI, LLC ("Patent Owner") filed a Preliminary Response. Paper 9. On October 17, 2014, we instituted review as to claims 1, 6–9, 11, 15, and 16 of the '802 patent and instituted trial on five grounds of unpatentability as set forth below. Paper 14 ("Dec. on Inst.").

Claims	Grounds	Reference
1, 6–9, 15, and 16	§ 103(a)	Lamm[1] and Itoh[2]
11	§ 103(a)	Itoh, Kinzl[3], and Jones[4]
1, 7–9, 11, 15, and 16	§ 103(a)	Duhame[5] and Kinzl
11	§ 103(a)	Lamm, Itoh, and Duhame
15 and 16	§ 103(a)	Itoh and Kinzl

Patent Owner filed a Patent Owner's Response (Paper 20, "PO Resp."), and Petitioner filed a Reply (Paper 23, "Reply").

[1] DE 40 00 730 A1 published Aug. 1, 1991 (Ex. 1008 (translation); Ex. 1017 (original); Ex. 1018 (certification), "Lamm").
[2] U.S. Patent No. 4,870,333 issued Sept. 26, 1989 (Ex. 1006, "Itoh").
[3] U.S. Patent No. 4,468,596 issued Aug. 28, 1984 (Ex. 1007, "Kinzl").
[4] U.S. Patent No. 4,831,509 issued May 16, 1989 (Ex. 1010, "Jones").
[5] U.S. Patent No. 5,218,282 issued June 8, 1993 (Ex. 1009, "Duhame").

In addition, Petitioner filed a Motion to Exclude (Paper 25, "Motion"), seeking to exclude certain of Patent Owner's evidence in Exhibits 2001, 2004, 2005, 2007–09, 2013, 2014, 2018, 2032, and 2033.

Patent Owner opposed (Paper 27, "Opp.") Petitioner's Motion to Exclude. We heard Oral Argument on June 29, 2015. Paper 30, "Tr."

B. Related Matters

Petitioner indicates that the '802 patent is being asserted in: *UUSI, LLC v. Robert Bosch LLC*, No. 2:13-cv-10444, filed in the United States District Court for the Eastern District of Michigan, on February 4, 2013; and *UUSI, LLC v. Webasto Roof Sys., Inc.*, No. 2:13-cv-11704, filed in the United States District Court for the Eastern District of Michigan, on April 15, 2013. Pet. 1.

The '802 patent belongs to a family of patents involved in multiple *inter partes* reviews including IPR2014-00416, IPR2014-00417, IPR2014-00648, IPR2014-00649, and IPR2014-00650.

C. Summary of Conclusions

In this Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, we deny Patent Owner's Motion to Exclude and we determine that Petitioner has demonstrated by a preponderance of the evidence that all claims for which trial was instituted, claims 1, 6–9, 11, 15, and 16, are unpatentable.

II. THE ’802 PATENT (Ex. 1001)

The ’802 patent describes a system and method for sensing an obstruction in the travel path of a moveable panel, such as a window or sunroof of a vehicle. *See* Ex. 1001, Abstract, 1:32–57 (Background). Figure 1 is reproduced below:

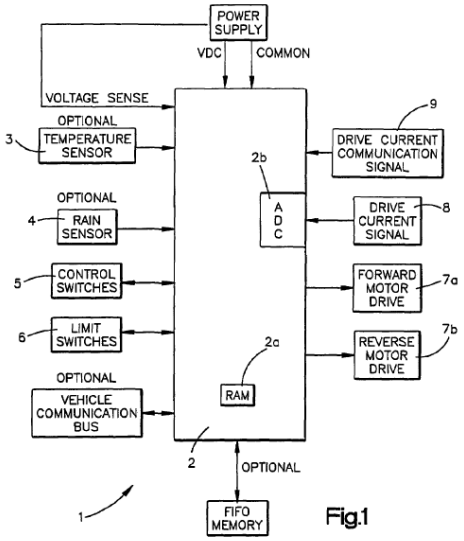


Fig.1

Figure 1 is a schematic of an exemplary actuator safety feedback control system 1. *Id.* at 2:26–27, 65–66. Controller 2 monitors and controls movement of a motor driven panel. *Id.* at 2:65–3:5. Motor drive outputs 7a and 7b control whether the motor (not shown in Figure 1) drives the panel in a forward or a reverse direction. *Id.* at 3:38–39. Controller 2 can sense obstacles in the panel’s path in various ways, including a paired infrared emitter and detector disposed along the panel’s path (*id.* at 3:63–4:53), a motor current monitor (*id.* at 5:53–57, 7:26–8:3), and other motor monitors (*id.* at 11:9–32).

Independent claim 7, reproduced below, is illustrative.

> 7. Apparatus for controlling activation of a motor for moving an object along a travel path and de-activating the motor if an obstacle is encountered by the object comprising:

> a) a movement sensor for monitoring movement of the object as the motor moves said object along a travel path;
> b) a switch for controlling energization of the motor with an energization signal; and
> c) a controller including an interface coupled to the switch for controllably energizing the motor and said interface additionally coupling the controller to the movement sensor for monitoring signals from said movement sensor; said controller comprising a stored program that:
> i) determines motor speed of movement from an output signal from the movement sensor;
> ii) calculates an obstacle detect threshold based on motor speed of movement detected during a present run of said motor driven element;
> iii) compares a value based on currently sensed motor speed of movement with the obstacle detect threshold; and
> iv) outputs a signal from the interface to said switch for stopping the motor if the comparison based on currently sensed motor movement indicates the object has contacted an obstacle.

III. CLAIM CONSTRUCTION

The '802 patent is now expired.[6] In an *inter partes* review, the proper claim construction standard in an expired patent is set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See In re Rambus Inc.*, 694 F.3d 42, 46 (Fed. Cir. 2012) ("[T]he Board's review of the claims of an expired patent is similar to that of a district court's review."). The district court's standard is to give claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the

[6] The '802 patent expired in November 2014.

context of the entire patent disclosure. *Thorner v. Sony Comput. Entm't Am. LLC*, 669 F.3d 1362, 1365-66 (Fed. Cir. 2012). We construe the terms below in accordance with that standard.

A. "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" (claim 1)

Patent Owner would have us limit the term "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" (claim 1) to "a sensor that measures a magnitude of motor current." PO Resp. 12. We disagree.

Patent Owner notes a supposedly claim-limiting prosecution history in which Applicant argued that the sensor includes an "operational amplifier that amplifies a voltage across a current-measuring resistor." PO Resp. 9–10. However, we do not find any clear disavowal in the prosecution history that would limit the plain and ordinary meaning of the disputed term.

Patent Owner also finds support for its proposed narrow construction in the Specification, which states "*motor current* is the primary measured parameter of immediate importance for both hard and soft obstacle detection" (emphasis added) and "motor current" denotes magnitude. *Id.* at 11 (citing Ex. 1001, 15:66–16:3, 18:35–37). The Specification of the '802 patent states: "obstacle detection via *motor current sensing or current sensing and speed sensing* means becomes the remaining reliable backup method of detecting an obstacle" (emphasis added). Ex. 1001, 4:12–14. We are not persuaded to import this narrowing limitation from the Specification based on the examples argued.

Patent Owner further argues that the doctrine of claim differentiation limits the sensor of claim 1 to a "current amplitude sensor," whereas "a

movement sensor" recited in claim 7 embraces a "Hall-effect sensor that senses movement of the motor shaft." PO Resp. 11–12.

Although the doctrine of claim differentiation creates a presumption that the limitations in claims 1 and 7 are different in scope, this presumption can be overcome by written description or prosecution history. *See Seachange Int'l, Inc. v. C-COR Inc.*, 413 F.3d 1361, 1369 (Fed. Cir. 2005). As discussed *supra*, the '802 patent Specification describes "obstacle detection via *motor current sensing or current sensing and speed sensing* means becomes the remaining reliable backup method of detecting an obstacle" (emphasis added). Moreover, the Specification does not include a special definition, or a disavowal.

Accordingly, we construe the claim term "sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" in accordance with its plain meaning. Our construction embraces any sensor that measures any motor parameter that varies as a result of resistance to motion.

B. "travel path" (claims 7 and 15)

Claims 7 and 15 refer to a "travel path." Patent Owner contends that this term refers to the "entire travel path" of the object and not just to a portion of the entire travel path. PO Resp. 21–23, 44–45. Patent Owner argues that although the doctrine of claim differentiation normally applies to a claim depending on another claim, the doctrine also requires that "all or part of a range of motion" in independent claim 1 be differentiated from independent claims 7 and 15, which recite "a travel path." *Id.* at 21–23. Moreover, Patent Owner argues the controlling activation of a motor

described in claims 7 and 15 along the entire travel path is critical to the protection of a body part that the window encounters. *Id.* at 22–23. We disagree.

Although the doctrine of claim differentiation suggests claims 7 and 15 do not require "all or part of a range of motion" because claim 1 recites "all or part of a range of motion" and claims 7 and 15 merely recite "a travel path," this suggestion is not a hard and fast rule and will be overcome by a contrary construction dictated by the written description or prosecution history. *See Seachange Int'l*, 413 F.3d at 1369.

The Specification and prosecution history of the '802 patent do not provide a special definition nor provide a clear disavowal of the plain meaning of the "travel path" limitation, and Patent Owner does not argue otherwise. Rather, the Specification of the '802 patent indicates during and immediately after the startup phase, obstacle detection will not occur. The Specification of the '802 patent refers to variable I as motor current and to variable PP as pulse period in discussing obstacle detection along a travel path. Ex. 1001, 15:57–67. In particular, the Specification of the '802 patent states "after allowing some small initial amount of time for the motor rotor to begin rotation, *I is immediately measured and compared against a fixed maximum threshold value and PP is immediately measured and compared against some maximum threshold number of clock cycles*" (emphasis added). *Id.* at 16:31–36. Thus, in this embodiment, obstacle detection is not performed along the *entire* travel path.

Because the Specification of the '802 patent indicates obstacle detection is not performed along the entire travel path and the prosecution history does not include a special definition nor a clear disavowal of the

plain meaning (Ex 1001, 16:31–36), we conclude from the totality of the evidence that the "travel path" recited in claims 7 and 15 is not limited to the "entire travel path." Rather, it can refer to a portion of the entire travel path.

C. "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object" (claim 11)

Patent Owner would have us limit the term "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object" (claim 11) to "in response to a single specified user input, conducting a calibration motor energization sequence by moving an object from a fully closed position to a fully open position and back to the fully closed position to determine movement range parameters of the object." PO Resp. 33.

Patent Owner argues an *exemplary description* in the Specification supports its narrow construction, which states:

> [t]he calibration learning of the movement range and position of the sunroof are learned and recorded as follows. The ignition is turned OFF and within five seconds the OPEN switch is pressed and the ignition is switched ON. The controller 2 attempts to find the HOME or PARK position then proceeds to find the limit of the open area or the sunroof, i.e. the fully open position. When a stall condition is sensed the size of the sunroof open area (by count of motor encoder pulses) is recorded and the controller reverses the direction toward the PARK position.

Id. at 31–32 (citing Ex. 1001, 12:17–31). We disagree with Patent Owner.

Claim terms are given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art in the context of the entire patent disclosure. *See Thorner*, 669 F.3d at 1365-66. Here, the claims

do not recite "*single* specified input" and "*by moving an object from fully closed position to a fully open position and back to the fully closed position to determine movement range* parameters of [the] object" (emphasis added). Reply 3. The ordinary and customary meaning of "a specified input" can embrace multiple button presses such as a user entering a sequence of letters, numbers, and/or special characters in a password. *Id.* In addition, "the words 'a' or 'an' in a patent claim carry the meaning of 'one or more.'" *Id.* at 4 (citing *TiVo, Inc. v. EchoStar Commc'ns Corp.*, 516 F.3d 1290, 1303 (Fed. Cir. 2008); Ex. 1022 ¶ 20). Lastly, Patent Owner acknowledges that it relies on an "exemplary description" in the Specification of the '802 patent, which actually describes three user interactions to begin calibrating. Reply 4. Thus, we decline to adopt Patent Owner's narrow construction. Rather, we construe the limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object" according to the ordinary and customary meaning.

D. Means Plus Function – "logic unit for" (claim 15)

Patent Owner contends that the term "logic unit for" as used in claim 15 invokes 35 U.S.C. § 112, sixth paragraph[7], means plus function analysis because logic unit is not and was not a known structure to those skilled in the art prior to the priority date of the '802 patent. PO Resp. 45. Further, Patent Owner contends because the Specification of the '802 patent does not

[7] Section 4(c) of the Leahy-Smith America Invents Act ("AIA") re-designated 35 U.S.C. § 112, sixth paragraph, as 35 U.S.C. § 112(f). Pub. L. No. 112-29, 125 Stat. 284, 296 (2011). Because the '802 patent has a filing date before September 16, 2012 (effective date of § 4(c)), we will refer to the pre-AIA version of § 112.

recite explicitly a "logic unit," the term "logic unit" is a nonce word combined with the preposition "for" and functional language. *Id.* at 46–47. We disagree.

The Federal Circuit has held that "mechanism for," "module for," "device for," "unit for," "component for," "element for," "member for," "apparatus for," "machine for," or "system for," are non-structural generic placeholders that may invoke 35 U.S.C. § 112, sixth paragraph. *Welker Bearing Co., v. PHD, Inc.*, 550 F.3d 1090, 1096 (Fed. Cir. 2008); *Mass. Inst. of Tech. and Elec. for Imaging Inc. v. Abacus Software*, 462 F.3d 1344, 1354 (Fed. Cir. 2006); *Personalized Media Commc'ns, LLC v. ITC*, 161 F.3d 696, 704 (Fed. Cir. 1998); *Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1214–15 (Fed. Cir. 1998).

At the same time, 35 U.S.C. § 112, sixth paragraph, does not apply if persons of ordinary skill in the art reading the specification understand the term to be the name for the structure that performs the function, even when the term covers a broad class of structures or identifies the structures by their function. *Apex Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1372–73 (Fed. Cir. 2003); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1369 (Fed. Cir. 2002); *Watts v. XL Sys. Inc.*, 232 F.3d 877, 880–81 (Fed. Cir. 2000); *Personalized Media*, 161 F.3d at 704; *Greenberg v. Ethicon Endo-Surgery, Inc.*, 91 F.3d 1580, 1583 (Fed. Cir. 1996) ("Many devices take their names from the functions they perform."). The term is not required to denote a specific structure or a precise physical structure to avoid the application of pre-AIA 35 U.S.C. § 112, sixth paragraph. *See Watts*, 232 F.3d at 880. In this case, the Specification of the '802 patent states "[t]he circuitry of FIGS. 2A–2D includes a number of operational amplifiers which

require higher voltage than the five volt VCC *logic circuitry* power signal" (emphasis added). Ex. 1001, 6:30–32. As a result, one of ordinary skill in the art reading the Specification of the '802 patent would understand the term "logic" to be the name of a type of *circuitry* (e.g., structure) that performs the function.

Moreover, "circuit" has been found to be a structural term that does not invoke pre-AIA 35 U.S.C. § 112, sixth paragraph. *Linear Tech. Corp. v. Impala Linear Corp.*, 379 F.3d 1311, 1321, (Fed. Cir. 2004); *Apex*, 325 F.3d at 1373; *Greenberg*, 91 F.3d at 1583–84; *Personalized Media*, 161 F.3d at 704–05; *CCS Fitness*, 288 F.3d at 1369–70; *Cole v. Kimberly-Clark Corp.*, 102 F.3d 524, 531 (Fed. Cir. 1996); *Watts*, 232 F.3d at 881; *Al-Site Corp. v. VSI Int'l, Inc.*, 174 F.3d 1308, 1318–19 (Fed. Cir. 1999).

Because one of ordinary skill in the art reading the Specification of the '802 patent would understand the term "logic" to be the name of a type of circuitry and "circuit" has been found not to invoke pre-AIA 35 U.S.C. § 112, sixth paragraph, we conclude from the totality of the evidence that claim 15 does not invoke pre-AIA 35 U.S.C. § 112, paragraph six.

IV. THE PRIOR ART

A. Lamm (Ex. 1008)

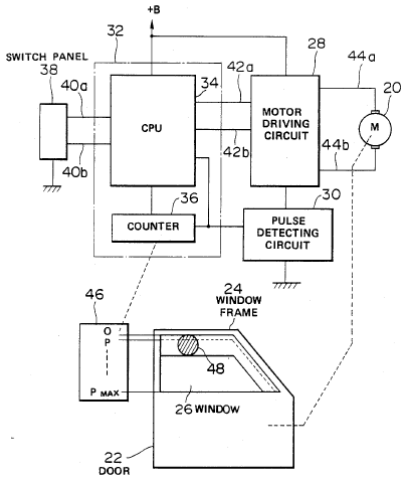
Lamm describes a method and device for operating power-actuated components that pose a clamping hazard to objects or a person's body parts. Ex. 1008, Abstract. Lamm further describes the system and method are particularly suitable for operating sliding sunroofs, window lift motors, door closing mechanisms, and seatbelt positioning devices in vehicles. *Id.* at 2. The system and method continuously determine first and/or higher order

derivatives with respect to different travel paths to increase reliability of detecting an obstacle. *Id.* at 2–3. The first and/or higher order derivatives are compared to multiple pre-specified thresholds and once a single threshold value is exceeded, the device is switched off and/or the direction of the movement is reversed. *Id.*

B. Itoh (Ex. 1006)

Itoh describes an automatic opening and closing device for a window. Ex. 1006, Abstract. Figure 7 is reproduced below.

FIG. 7



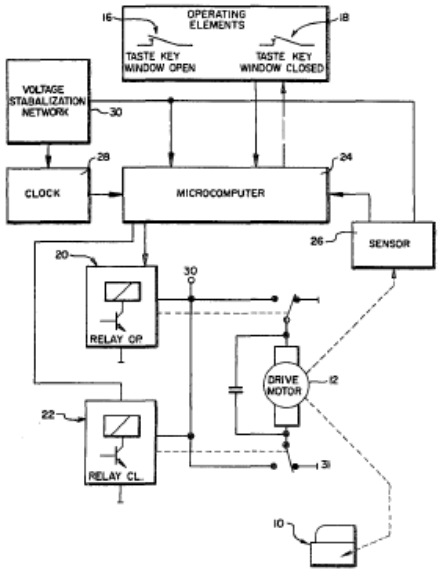
Itoh illustrates in Figure 7 forward and reverse rotatable motor 20 that controls opening and closing of window 26, switch 38 that instructs motor 20 to rotate, pulse-detecting circuit 30 that detects a pulse along with motor 20 rotation, counter 36 for counting the pulse number detected by pulse-detecting circuit 30, and motor driving circuit 28 that controls the motor. *Id.* at 7:48–8:48. CPU 34 detects at all times if an obstacle is caught between window frame 24 and window 26 and stops the motor and reverses the motor if an obstacle is detected. *Id.* at 3:28–60, 8:49–61.

C. Duhame (Ex. 1009)

Duhame describes an automatic door operator that includes an obstruction detector for stopping a motor when the detected motor speed indicates a motor torque greater than the selected closing torque limit while closing the door, and for stopping the motor when the detected motor speed indicates a motor torque greater than the selected opening torque limit while opening the door. Ex. 1009, Abstract.

D. Kinzl (Ex. 1007)

Kinzl describes a method and apparatus for operating and monitoring an opening and closing cycle of objects such as electric windows and electric slide roofs. Ex. 1007, Abstract. The operating and monitoring eliminate the danger of body parts getting caught in the object and permit a complete automatic opening and closing of the object. *Id.*



Kinzl illustrates in Figure 1 sensor 26 measuring the speed of drive motor 12. *Id.* at 2:1–15. In addition, Kinzl illustrates microcomputer 24 that processes and compares the measured values. *Id.* at Abstract. Specifically,

microcomputer 24 uses the changes in the measured values to determine the position of window 10. *Id.* at 2:53–57. In case of danger, the determination of the position makes it possible to safely turn off drive motor 12 and possibly open the window 10. *Id.* at 3:6–17, 4:3–6.

E. Jones (Ex. 1010)

Jones describes an automatic door operator including an obstruction detector for stopping a motor when the speed of the motor exceeds a limit. Ex. 1010, Abstract. Jones in particular indicates the door controller may store the door's lower limit position in memory by an operator first moving the door to its lower limit position, and then operating a switch. *Id.* at 5:26–42, 5:58–6:7. A similar operation stores the door's upper limit position in the controller memory. *Id.* at 5:43–50, 6:8–26.

V. ANALYSIS

A. Challenges Relying on Lamm and Itoh

For reasons stated below, we conclude, based on a preponderance of the evidence, that claims 1, 6–9, 15, and 16 are obvious over Lamm and Itoh.

1. Independent Claim 1

The parties' first dispute is directed to whether Lamm and Itoh teach the limitation "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" as recited in claim 1. We begin with Petitioner's contentions regarding this limitation.

According to Petitioner, the claim 1 limitation "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion"

embraces Lamm's sensor 13 detecting the rotary speed of motor 10 that measures if a threshold value is exceeded such as when clamping of an obstacle occurs. Pet. 32–33; Ex. 1008, 2, 3, 5. Moreover, Petitioner contends the claim 1 limitation "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" embraces Itoh's pulse-detecting circuit 30 that detects a ripple current corresponding to the rotational frequency of motor 20, and outputs a motor pulse signal to CPU 34 and counter 36 of controller 32 to calculate the rotational speed of the motor at all times to determine if an obstacle squeeze condition exists. Pet. 14–15; Ex. 1006, 7:60–64, 8:33–53, 9:37–62, Figs. 7–8.

Patent Owner argues the correct construction for "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" (claim 1) is "a sensor that measures a magnitude of motor current." *See supra* Part III.A. As a result, Patent Owner argues Lamm and Itoh do not teach or suggest this limitation because Lamm merely senses speed, calculates one or more motor speed derivatives with respect to the window's travel path, and compares the derivatives to respective pre-specified thresholds to detect obstacles and Itoh merely measures a time period between current pulses that is inversely proportional to motor speed. PO Resp. 12–13.

We are not persuaded by Patent Owner's argument that Lamm and Itoh fail teach or suggest "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion." At the outset, we construed the claim 1 limitation "sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" as "any sensor that measures any motor parameter that varies as a result of resistance to

motion" rather than as "a sensor that measures a magnitude of motor current." *See supra* Part III.A.

The cited portions of Lamm relied upon by Petitioner teach a sensor 13 detecting the rotary speed of motor 10, which teaches "a sensor for measuring a parameter of a motor" as recited in claim 1. Pet. 32–33; Ex. 1008, 2, 3, 5. Moreover, the cited portions of Lamm relied upon by Petitioner teach if a threshold value is exceeded for the result of at least one derivative because of clamping of an obstacle, this leads to the component being switched off and/or reversal of the direction of movement, which teaches "varies in response to a resistance to motion" as recited in claim 1. Pet. 32–33; Ex. 1008, 2, 3, 5.

In addition, the cited portions of Itoh relied upon by Petitioner disclose circuit 30 detects a ripple current corresponding to the rotational frequency of motor 20, and outputs a motor pulse signal to CPU 34 and counter 36 of controller 32, which teaches "a sensor for measuring a parameter of a motor" as recited in claim 1. Pet. 15; Ex. 1008, 8:34–43. Moreover, the cited portions of Itoh relied upon by Petitioner disclose CPU 34 detects if an obstacle is stuck between the window frame and window and determines whether to descend or interrupt the motion of the window, which teaches "varies in response to a resistance to motion" as recited in claim 1. Pet. 11, 14–15; Ex. 1006, 8:49–9:62, Figs. 6–8.

The parties' next dispute is directed to whether it was obvious to combine Lamm and Itoh. We begin with Petitioner's contentions.

According to Petitioner, a person of ordinary skill in the art would have found it obvious to combine Lamm's apparatus with a programmable controller and Itoh's first-in-first-out memory in order to achieve a cost-

efficient and fast way of customizing and updating the operations of Lamm's controller. Pet. 30–31.

Patent Owner contends Lamm and Itoh cannot be combined. PO Resp. 13 (citing Ex. 2001 ¶¶ 90–91). Lamm and Itoh allegedly cannot be combined because Lamm uses a derivative-based obstacle detection scheme that calculates derivatives and thresholds whereas Itoh's speed-based obstacle detection scheme does not calculate derivatives and thresholds. Ex. 2001 ¶ 90. In addition, Patent Owner contends Itoh does not use a Hall-effect sensor and is prone to experiencing false positives, whereas Lamm's system uses a Hall-effect sensor and has high detection reliability. *Id.* at ¶ 91.

We are not persuaded by Patent Owner's argument that Lamm and Itoh cannot be combined. As explained *supra*, in the discussion of Lamm and Itoh, Petitioner identified a teaching to combine or modify components. Thus, Petitioner provided articulated reasoning with rational underpinnings to support the motivation to combine the teachings of Lamm and Itoh (*see In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Based on our claim construction discussed *supra* in Part III.A, Lamm and Itoh's teachings discussed *supra*, the articulated reasoning to combine Lamm and Itoh, and the record before us, we conclude that Petitioner has established by a preponderance of evidence that claim 1 is unpatentable over the combination of Lamm and Itoh.

2. Claim 6

The parties' dispute is directed to "immediate past measurements . . . within a forty millisecond interval" (claim 6). We begin with Petitioner's contentions regarding this limitation.

Petitioner contends claim 6 is obvious over Lamm and Itoh. Pet. 36. Petitioner contends the 40 millisecond timeframe would have been obvious to one of ordinary skill in the art to perform speed measurements at forty millisecond intervals or faster. Pet. 12–13, 17, 31, 36; Reply 10–11.

Petitioner contends a 1.2 millisecond pulse period is an example within the scope of Itoh for more than 33 cycles of the motor pulse signal ("Tp") samples to elapse in 40 milliseconds. Pet. 12–13, 17, 31, 36; Reply 10–11. Moreover, Petitioner contends 40 milliseconds would have been an obvious design choice to a person having ordinary skill in the art because 40 milliseconds is not critical and does not produce a new and unexpected result that is different in kind. Reply 10–11.

Patent Owner contends that the design choice rationale does not apply because Petitioner fails to present: 1) evidence for why one of skill in the art would choose a fixed time window instead of a number of samples; and 2) how 40 milliseconds might be derived. PO Resp. 16–21.

Because a 1.2 millisecond pulse period is an example within the scope of Itoh for more than 33 Tp samples to elapse in 40 milliseconds and one of ordinary skill in the art reading the Specification of the '802 patent would understand there is no new and unexpected result of 40 milliseconds that is different in kind, Patent Owner's arguments are not persuasive.

Lastly, we are not persuaded by Patent Owner's argument that Lamm and Itoh are not combinable because as stated above, we determine that Petitioner's contentions for combining Lamm and Itoh are reasonable and supported by the record. *See supra* Part V.A.1; PO Resp. 21.

Accordingly, Petitioner has shown by a preponderance of the evidence that claim 6 is an obvious design choice.

3. Claims 7–9

The parties' first dispute is directed to the limitation "an obstacle detect threshold based on motor speed of movement detected during a present run of said motor driven element" (claim 7). We begin with Petitioner's contentions regarding this limitation.

According to Petitioner, claim 7's "an obstacle detect threshold based on motor speed of movement detected during a present run of said motor driven element" embraces Itoh's collision identification when the currently sensed speed, T_p, is greater than a threshold (e.g., the product of a constant, α, and an average of the immediate prior number of speed values detected during a present run, T_m). Pet. 20–21; Ex. 1006, 10:33–11:15.

Patent Owner contends Lamm and Itoh fail to teach or suggest this limitation because Lamm pre-specifies thresholds instead of calculating the thresholds during operation. PO Resp. 26–30 (citing Ex. 1008, 4–5). In addition, Patent Owner contends Lamm's first derivative of speed with respect to travel path is the gradient of speed with respect to distance, rather than acceleration. *Id.* at 29. Patent Owner contends Petitioner does not rely on Itoh for teaching this limitation, Itoh does not teach this limitation, and Lamm and Itoh cannot be combined. PO Resp. 30.

We are not persuaded by Patent Owner's argument. At the outset, Petitioner sufficiently explains how Lamm and Itoh are combinable. *See supra* Part V.A.1. In addition, Petitioner does rely on Itoh to teach this feature so Patent Owner's arguments regarding Lamm are moot. Pet. 20–21. Specifically, the cited portions of Itoh relied upon by Petitioner teach collision identification when the currently sensed speed, T_p, is greater than a threshold (e.g., the product of a constant, α, and an average of the immediate

prior number of speed values detected during a present run, T_m), which teaches the limitation "an obstacle detect threshold based on motor speed of movement detected during a present run of said motor driven element" as recited in claim 7. Pet. 20–21; Ex. 1006, 10:33–11:15. Patent Owner provides no separate arguments for claims 8 and 9, which depend from claim 7. PO Resp. 57.

Accordingly, we conclude that Petitioner has established by a preponderance of evidence that claims 7–9 are unpatentable over the combination of Lamm and Itoh.

4. Claims 15 and 16

The parties' first dispute is directed to the "travel path" limitation. We begin with Petitioner's contentions regarding this limitation.

According to Petitioner, the claim 15 limitation "a sensor for generating speed signals representative of the window or panel speed . . . along a travel path" embraces Lamm's sensor 13 detecting a rotary speed of motor 10 and relaying the detected speed to signal processing device 11. Pet. 41–42; Ex. 1008, 2, 3.

Patent Owner contends Lamm and Itoh fail to teach or suggest "[*entire*] travel path" (emphasis added). We are not persuaded by Patent Owner's contention that Lamm and Itoh fails to teach or suggest "travel path" because we construed "travel path" to include a portion of the travel path. *See supra* Part III.B.

Here, the cited portions of Lamm relied upon by Petitioner teach sensor 13 detecting a rotary speed of motor 10 and relaying the detected speed to signal processing device 11, which teaches "a sensor for generating

speed signals representative of the window or panel speed . . . along a travel path" as recited in claim 15. Pet. 41–42; Ex. 1008, 2, 3.

The parties' next dispute is directed to whether the "logic unit" recited in claim 15 invokes 35 U.S.C. § 112, sixth paragraph. We begin with Petitioner's contentions regarding this limitation.

According to Petitioner, the claim 15 limitation "logic unit for making a comparison . . . and generating a control output if an obstacle is detected based on said comparison" embraces Itoh's CPU 34 in controller 32 that identifies collisions when the currently sensed speed, T_p, is greater than a threshold (e.g., the product of a constant, α, and an average of the immediate prior number of speed values detected during a present run, T_m). Pet. 19–21, 24, 37, 43; Ex. 1006, 10:33–11:15, Figs. 5–11.

We are not persuaded by Patent Owner's argument that Itoh fails to disclose, teach, or suggest the limitation "logic unit" because we construed the claim 15 limitation "logic unit" as not invoking 112, sixth paragraph. *See supra* Part III.D.

The cited portions of Itoh relied upon by Petitioner teach CPU 34 in controller 32 that identifies collisions when the currently sensed speed, T_p, is greater than a threshold (e.g., the product of a constant, α, and an average of the immediate prior number of speed values detected during a present run, T_m), which teaches "logic unit for making a comparison . . . and generating a control output if an obstacle is detected based on said comparison" as recited in claim 15. Pet. 19–21, 24, 37, 43; Ex. 1006, 10:33–11:15; Figs. 5–11.

Lastly, we are not persuaded by Patent Owner's argument that Lamm and Itoh are not combinable because as stated above, we determine that Petitioner's contentions for combining Lamm and Itoh are reasonable and

supported by the record. *See supra* Part V.A.1; PO Resp. 56. Patent Owner provides no separate arguments for claim 16, which depends from claim 15. PO Resp. 57.

Based on our claim construction discussed *supra* in part III.D, Itoh's disclosure discussed *supra*, and the record before us, we conclude that Petitioner has established by a preponderance of evidence that claims 15 and 16 are unpatentable over the combination of Lamm and Itoh.

B. Challenges Relying on Duhame and Kinzl

For reasons stated below, we conclude, based on a preponderance of the evidence, that claims 1, 7–9, 11, 15, and 16 are unpatentable over Duhame and Kinzl.

1. Claim 1

The parties' first dispute is directed to whether Duhame and Kinzl teach the limitation "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" as recited in claim 1. We begin with Petitioner's contentions regarding this limitation.

According to Petitioner, the claim 1 limitation "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" embraces Duhame's motor shaft rotation pulse detection that measures the speed of an object travelling and an obstruction detector stopping the motor when the current torque is greater than the torque limit. Pet. 48; Ex. 1009, Abstract, 2:3–9, 10:27–35.

Patent Owner argues the correct construction for "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" (claim 1) is "a sensor that measures a magnitude of motor

current." *See supra* Part III.A. As a result, Patent Owner argues Duhame and Kinzl do not teach or suggest this limitation because Duhame and Kinzl merely sense motor speed. PO Resp. 14–15.

We are not persuaded by Patent Owner's argument that Duhame and Kinzl fail to teach or suggest "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion." At the outset, we construed the claim 1 limitation "sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" as "any sensor that measures any motor parameter that varies as a result of resistance to motion" rather than as "a sensor that measures a magnitude of motor current." *See supra* Part III.A.

Also, the cited portions of Duhame relied upon by Petitioner teach motor shaft rotation pulse detection that measures the speed of an object travelling and an obstruction detector stopping the motor when the current torque is greater than the torque limit, which teaches "a sensor for measuring a parameter of a motor . . . that varies in response to a resistance to motion" as recited in claim 1. Pet. 48; Ex. 1009, Abstract, 2:3–9, 10:27–35.

The parties' next dispute is directed to whether it was obvious to combine Duhame and Kinzl. We begin with Petitioner's contentions.

According to Petitioner, a person of ordinary skill in the art would find it obvious to combine Duhame's obstacle detection in door closing systems with Kinzl's obstacle detection system to control motor vehicle windows or panels. Pet. 46–47.

Patent Owner contends Duhame and Kinzl cannot be combined because Duhame controls garage doors whereas Kinzl controls car windows

with different acceptable industry standards. PO Resp. 15 (citing Ex. 2001 ¶¶ 110–120).

We are not persuaded by Patent Owner's argument that Duhame and Kinzl cannot be combined. As explained *supra*, in the discussion of Duhame and Kinzl, Petitioner identified a teaching to combine or modify components. Thus, Petitioner provided articulated reasoning with rational underpinnings to support the motivation to combine the teachings of Duhame and Kinzl. *See In re Kahn*, 441 F.3d at 988.

Based on our claim construction discussed *supra* in Part III.A, Duhame and Kinzl's teachings discussed *supra*, the articulated reasoning to combine Duhame and Kinzl, and the record before us, we conclude that Petitioner has established by a preponderance of the evidence that claim 1 is unpatentable over the combination of Duhame and Kinzl.

2. Claims 7–9

The parties' first argument focuses on the "travel path" limitation. We begin with Petitioner's contentions regarding this limitation.

According to Petitioner, the claim 7 limitation "a movement sensor for monitoring movement of the object . . . along a travel path" embraces Duhame's Hall-effect sensor 95 that measures the speed of an object travelling and an obstruction detector stopping the motor when the current torque is greater than the torque limit. Pet. 52; Ex. 1009, Abstract, 2:3–9, 10:27–35. In addition, Petitioner contends claim 7's limitation "a movement sensor for monitoring movement of the object . . . along a travel path" embraces Kinzl's speed sensing of a window and turning a motor off and opening the window in response to an obstacle being stuck. Pet. 18–19; Ex. 1007, 1:53–55, 2:17–28, 3:21–26.

Patent Owner contends Duhame and Kinzl fail to teach or suggest "*entire* travel path" (emphasis added). PO Resp. 23–25. We are not persuaded by Patent Owner's contention that Duhame and Kinzl fail to teach or suggest "travel path" because we construed "travel path" to include a portion of the travel path. *See supra* Part III.B.

Here, the cited portions of Duhame relied upon by Petitioner teach Hall effect sensor 95 that measures the speed of an object travelling and an obstruction detector stopping the motor when the current torque is greater than the torque limit, which teaches "a movement sensor for monitoring movement of the object . . . along a travel path" as recited in claim 7. Pet. 52; Ex. 1009, Abstract, 2:3–9, 10:27–35. Moreover, the cited portions of Kinzl relied upon by Petitioner teach speed sensing of a window and turning a motor off and opening the window in response to an obstacle being stuck, which teaches "a movement sensor for monitoring movement of the object . . . along a travel path" as recited in claim 7. Pet. 18–19; Ex. 1007, 1:53–55, 2:17–28, 3:21–26.

Lastly, we are not persuaded by Patent Owner's argument that Duhame and Kinzl are not combinable because as stated above, we determine Petitioner's reasons for combining Duhame and Kinzl are reasonable and supported by the record. *See supra* Part V.B.1; PO Resp. 25. Patent Owner provides no separate arguments for claims 8 and 9, which depend from claim 7. PO Resp. 57.

Accordingly, we conclude that Petitioner has established by a preponderance of the evidence that claims 7–9 are unpatentable over the combination of Duhame and Kinzl.

3. Claim 11

The parties' first dispute is directed to the limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object." We begin with Petitioner's contentions regarding this limitation.

According to Petitioner, the claim 11 limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object" embraces Duhame's pushbutton switch 30 input that controls an object's movements and sets/resets opening limits. Pet. 57; Ex. 1009, 17:1–18:34, 26:3–30.

Patent Owner contends Duhame fails to teach a specified user input that performs an open-close-open sequence or a close-open-close sequence because Duhame merely teaches separate user inputs to adjust the open/close positions. PO Resp. 38–39, 44.

We are not persuaded by Patent Owner's argument that Duhame and Kinzl fail to teach "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object." As explained above, we construed the claim 11 limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object" according to the ordinary and customary meaning rather than as "*single* specified input" and "*by moving an object from fully closed position to a fully open position and back to the fully closed position to determine movement range* parameters of [the] object" (emphasis added). *See supra* Part III.C.

Moreover, the cited portions of Duhame relied upon by Petitioner teach a pushbutton switch 30 input that controls an object's movements and

sets/resets opening limits, which teaches the limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object." Pet. 57; Ex. 1009, 17:1–18:34, 26:3–30.

Lastly, we are not persuaded by Patent Owner's argument that Duhame and Kinzl are not combinable because as stated above, we determine Petitioner's contentions for combining Duhame and Kinzl are reasonable and supported by the record. *See supra* Part V.B.1; PO Resp. 44.

Accordingly, we conclude that Petitioner has established by a preponderance of the evidence that claim 11 is unpatentable over the combination of Duhame and Kinzl.

4. Claims 15 and 16

The parties' dispute is directed to the "travel path" limitation, whether the "logic unit" recited in claim 15 invokes 35 U.S.C. § 112, sixth paragraph, and whether Duhame and Kinzl are combinable.

At the outset, we are not persuaded by Patent Owner's contention that Duhame and Kinzl fails to teach or suggest "travel path" because we construed "travel path" to include a portion of the travel path and Duhame and Kinzl teach "travel path" as explained in the claim 7 analysis. *See supra* Part III.B and Part V.B.2; PO Resp. 56–57. In addition, as stated above, Duhame and Kinzl are combinable. *See supra* Part V.B.1.

Moreover, according to Petitioner, the claim 15 limitation "logic unit for making a comparison . . . and generating a control output if an obstacle is detected based on said comparison" embraces Duhame's obstruction detection using circuit 100 that continuously determines a rate of change of

motor speed and stops the motor when the rate of change exceeds a torque limit. Pet. 53–55, 59; Ex. 1009, 3:37–41, 30:61–68, 36:63–37:2.

We are not persuaded by Patent Owner's argument that Duhame and Kinzl fail to disclose, teach, or suggest the limitation "logic unit" because we construed the claim 15 limitation "logic unit" as not invoking 112, sixth paragraph. *See supra* Part III.D; PO Resp. 56–57.

The cited portions of Duhame relied upon by Petitioner teach obstruction detection using circuit 100 that continuously determines a rate of change of motor speed and stops the motor when the rate of change exceeds a torque limit, which teaches "logic unit for making a comparison . . . and generating a control output if an obstacle is detected based on said comparison" as recited in claim 15. Pet. 53–55, 59; Ex. 1009, 3:37–41, 30:61–68, 36:63–37:2. Patent Owner provides no separate arguments for claim 16, which depends from claim 15. PO Resp. 57.

Based on our claim construction discussed *supra* in Part III.D, Duhame's disclosure discussed *supra*, and the record before us, we conclude that Petitioner has established by a preponderance of the evidence that claims 15 and 16 are unpatentable over the combination of Duhame and Kinzl.

C. Challenges Relying on Itoh, Kinzl, and Jones

For reasons stated below, we conclude, based on a preponderance of the evidence, that claim 11 is unpatentable over the combination of Itoh, Kinzl, and Jones.

Claim 11

The parties' first dispute is directed to the limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object." We begin with Petitioner's contentions regarding this limitation.

According to Petitioner, the claim 11 limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object" embraces Jones' enabling the limits of a door's travel to be set within the memory of a door controller. Pet. 25–27; Ex. 1010, 5:21–36, 5:61–6:26.

Patent Owner contends Jones fails to teach a specified user input that performs an open-close-open sequence or a close-open-close sequence because Jones merely teaches separate user inputs to adjust the limit settings. PO Resp. 33–35.

We are not persuaded by Patent Owner's argument that Itoh, Kinzl, and Jones fail to teach "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object." As explained above, we construed the claim 11 limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object" according to the ordinary and customary meaning rather than as "*single* specified input" and "*by moving an object from fully closed position to a fully open position and back to the fully closed position to determine movement range* parameters of [the] object" (emphasis added). *See supra* Part III.C.

Moreover, the cited portions of Jones relied upon by Petitioner teach enabling the limits of a door's travel to be set within the memory of a door

controller, which teaches the limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object." Pet. 25–27; Ex. 1010, 5:21–36, 5:61–6:26.

The parties' next dispute is directed to whether Jones can be combined with Itoh and Kinzl. We begin with Petitioner's contentions regarding this issue.

According to Petitioner, a person having ordinary skill in the art would have found it obvious to combine Itoh and Kinzl's obstacle detection in an automobile window with Jones's calibrating obstacle detection in door closing systems to enable limits of a door's travel path to be set within the memory of the door's controller. Pet. 27; Ex. 1010, 5:21–36, 5:61–6:26.

Patent Owner argues it would not have been obvious to combine Itoh and Kinzl with Jones because Jones' roller garage door is fundamentally different than the control requirements for automobile windows and sunroofs.

We are not persuaded by Patent Owner's argument against combining Itoh, Kinzl, and Jones. As explained *supra*, in the discussion of Itoh, Kinzl, and Jones, Petitioner identified a teaching to combine or modify components. Thus, Petitioner provided articulated reasoning with rational underpinnings to support the motivation to combine the teachings of Itoh, Kinzl, and Jones. *See In re Kahn*, 441 F.3d at 988.

Accordingly, we conclude that Petitioner has established by a preponderance of the evidence that claim 11 is unpatentable over the combination of Itoh, Kinzl, and Jones.

D. Challenges Relying on Lamm, Itoh, and Duhame

For reasons stated below, we conclude, based on a preponderance of the evidence, that claim 11 is unpatentable over the combination of Lamm, Itoh, and Duhame.

Claim 11

The parties' dispute is directed to the limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object" and whether it was obvious to combine Duhame with Lamm and Itoh. We begin with Petitioner's contentions.

At the outset, we discussed above how Duhame teaches the limitation "in response to a specified input the controller conducts a calibration motor energization sequence to determine parameters of object." *See supra* Part V.B.3.

According to Petitioner, a person of ordinary skill in the art would find it obvious to combine Duhame's obstacle detection in door closing systems with Lamm and Itoh's obstacle detection system to control motor vehicle windows or panels. Pet. 43–44.

Patent Owner alleges Duhame cannot be combined with Lamm and Itoh because Duhame controls garage doors whereas Lamm and Itoh control car windows with different acceptable industry standards. PO Resp. 39–44.

We are not persuaded by Patent Owner's argument that Lamm, Itoh, and Duhame cannot be combined. As explained *supra*, in the discussion of Lamm, Itoh, and Duhame, Petitioner identified a teaching to combine or modify components. Thus, Petitioner provided articulated reasoning with

rational underpinnings to support the motivation to combine the teachings of Lamm, Itoh, and Duhame. *See In re Kahn*, 441 F.3d at 988.

Accordingly, we conclude that Petitioner has established by a preponderance of the evidence that claim 11 is unpatentable over the combination of Lamm, Itoh, and Duhame.

E. Challenges Relying on Itoh and Kinzl

For reasons stated below, we conclude, based on a preponderance of the evidence, that claims 15 and 16 are unpatentable over the combination of Itoh and Kinzl.

Claims 15 and 16

The parties' dispute is directed to the "travel path" limitation, whether the "logic unit" recited in claim 15 invokes 35 U.S.C. § 112, sixth paragraph, and whether Itoh and Kinzl are combinable.

We discussed above how Kinzl teaches the "travel path" limitation. *See supra* Part V.B.2. In addition, we discussed how Itoh teaches the "logic unit" limitation. *See supra* Part V.A.3.

According to Petitioner, a person of ordinary skill in the art would find it obvious to combine Itoh's obstacle detection in automobile window systems with Kinzl's similar obstacle detection in automobile window systems as a matter of routine design choice. Pet. 12.

Patent Owner alleges Itoh cannot be combined with Kinzl because Kinzl requires a Hall-effect sensor, whereas Itoh uses a commutation pulse counter. PO Resp. 51–53.

We are not persuaded by Patent Owner's argument that Itoh and Kinzl cannot be combined because both Itoh and Kinzl use a form of *detection* to

determine if an obstacle is present. As explained *supra*, in the discussion of Itoh and Kinzl, Petitioner identified a teaching to combine or modify components. Thus, Petitioner provided articulated reasoning with rational underpinnings to support the motivation to combine the teachings of Itoh, and Kinzl. *See In re Kahn*, 441 F.3d at 988.

Accordingly, we conclude that Petitioner has established by a preponderance of the evidence that claims 15 and 16 are unpatentable over the combination of Itoh and Kinzl.

V. OTHER ARGUMENTS

A. Expert not Familiar with the State of the Art

Patent Owner contends Dr. Hamid A. Toliyat did not have personal experience with the state of the art in 1992 at the time of filing and is not an expert in automotive vehicle window or sunroof movement mechanisms or their control systems. PO Resp. 4–8.

We are persuaded, however, that Dr. Toliyat is an expert in the field of electrical and computer engineering since before 1992. Ex. 1004. Dr. Toliyat's specific expertise is in industrial drives, electrical machines, power electronics, power systems and control, which are all in the field of automotive engineering. Ex. 1003 ¶ 7. Accordingly, we conclude that Dr. Toliyat is an expert familiar with the State of the Art of automotive engineering in 1992.

B. Enablement of References

Patent Owner contends Lamm, Itoh, and Kinzl are non-enabling references that would require undue experimentation to make or use because

of an inordinate amount of false positives and false negatives that would occur with Itoh's and Kinzl's respective algorithms. PO Resp. 2–4, 58–59. Moreover, Patent Owner contends Lamm, Itoh, and Kinzl do not overcome many real-world vehicle problems such as the varying loads caused by wind buffeting or booming caused by the pressure difference between the inside and the outside of the passenger compartment of a vehicle moving at high speeds. PO Resp. 4.

Regarding the asserted grounds under § 103, we have determined that Lamm, Itoh, and Kinzl provide sufficient disclosure to allow a person having ordinary skill in the art to make and use the inventions recited in each of the challenged claims. *In re Antor Media Corp.*, 689 F.3d 1282, 1290 (Fed. Cir. 2012) ("Enablement of prior art requires that the reference teach a skilled artisan to make or carry out what it discloses in relation to the claimed invention. Even if a reference discloses an inoperative device, it is prior art for all that it teaches." (quotation omitted) (citations omitted)); *Symbol Techs., Inc. v. Opticon, Inc.*, 935 F.2d 1569, 1578 (Fed. Cir. 1991) ("[A] non-enabling reference may qualify as prior art for the purpose of determining obviousness under § 103.").

VI. MOTION TO EXCLUDE

Petitioner seeks to exclude Patent Owner's evidence in Exhibits 2001, 2004, 2005, 2007–09, 2013, 2014, 2018, 2032, and 2033 because Dr. Ehsani applied a presumption of validity, used erroneous methodology to interpret the challenged claims, acted as an advocate rather than as an expert, and used inadmissible exhibits. Motion 4–15. We dismiss the Motion as moot.

Although we briefly cite Dr. Ehsani's Declaration (Ex. 2001) in this decision, we merely cite paragraphs 90, 91, and 110–120 to determine what Patent Owner is arguing and we did not find paragraphs 90, 91, and 110–120 of Dr. Ehsani's Declaration to be persuasive. Moreover, we did not rely on Exhibits 2004, 2005, 2007–2009, 2013, 2014, 2018, 2032, and 2033 in this decision. Accordingly, we dismiss the Motion as moot.

VII. CONCLUSIONS

For the reasons set forth above, we are persuaded that Petitioner has shown by a preponderance of the evidence that:

(1) claims 1, 6–9, 15, and 16 are unpatentable under 35 U.S.C. § 103(a) as obvious over Lamm and Itoh;

(2) claims 1, 7–9, 11, 15, and 16 are unpatentable under 35 U.S.C. § 103(a) as obvious over Duhame and Kinzl;

(3) claim 11 is unpatentable under 35 U.S.C. § 103(a) as obvious over Itoh, Kinzl, and Jones;

(4) claim 11 is unpatentable under 35 U.S.C. § 103(a) as obvious over Lamm, Itoh, and Duhame; and

(5) claims 15 and 16 are unpatentable under 35 U.S.C. § 103(a) as obvious over Itoh and Kinzl.

VIII. ORDER

Accordingly, it is

ORDERED that Petitioner's Motion to Exclude is dismissed as moot;

FURTHER ORDERED that claims 1, 6–9, 11, 15, and 16 of U.S. Patent 7,579,802 have been shown to be unpatentable; and

FURTHER ORDERED that because this is a Final Written Decision,

parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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