

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

NISSAN NORTH AMERICA, INC.,
Petitioner,

v.

JOAO CONTROL & MONITORING SYSTEMS, LLC,
Patent Owner.

Case IPR2015-01585
Patent 6,542,405 B1

Before STACEY G. WHITE, JASON J. CHUNG, and BETH Z. SHAW,
Administrative patent Judges.

WHITE, *Administrative patent Judge.*

FINAL WRITTEN DECISION

35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

I. INTRODUCTION

Nissan North America, Inc. (“Petitioner”) filed a Corrected Petition (Paper 6, “Pet.”) requesting *inter partes* review of claims 1–3, 11, 16, and 17 of U.S. patent No. 5,917,405 (Ex. 1001, “the ‘405 patent”) pursuant to 35 U.S.C. §§ 311–319. Joao Control & Monitoring Systems, LLC, (“Patent Owner”) filed a Preliminary Response. (Paper 10, “Prelim. Resp.”). Based on our review of these submissions, we instituted *inter partes* review of claims 1–3, 11, 16, and 17 of the ‘405 patent on the proposed grounds of unpatentability under 35 U.S.C. §§ 102, 103. Paper 11 (“Dec.”). Specifically, we authorized this *inter partes* review to proceed as to the following grounds:

Reference(s)	Basis	Claim(s) Instituted
Frossard ¹	§ 102	1 and 16
Frossard and Pagliaroli ²	§ 103	2 and 17
Frossard and Simms ³	§ 103	3
Frossard and Shimizu ⁴	§ 103	11
Pagliaroli	§ 102	1, 2, 16, and 17
Pagliaroli and Simms	§ 103	3
Pagliaroli and Shimizu	§ 103	11

Id. at 25.

Patent Owner filed a Patent Owner’s Response (Paper 22, “PO Resp.”), and Petitioner filed a Reply (Paper 26, “Reply”). An oral hearing

¹ EP 0505266 A1 (Ex. 1004); English translation (Ex. 1005) (“Frossard”).

² U.S. patent No. 5,276,728 (Ex. 1006) (“Pagliaroli”).

³ U.S. patent No. 5,334,974 (Ex. 1007) (“Simms”).

⁴ U.S. Patent No. 4,373,116 (Ex. 1008) (“Shimizu”).

was conducted on October 20, 2016. A transcript of the oral hearing is included in the record. Paper 31 (“Tr.”).

We have jurisdiction under 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, Petitioner has demonstrated by a preponderance of the evidence that claims 1–3, 11, 16, and 17 of the ‘405 patent are unpatentable.

A. Related Proceedings

The parties inform us that the ‘405 patent is at issue in approximately one dozen lawsuits pending in courts around the country. Paper 21, Pet. 1, Ex. 1020. In addition, *ex parte* reexamination No. 90/013,300 was filed with respect to the ‘405 patent and has been stayed in light of this proceeding. Paper 25. The ‘405 patent also is the subject of a co-pending petition for *inter partes* review (IPR2015-01613).

B. The ‘405 patent

The ‘405 patent describes a remote-controlled control, monitoring, and/or security apparatus and method for vehicles. Ex. 1001, 1:18–22. The apparatus described in the ‘405 patent allows an owner, occupant, or other authorized individual to control or to perform various monitoring and security tasks in regards to a vehicle from a remote location and at any time. *Id.* at 2:64–3:3.

An embodiment of the apparatus of the ‘405 patent includes a transmitter system which is “a remote system, which may or may not be physically connected to the remainder of the apparatus. Further, the transmitter system is not located in the [vehicle] . . . , but rather, is located external from, and/or separate and apart from, the vehicle.” *Id.* at 3:29–35. The apparatus also includes a CPU that is connected electrically and/or

linked to one or more vehicle equipment systems (e.g., vehicle ignition or anti-theft systems). *Id.* at 4:12–17; 4:41–62. The vehicle equipment systems may be activated, de-activated, reset, or controlled by the apparatus. *Id.* at 4:63–67. This activation or control may be achieved by a user entering a code on the transceiver of the transmitter system. *Id.* at 6:9–15. The code is transmitted to the CPU and then the CPU communicates with the appropriate vehicle equipment system. *Id.* at 6:64–7:2.

C. Illustrative Claim

As noted above, we instituted *inter partes* review as to claims 1, 2, 3, 11, 16, and 17 of the '405 patent, of which claims 1 and 16 are independent. Claim 1 is illustrative of the instituted claims and is reproduced below:

1. A control apparatus for a vehicle, which comprises:
 - a first control device, wherein said first control device one of generates and transmits a first signal for one of activating, deactivating, enabling, and disabling, one of a vehicle component, a vehicle device, a vehicle system, and a vehicle subsystem, wherein said first control device is located at the vehicle;
 - wherein said first control device is responsive to a second signal, wherein the second signal is one of generated by and transmitted from a second control device, wherein the second control device is located at a location which is remote from the vehicle, and further wherein the second control device is responsive to a third signal, wherein the third signal is one of generated by and transmitted from a third control device, wherein the third control device is located at a location which is remote from the vehicle and remote from the second control device.

II. CLAIM CONSTRUCTION

As acknowledged by the parties, the '405 patent has expired. *See* Pet. 8; PO Resp. 5. We construe expired patent claims according to the principles set forth in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc). *See In re Rambus*, 694 F.3d 42, 46 (Fed. Cir. 2012). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). A patentee may act as a lexicographer by giving a term a particular meaning in the specification with “reasonable clarity, deliberateness, and precision.” *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

A. *Terms Preliminarily Construed in the Decision to Institute*

For purposes of the Decision to Institute, we construed the terms “monitoring device,” “positioning device,” “voice synthesizing device,” and “control device.” Dec. 5–14. Neither party raised any concerns regarding the construction of “control device,” “monitoring device,” and “voice synthesizing device.” *See* PO Resp. 8, 12–13; Reply 1. Based on our review of the full record, we discern no reason to modify or further discuss in this Final Written Decision our construction for these claim terms. For convenience, the claim construction is reproduced in the table below.

Term	Citations	Construction
Control Device	Ex. 2002, 6	A device or a computer, or that part of a device or a computer, which performs an operation, an action, or a function, or which performs a number of operations, actions, or functions.
voice synthesizing device	Ex. 1001, 21:32–34, Figs. 5A, 5B, 9, 11A, 11B, 12, 13, 14, 15, 16 Ex. 3001, 822	an electronic device that generates speech

Term	Citations	Function	Structure
Monitoring Device	Pet. 9–11; Ex. 1001, Figs. 1, 6, 24:5–15, 73:66–74:8; 11:63–12:4, 12:20–30, 12:37–42, 12:48–56, 13:34–49, 14:4–11, 14:18–23, 14:32–41, 15:23–33, 28:52–59, 33:10–16, 53:37:11–29, 49–56, 57:48–56, 60:28–36, 63:49–57, 65:11–17, 69:4–10; Ex. 1003 ¶¶ 40–46.	monitoring at least one of the vehicle, vehicle operational status, or vehicle operation	Hardware such as home fire detectors, video recording devices, cameras, audio recording devices, gas meters, electricity meters, personal communication devices, personal digital assistants, cellular telephones, electronically equipped watches, computer servers, and CPU 4 or software that monitors an occurrence and/or a situation associated with a vehicle and which may warrant providing notice, that is located at the vehicle

B. Positioning Device

Claim 3 recites, in relevant part, “a positioning device for determining location of the vehicle, wherein said positioning device is located at the

vehicle.” In the Institution Decision, we preliminarily construed the term “positioning device” to be governed by 35 U.S.C. § 112 ¶ 6⁵. Dec. 6. Patent Owner disagrees and asserts that one of ordinary skill in the art would understand “‘positioning device’ to be the name for the structure that performs the corresponding functions, even though the term covers a broad class of structures and/or identifies the structures by their function.” PO Resp. 10–11. Petitioner maintains that the preliminary construction should govern this Final Written Decision. Reply 1–2. In Patent Owner’s view, “positioning device” is similar to terms such as filters, brakes, and clamps that have functional names, but still provide sufficient structure to remove the term from the reach of § 112 ¶ 6. PO Resp. 10–11. Patent Owner argues that Petitioner’s position is inconsistent because Petitioner argues that “positioning device” is not sufficient structure while arguing for a construction that includes the same term. *Id.* at 11 (noting that the proposed structure is a “satellite-based global *positioning device*.”). We are persuaded by Patent Owner’s arguments. Thus, we find that “positioning device” is not governed by 35 U.S.C. § 112 ¶ 6. For the purposes of this decision, we adopt Patent Owner’s proposed construction of “positioning device” which is “a device that determines the location of the vehicle.” PO Resp. 12.

⁵ Section 4(c) of the Leahy-Smith America Invents Act (“AIA”) re-designated 35 U.S.C. § 112 ¶ 6, as 35 U.S.C. § 112(f). Pub. L. No. 112-29, 125 Stat. 284, 296 (2011). Because the ’405 patent has a filing date before September 16, 2012 (effective date of § 4(c)), we will refer to the pre-AIA version of § 112.

C. First, Second, and Third Signal Terms

Patent Owner provides proposed constructions for the first, second, and third signal terms. PO Resp. 8–9. Specifically, Patent Owner asserts that the “first signal” is “a signal sent by a first device;” the “second signal” is “a signal sent by a second device;” and the “third signal” is “a signal sent by a third device.” *Id.* at 9.

We agree that a first signal is sent by a first device. For example, claim 1 recites, in relevant part, that the “first control device” generates and transmits the first signal. The parties’ dispute, however, is directed to whether there may be an intermediate device between the transmitting device (e.g., second device) and the signal’s destination (e.g., first device). In Patent Owner’s view, there may not be an intermediate device between the first and second devices. *See* PO Resp. 18.

As part of our analysis, we note that the Applicant provided an express definition of the term “signal” in the First Remarks filed on November 23, 2007, during prosecution of the patent application that issued as the U.S. patent No. 7,397,363 (“the ’363 patent”) (Ex. 2002). The ’405 patent and the ’363 patent each descend from U.S. patent Application Nos. 08/587,628, 08/622,749, 08/489,238 (Patent No. 5,513,244) and 08/073,755. *See* Ex. 1001, at [63]. Patent Owner relied upon this same filing in support of its arguments regarding the construction of “remote,” “control device,” and “located at.” *See* Dec. 9–10. The Applicant provided this definition several years after the issuance of the ’405 patent. *See* Ex. 1001, at [45] (June 29, 1999 issuance date). As the Federal Circuit has noted, however, “[a] statement made during prosecution of related patents may be properly considered in construing a term common to those patents, regardless of

whether the statement pre- or post-dates the issuance of the particular patent at issue.” *Teva Pharm. USA, Inc. v. Sandoz, Inc.*, 789 F.3d 1335, 1343 (Fed. Cir. 2015) (citing *Microsoft Corp. v. Multi-Tech Sys., Inc.*, 357 F.3d 1340, 1350 (Fed. Cir. 2004)).

In that 2007 filing, the term “signal” was defined as “an indication, or an indication having or conveying data, information, or a message, or a conveyor of data, information, or a message, or an indication representing data or information.” Ex. 2002, 11. This definition is instructive to understanding the proper scope of these claim terms. Thus, a first signal, for example, is an “an indication, or an indication having or conveying data, information, or a message, or a conveyor of data, information, or a message, or an indication representing data or information that is sent by a first device.”

We have not been directed to evidence in the specification sufficient to show that the Applicant desired to narrow this very broad definition of signal in a manner that would exclude signals that pass through intermediaries. As defined by the Applicant, a signal may be an indication, information, or a message and we are not persuaded that it is impermissible for an intermediary to pass this information on and to add further data to the information that it received.

For the foregoing reasons, we construe the term “first signal” to be “a signal sent by a first device;” “second signal” to be “a signal sent by a second device;” and “third signal” to be “a signal sent by a third device.” The recited signals all are construed to be “an indication, or an indication having or conveying data, information, or a message, or a conveyor of data, information, or a message, or an indication representing data or

information.” Finally, we are not persuaded that these terms exclude signals that may pass through an intermediary and any such intermediary may append additional information to the received signals.

III. ANALYSIS

A. Qualifications of Mr. David McNamara

Patent Owner asserts that we should accord little or no weight to the testimony of Mr. David McNamara.⁶ PO Resp. 13–17. Patent Owner’s objections are twofold. First, Patent Owner argues that Mr. McNamara did not review the prosecution history of the ’405 patent. *Id.* at 14. Second, Patent Owner contends that Mr. McNamara has an erroneous understanding of the standards of claim construction. *Id.* at 15–16.

1. Prosecution History

Patent Owner argues Mr. McNamara’s testimony is flawed fatally because during cross-examination, Mr. McNamara testified that he had not reviewed the prosecution history of the ’405 patent. PO Resp. 14–15 (citing Ex. 2005, 153:11–22 (In response to Patent Owner’s questions “you did not review the prosecution histories for the four JCMS patents [including the ’405 patent] at issue correct” and “you did not apply the, any definitions that

⁶ Mr. McNamara acknowledged the highest level of education that he completed was “a “Master of Engineering degree in Solid State Physics from the University of Florida in 1976.” Ex. 1003 ¶ 2; *see also* Pet. 7. Although Patent Owner refers to Mr. McNamara as Dr. McNamara, because Petitioner and Mr. McNamara do not proffer evidence of Mr. McNamara achieving a PhD or equivalent and it is not clear from the record that Mr. McNamara attained a PhD or equivalent, we, therefore, refer to Petitioner’s declarant as “Mr. McNamara.”

may have been provided by Mr. Joao during prosecution of those patents, correct,” Mr. McNamara answers “[t]hat’s correct.”)).

In reply, Petitioner argues that Mr. McNamara states in his declaration that he read the ’405 patent and its prosecution history. Reply 3 (citing Ex. 1003 ¶ 16). According to Petitioner, Patent Owner improperly focuses Mr. McNamara’s testimony that he did not read the prosecution history while ignoring other statements to the contrary. *Id.* Petitioner argues Mr. McNamara’s testimony, however, was approximately nine months after Mr. McNamara signed his declaration. Reply 3 (citing Ex. 2005, 153:11–15). According to Petitioner, Mr. McNamara’s inconsistent testimony, at best, illustrates a lapse in memory during a lengthy deposition. Reply 3.

Petitioner argues that Mr. McNamara reviewed and considered relevant portions of the prosecution history such as the definitions identified in Exhibit 1012. *Id.* at 4. Exhibit 1010 includes prosecution history definitions of the ’363 patent and the ’010 patent. *Id.* (citing Ex. 1003 ¶¶ 16, 23). During the cross-examination, Mr. McNamara re-affirmed that he reviewed these definitions. *Id.* In response to the question “‘with respect to Paragraphs 14 through 25, through 24, other than the information that is referenced in 25, is that a complete list of the information that you considered in reaching the opinions or conclusions expressed in Exhibit 1?,” Mr. McNamara answered “[t]hat is correct.” *Id.* (quoting Ex. 2005, 154:11–20).

We are not persuaded that Mr. McNamara’s statements on cross examination are sufficient to accord his testimony little or no weight. The prosecution history is an important element in understanding the claims of a patent. We, however, are persuaded that the statements made during cross

examination appear to be misstatements as to Mr. McNamara's review of the patent and its underlying prosecution history. Mr. McNamara signed his declaration under penalty of perjury and he has made other statements consistent with his testimony under oath stating that he reviewed the prosecution history. *See* Ex. 1003 ¶ 14; Ex. 2005, 154:11–20. In addition, we have reviewed the relevant prosecution history and we are in the position to evaluate whether Mr. McNamara's testimony is at odds with the evidence in this case, which include the relevant prosecution history.

Accordingly, we are not persuaded Mr. McNamara's testimony should be accorded little or no weight due to the statements he made during cross-examination regarding his review of the prosecution history.

2. *Correct Claim Construction Standards*

Mr. McNamara stated that he applied the ordinary and customary meaning as understood by a person having ordinary skill in the art. Ex. 1003 ¶ 10. During cross-examination, Mr. McNamara re-affirmed his position by stating "I used the same standard through all of the four patents [including the '405 patent]. I used the one of ordinary and customary understanding." Ex. 2005, 152:15–18.

In response, Patent Owner argues Mr. McNamara acknowledged during cross-examination that he used the wrong claim construction standard when construing the claims in a related *inter partes* review brought by the same Petitioner. PO Resp. 14–15 (citing Ex. 2005, 151:14–152:18 (Mr. McNamara acknowledged that he used "the broadest reasonable construction in light of the specification of the ['405] patent." However, in response to Patent Owner's questions "[a]re you aware that the PTAB has indicated or

stated that that is, in fact, the wrong standard for the 363' patent" and "[h]ow does the use of the wrong claim construction standard affect your opinions in this case," Mr. McNamara answers "I don't think I used the wrong standard because I used the same standard through all of the four patents [including the '405 patent]. I used the one of ordinary and customary understanding.")). Patent Owner further argues that Mr. McNamara acknowledged that he cannot discern the difference between claims in an expired patent and claims in an unexpired patent and uses the same claim construction standard (i.e., plain and ordinary meaning) for both expired and unexpired patents. PO Resp. 14–15 (citing Ex. 2005, 152:19–25).

In reply, Petitioner argues Mr. McNamara stated that he applied the plain and ordinary meaning as understood by a person having ordinary skill in the art. Reply 3–4 (citing Ex. 1003 ¶ 10; Ex. 2005, 152:15–18). Petitioner further argues Patent Owner's reliance on Mr. McNamara being unable to differentiate between the "broadest reasonable construction" and the "ordinary and customary understanding" is misplaced because the difference between the two standards is a legal question. Reply 5. Petitioner also argues Patent Owner fails to demonstrate how Mr. McNamara's claim construction is incorrect, why Mr. McNamara's claim construction is different from the plain and ordinary meaning, or that his opinion and conclusion are based on an incorrect standard. *Id.* According to Petitioner, at best, Patent Owner illustrates that Mr. McNamara failed to explain the difference between the "broadest reasonable construction" and the "plain and ordinary meaning." *Id.*

Petitioner also argues Mr. McNamara's declaration is consistent with the Board's construction of "control device" and the remaining claim terms,

which were given their plain and ordinary meaning. *Id.* at 5–6 (citing Dec. 5–14; Ex. 1003 ¶ 10–12). Regarding the claim term “control device,” as an example, Petitioner refers to Mr. McNamara’s statement that “Frossard further states that the receiver-decoder means ‘decodes this message’ that it received and ‘addresses the corresponding commands to equipment 3 itself, causing an immediate or deferred shutdown depending on the application under consideration.’” *Id.* at 6 (quoting Ex. 1003 ¶ 60). Petitioner argues Frossard performing numerous operations such as decoding and addressing is consistent with the Board’s construction of “control device” that includes performing “a number of operations.” *Id.* Petitioner also argues another example of Mr. McNamara’s consistency with the Board is disclosed in Mr. McNamara’s statement that “‘the CPU 4 is acting as a control device as it is performing actions and operations on the ignition system and fuel pump.’” *Id.* (quoting Ex. 2005, 164:16–18). Petitioner further argues Mr. McNamara also states “‘I agree with the PTAB’s construction that control device is generally something that performs an operation or function or action; the transmitter is, yes, the transmitter is performing an operation.’” *Id.* (quoting Ex. 2005, 166:11–15).

We are not persuaded that Mr. McNamara’s statements regarding the appropriate claim construction standard merit according his testimony little or no weight. Mr. McNamara stated that he applied the plain and ordinary meaning as understood by a person having ordinary skill in the art. Ex. 1003 ¶ 10; Ex. 2003, 152:14–18. We agree with Petitioner that Patent Owner’s reliance on Mr. McNamara being unable to differentiate between the “broadest reasonable construction” and the “ordinary and customary understanding” is misplaced because the difference between the two

standards is a legal question. Mr. McNamara's testimony is presented for the purpose of providing "scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue." FED. R. EVID. 702. We do not look to Mr. McNamara as an expert or even as a purported expert on legal issues. Moreover, we agree with Petitioner that Patent Owner's argument fails to demonstrate how Mr. McNamara's claim construction is incorrect or why Mr. McNamara's claim construction is different from the plain and ordinary meaning.

Accordingly, we deny Patent Owner's request that we accord Mr. McNamara's testimony little or no weight. We will analyze Mr. McNamara's testimony as part of our analysis of all of the evidence presented in this proceeding and we accord his statements the appropriate weight.

B. Analysis of Asserted Grounds Based on Frossard (Ex. 1005)

1. Overview of Frossard

Frossard describes a system for controlling shutdown of movable or mobile equipment and locating the movable or mobile equipment. Ex. 1005,

2. Figure 1 is reproduced below.

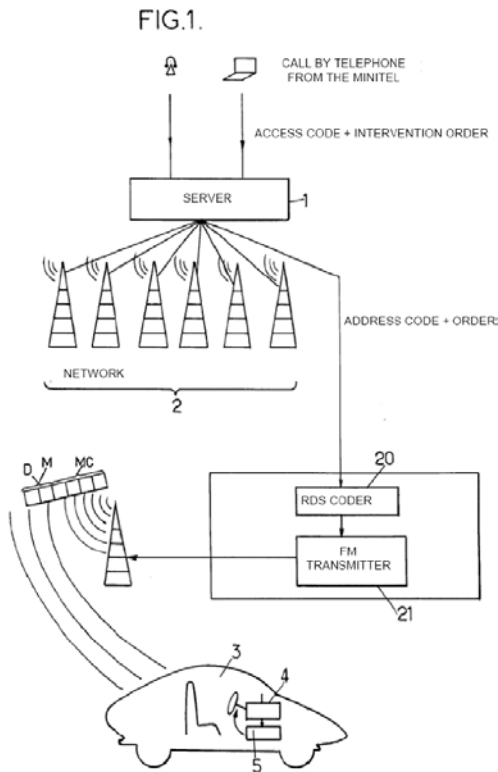


Figure 1 illustrates movable or mobile equipment 3 containing receiver-decoder circuits 4 for an order message to shutdown movable or mobile equipment 3. *Id.* at 5. The specification describes a scenario in which equipment 3 is stolen and the owner or authorized person calls server 1 to communicate a shutdown order of equipment 3. *Id.* at 9. After server 1 validates the shutdown order, the shutdown order is transmitted to receiver-decoder circuits of equipment 3. *Id.* at 3, 9. Figure 2, which is reproduced below, depicts the details of receiver-decoder 4, which is used to shutdown equipment 3.

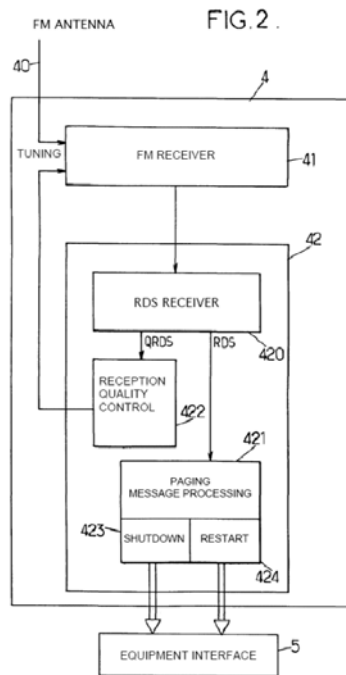


Figure 2 illustrates receiver-decoder circuits 4 and equipment interface 5 from Figure 1. *Id.* at 3, 7. Shutdown circuit 423 controls immediate or deferred shutdown of equipment 3. *Id.* at 9–10. When shutdown of equipment 3 occurs, an electrical contact that activates the starter is broken. *Id.* at 10, 14.

2. Analysis of Asserted Ground of Anticipation by Frossard

Petitioner asserts that claims 1 and 6 of the '405 patent are unpatentable under 35 U.S.C. § 102 as anticipated by Frossard. Pet. 16–26. Petitioner relies on claim charts showing how this reference allegedly discloses the claimed subject matter. *Id.* Petitioner further relies on a declaration from David McNamara. Ex. 1003. For the reasons discussed below, we conclude that Petitioner has established by a preponderance of the evidence that claims 1 and 6 of the '405 patent are anticipated by Frossard.

Both of the challenged independent claims (1 and 16) recite a first, second, and third control device. In claim 1, the “first control device is

located at the vehicle.” *Id.* at 74:64–65. Similarly, in claim 16, the “third control device is located at the vehicle.” *Id.* at 76:53–52. Both independent claims recite that “the second control device is located at a location which is remote from the vehicle.” *Id.* at 75:2–3; 76:55–56. In addition, claim 1 recites that “the third control device is located at a location which is remote from the vehicle and remote from the second control device.” *Id.* at 75:6–8. Similarly, claim 16 recites that the “first control device is located at a location remote from the second control device and remote from a vehicle.” *Id.* at 76:49–50. Thus, all of the independent claims require three control devices, one of which is located at the vehicle and two other control devices that are located at two other places that are remote from the vehicle.

Petitioner argues that Frossard discloses these control devices⁷ through its discussion and depiction of receiver-decoder 4 (first control device) (Pet. 17), resource 2 and server center (second control device) (*id.* at 19), and a phone or Minitel (third control device) (*id.* at 20). Frossard’s receiver-decoder 4 sends an “order message to shut down the equipment.” *Id.* at 17 (citing Ex. 1005, 3 ¶ 3); Ex. 1005, 5 ¶ 2. The receiver-decoder

⁷ Petitioner’s arguments regarding the first control device of claim 1 correlates to the arguments espoused for the third control device of claim 16; similarly Petitioner’s arguments as to the second control device of claim 1 correlates to the second control device of claim 16; and Petitioner’s arguments in regards to the third control device of claim 1 correlates to those for the first control device of claim 16. Petitioner relies on the same disclosures in Frossard for each of the corresponding devices in claims 1 and 16. *Compare* Pet. 16–21 (arguments for claim 1) *with* Pet. 21–26 (argument for claim 16). Thus, our analysis of Frossard’s disclosures applies to each of the independent claims. For convenience, unless otherwise indicated, we shall use the terms first, second, and third control device to refer to the control devices as described in claim 1.

circuit is installed within the vehicle itself. Ex. 1005, Abstract. Frossard's receiver-decoder "addresses the corresponding commands to equipment 3 itself, causing immediate or deferred shutdown depending on the application under consideration." Pet. 17 (citing Ex. 1005, 9.). Resource 2 allows for the selective transmission of order message M to shutdown equipment 3. *Id.* at 19 (citing Ex. 1005, 4). According to Petitioner the server and resource 2 generate and transmit the second signal to the first control device. *Id.* (citing Ex. 1003 ¶ 67). Petitioner argues that a telephone or Minitel may be used to transmit the "access code and the corresponding intervention order." *Id.* at 20 (citing Ex. 1005, 4). Petitioner asserts that "Frossard discloses that the server center and network (second control device) generate and transmit the second signal (message M) in response to the third signal (access code and corresponding intervention order)." *Id.* at 21 (citing Ex. 1003 ¶ 71).

Patent Owner argues that the claimed second control device is not met by Frossard's resource 2 and server center 1 because they "are actually at least two separate devices." PO Resp. 18. In Patent Owner's view Frossard's system is not one with three control devices; instead Frossard has at least four control devices and thus, the devices and signals in Frossard do not disclose the claimed three signal/three device system. *Id.* at 17–22.

In Frossard, server center 1 may be accessed by a subscriber upon presentation of an access code. Ex. 1005, 4. Codes are sent to server center 1 by a subscriber in order to generate a request to shutdown equipment 3. *Id.* at 5. Resource 2 transmits the shutdown message to equipment 3. *Id.* at 4. According to Mr. McNamara, "Frossard discloses that the second control device (the server and network) generate and transmit the second signal." Ex. 1003 ¶ 67.

Patent Owner's dispute with Petitioner's characterization of Frossard is based, in part, upon a disagreement as to whether there may be an intermediate device located between Frossard's server 1, which generates the shutdown signal and receiver-decoder circuits 4 that receive the shutdown signal. PO Resp. 20. According to Patent Owner, resource 2 is an intermediate device that receives the second signal (the shutdown message) from server 1 and then generates a third signal, which is transmitted to the receiver-decoder circuits 4. *Id.* at 20–21. Patent Owner's argument is based in part upon a construction of the claim to exclude intermediate devices, a construction which we have not adopted.

Moreover, Petitioner responds by directing us to the construction of control device that is found in the prosecution history and has been adopted for this proceeding. Reply 7–8. Pursuant to that construction, which is not contested, a control device is “[a] device or a computer, or that part of a device or a computer, which performs an operation, an action, or a function, or which performs a number of operations, actions, or functions.” *See supra* § II.A. According to Petitioner, because the “control device” can comprise “part of a device,” it follows that a device can comprise multiple parts. Reply 8. Petitioner also explains because a “control device” is a type of device, a “control device” can include necessarily multiple parts. *Id.*

Petitioner is correct in arguing that Patent Owner improperly attempts to limit “control device” in a way that contradicts the construction of the term. We agree with Petitioner that Frossard's server center 1 *and* resource 2 may disclose the claimed “second control device” because by definition a “control device” can comprise “part of a device”; therefore, it follows that if something may be “part of a device” then it is permissible for that device to

have multiple parts. Thus, a “control device,” which necessarily is a type of device, can include multiple parts. Therefore, the question is whether the cited elements of Frossard (server center 1 and resource 2) reasonably can be interpreted to be the parts of the second control device.

To that end, Petitioner compares the combination of Frossard’s server center 1 and resource 2 with the ’405 patent’s combination of server 952 and transmitter 957. *Id.* at 8–9. It is Petitioner’s contention that “Frossard’s server 1 corresponds to server 952 of the ’405 patent because both generate a signal for remote control. Frossard’s resource 2 corresponds to transmitter 957 of the ’405 patent because both transmit the signal.” *Id.* at 12.

According to Petitioner, “[t]he specification describes that, in response to a command received by the server receiver 953, the server 952 sends a control signal via the transmitter 957.” *Id.* at 8 (citing Ex. 1001, 58:41–48, 5:55–58). Further, Petitioner asserts that “[a]ll of the described second devices use transmitters (e.g., server 952 uses transmitter 957 in Fig. 11B).” *Id.* at 9. Thus, in Petitioner’s view, Patent Owner’s argument that the control device may not be the combination of a server and transmitter is not supported by the specification. *Id.* We agree and find that Frossard discloses the claimed second control device.

We also determine that because Patent Owner acknowledged, in its own definition, that “control device” means “a device *or* a computer, *or* that part of a device *or* a computer, which performs an operation, an action, *or* a function, *or* which performs a number of operations, actions, *or* functions” (emphases added), it necessarily follows that the “or” implies that a control device can include multiple parts. Tr. 36:1–38:19. Thus, a “control device” that is both “[1] a device *and* [2] a computer” would fall within the scope of

the construed claim term because the term “or” is broad enough to include a variant that has both of the listed options. *Id.* Here, we determine Frossard’s server center 1 and resource 2 discloses a control device (i.e., “a device or a computer”).

Based on our review of the full record, we find persuasive Petitioner’s arguments and evidence and we adopt them as the basis for our determination that Frossard discloses the limitations of claims 1 and 6. *See* Pet. 16–26. Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence the unpatentability of independent claims 1 and 6 over the disclosures of Frossard.

3. *Analysis of Asserted Grounds of Obviousness over Frossard*

Petitioner asserts that claims 2, 3, 11, and 17 of the ’405 Patent are unpatentable under 35 U.S.C. § 103 as obvious over Frossard as combined respectively with Pagliaroli, Simms, and Shimizu. Pet. 27–38. Petitioner relies on claim charts showing how these references allegedly teach the claimed subject matter. *Id.* Petitioner further relies on a declaration from David McNamara. Ex. 1003.

a. Overview of Pagliaroli

Pagliaroli describes enabling or disabling remotely an automobile. Ex. 1006, Abstract. When an automobile owner realizes their vehicle has been stolen, the owner dials a telephone number to disable the automobile. *Id.* Figure 1 is reproduced below.

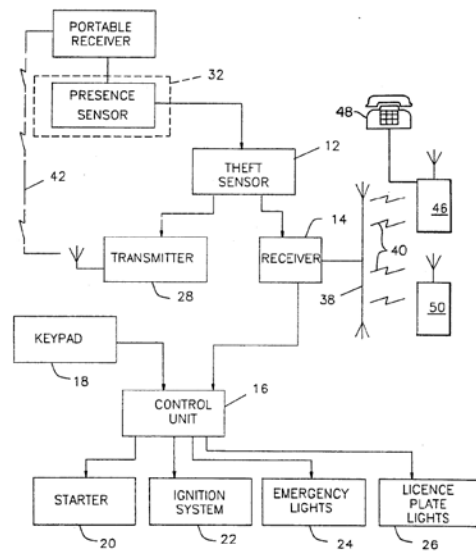


FIG. 1

Figure 1 is a block diagram illustrating Pagliaroli's remote disabling system. *Id.* at 3:10–11. In this system, a user connects to receiver 14 by dialing telephone 48. *Id.* at 4:53–5:1. In addition, Figure 1 shows telephone 48 connects to receiver 14 via transmitter 46. *Id.* Receiver 14 receives signal code 40 and forwards this code to control unit 16. *Id.* at 5:30–33. When a disabling signal is sent, control unit 16 disables starter 20 and ignition system 22 stops the operation of the automobile and sends a signal activating emergency lights 24 of the automobile. *Id.* at 5:44–55. License plate lights 26 may change colors or flash to identify to police that the automobile is stolen. *Id.* at 5:55–58. In addition, theft sensors 12 monitor the vehicle. *Id.* at 4:22–23. “If triggered by theft or tampering, the theft sensor 12 enables the receiver 14.” *Id.* at 4:23–25.

b. Analysis of Asserted Ground of Obviousness over Frossard and Pagliaroli

Claim 2 depends from claim 1 and claim 17 depends from claim 16. We have reviewed Petitioner's assertions regarding these claims and we are persuaded that Petitioner has shown by a preponderance of the evidence that

they would have been obvious over Frossard and Pagliaroli. *See* Pet. 27–32. Claim 2, in relevant part, further recites “a monitoring device for monitoring at least one of the vehicle, vehicle operational status, vehicle operation, said one of a vehicle component, a vehicle device.” Claim 17, in relevant part, further recites the “step of determining an operational status of at least one of the vehicle component, vehicle device, vehicle system, and vehicle subsystem.” In its arguments directed to these claims, Petitioner relies upon Pagliaroli’s description of “theft sensors 12 monitor[ing] the condition of the automobile. If triggered by theft or tampering, the theft sensor 12 enables the receiver 14.” Pet. 27, 31 (citing Ex. 1006, 4:22–24). Pagliaroli describes that “most passenger automobiles do have certain circuits that can act as theft sensors. For example, most automobiles have courtesy lights that light whenever a door of the automobile is opened, or a trunk lamp that lights when the trunk is opened.” Ex. 1006, 3:26–29. In addition, Petitioner notes that Pagliaroli describes theft sensors 12 as transmitting a signal that generates audio/visual signal that will inform the vehicle owner of tampering or theft. *Id.* at 27 (citing Ex. 1006, 4:46–52). Patent Owner stands on the arguments proffered in relation to the independent claims and does not make additional arguments directed to claim 65. PO Resp. 22–23. We disagree with those arguments for the reasons described above.

Based on our review of the full record, we find persuasive Petitioner’s arguments and evidence and we adopt them as the basis for our determination that Frossard and Pagliaroli teach the limitations of claims 2 and 17. *See* Pet. 27–32. Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence the unpatentability of claims 2 and 17 over the teachings of Frossard and Pagliaroli.

c. Analysis of Asserted Ground of Obviousness over Frossard and Simms

Claim 3 depends from claim 1. We have reviewed Petitioner's assertions regarding this claim and we are persuaded that it would have been obvious over Frossard and Simms. *See* Pet. 32–35. Claim 3 recites, in relevant part, additional limitations directed to a global positioning device and a database containing digital map data. In its arguments directed to this claim, Petitioner relies upon Simms's discussion of a position locator which “‘may be a conventional global positioning system receiver (GPS)’ that ‘is used to determine and supply accurate location coordinate data to the mobile unit 32.’” Pet. 32 (citing Ex. 1007, Abstract, 10:4–10).

Patent Owner argues that combining Frossard and Simms would require a “substantial redesign” of the vehicle and server 1. PO Resp. 23. According to Patent Owner, the positioning device would have to be installed and integrated with receiver-decoder circuits 4 and server 1 would need to be redesigned to include a manned vehicle position monitoring station. *Id.* at 24. Patent Owner directs us to testimony from Mr. McNamara where he describes the modifications that would need to be made to Frossard in order to support the combination of Frossard and Simms. *Id.* at 23–24 (quoting Ex. 2006, 324:7–22, 329:7–12). Patent Owner argues that Mr. McNamara's testimony shows the substantial redesign that would be required to achieve this combination. *Id.* at 24.

Petitioner responds by noting that server center 1 as described in Frossard already includes a “manned central station” because the server may be operated by a user. Reply 24. Petitioner asserts that Mr. McNamara's testimony describes the “simple implementation for combining Simms’

positioning device with Frossard’s systems.” *Id.* at 23. We are not persuaded that the necessary changes would be outside of the abilities of one of ordinary skill in the art or that the changes are so drastic that hindsight would be the only motivation to make such changes. We credit Mr. McNamara’s testimony (Ex. 1003 ¶¶ 99–101) that one of ordinary skill in the art would have known how to make necessary modifications to Frossard. We also credit Mr. McNamara’s testimony that “[a] person of ordinary skill in the art would have known to modify Frossard’s system to utilize a security system to determine the position or location of the vehicle, as described in Simms.” *Id.* ¶ 101.

Based on our review of the full record, we find persuasive Petitioner’s arguments and evidence and we adopt them as the basis for our determination that Frossard and Simms teach the limitations of claim 3. *See* Pet. 32–35. Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence the unpatentability of claim 3 over the teachings of Frossard and Simms.

d. Analysis of Asserted Ground of Obviousness over Frossard and Shimizu

Claim 11 depends from claim 1. We have reviewed Petitioner’s assertions regarding this claim and we are persuaded that Petitioner has shown by a preponderance of the evidence that it would have been obvious over Frossard and Shimizu. *See* Pet. 35–38. Claim 11 recites, in relevant part, additional limitations directed to a voice synthesizing device for generating a voice message indicative of operation of the apparatus, first control device, or the vehicle. In its arguments directed to this claim, Petitioner relies upon Shimizu’s discussion of a “voice trip information

system’ that informs the driver ‘of trip information such as trip time interval, trip distance, amount of fuel consumed, fuel consumption rate and so on.’” Pet. 35 (citing Ex. 1008, Abstract).

Patent Owner contends that “there is absolutely no motivation to combine the teachings of Shimizu with the teachings of Frossard.” PO Resp. 25. According to Patent Owner, Frossard is directed to an anti-theft system and there is no reason to provide a car thief with voice messages indicating the operation of the vehicle. *Id.* Petitioner argues that Patent Owner is taking an overly narrow view of the claim and Petitioner’s contentions. Reply 25. Petitioner asserts that the combination is not based on any benefits that would be provided to a thief. *Id.* Further, even if the combination of Frossard and Shimizu were so limited the combination could provide voice information to inform the thief that the car is monitored and to flash sirens to motivate a thief to leave the vehicle. *Id.* (citing Ex. 2006, 342:3–8, 342:20–23). Petitioner, however, asserts that the motivation to combine these teachings actually flows from benefits that would be provided to the owner or other authorized users. *Id.* Specifically, Petitioner contends that

one of ordinary skill in the art would be motivated to make this modification to allow a user, such as the vehicle owner’s or the police, to know information related to the joyride or the trip undertaken by the thief such as distance traveled, trip duration, amount of fuel consumed, and fuel consumption rate immediately after the vehicle has been recovered and the ignition system turned on.

Pet. 37–38 (citing Ex. 1003 ¶ 108). We are persuaded by Petitioner’s arguments and we adopt them as the basis for our determination that one of

ordinary skill in the art would have been motivated to combine the teachings of Frossard and Shimizu.

Based on our review of the full record, we find persuasive Petitioner's arguments and evidence and we adopt them as the basis for our determination that Frossard and Shimizu teach the limitations of claim 11. *See* Pet. 35–38. Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence the unpatentability of claim 3 over the teachings of Frossard and Shimizu.

C. Analysis of Asserted Grounds Based on Pagliaroli

1. Analysis of Asserted Ground of Anticipation by Pagliaroli

Petitioner asserts that claims 1, 2, 16, and 17 of the '405 Patent are unpatentable under 35 U.S.C. § 102 as anticipated by Pagliaroli. Pet. 39–55. Petitioner relies on claim charts showing how this reference allegedly discloses the claimed subject matter. *Id.* Petitioner further relies on a declaration from David McNamara. Ex. 1003.

a. Independent Claims 1 and 16

Petitioner's arguments as to the independent claims may be summarized as follows: Petitioner argues that Pagliaroli discloses the three recited control devices⁸ through its discussion and depiction of receiver 14

⁸ As with Frossard, Petitioner espouses similar analysis of the first control device of claim 1 and the third control device of claim 16; as well as for the second control device of all three claims; and the third control device of claim 1 and the first control device of claim 16. Thus, our analysis of Pagliaroli's disclosures applies to each of the independent claims. For convenience, unless otherwise indicated, we shall use the terms first, second, and third control device to refer to the control devices as described in claim 1.

and control unit 16 (collectively the first control device) (Pet. 39), mobile telephone signal transmitter (second control device) (*id.* at 41–42), and a telephone (third control device) (*id.* at 45). Pagliaroli’s “control unit 16 is coupled to either the electrical circuits or the electromechanical components that selectively control the operation of the starter 20, ignition system 22 and emergency lights 24” *Id.* at 40 (citing Ex. 1006, 3:53–63). Mobile telephone signal transmitter 46 is argued to transmit signal code 40, which includes the dialed phone number and a disabling code used to control a component of the vehicle. *Id.* at 42–43 (citing Ex. 1006, 5:1–4, 5:9–14; Ex. 1003 ¶ 119). Petitioner argues that a telephone may be used to transmit the dialed phone number to the mobile telephone signal transmitter. *Id.* at 45–46 (citing Ex. 1006, 4:66–5:5; Ex. 1003 ¶ 125).

Patent Owner disputes Petitioner’s contention that Pagliaroli discloses the claimed first control device. PO Resp. 27–32. As noted above, Petitioner relies upon Pagliaroli’s receiver 14 and control unit 16 to disclose the claimed first control device. Similar to the argument put forth in regards to Frossard, Patent Owner argues that receiver 14 and control unit 16 are at least two separate devices. *Id.* at 28. For reasons discussed above in § II.B.2.a, we have determined that control device may be composed of multiple parts. Therefore, the question is whether the cited elements of Pagliaroli (receiver 14 and control unit 16) reasonably can be interpreted to disclose the parts of the first control device.

Petitioner compares the combination of Pagliaroli’s receiver 14 and control unit 16 with the ’405 patent’s combination of receiver 3 and CPU 4. Reply 16. Petitioner asserts that the first control device described in the specification of the ’405 patent “includes two illustrated parts: a receiver 3

and a central processing unit (CPU) 4.” *Id.* at 16. As described in the ’405 patent, receiver 3 “receive[s] the signals which are transmitted by the transmitter system 2.” Ex. 1001, 19:52–53. CPU 4 “is electrically connected with the receiver 3.” *Id.* at 20:57–58. “CPU 4 upon receiving an appropriate signal from the receiver 3 . . . may issue an electrical [signal] . . . to the vehicle ignition system 7.” *Id.* at 21:50–56. This is comparable to Pagliaroli. *See* Reply 16. In Pagliaroli, receiver 14 receives signal code 40 and forwards this code to control unit 16. Ex. 1006, 5:30–33. When a disabling signal is sent control unit 16 disables starter 20 and ignition system 22 stops the operation of the automobile and sends a signal activating emergency lights 24 of the automobile. *Id.* at 5:44–55. Thus, Petitioner argues that Pagliaroli’s receiver 14 and control unit 16 operate in the manner contemplated by the specification and recited in the claims. Reply 16–17. We find that the Pagliaroli discloses first control device.

As discussed above in reference to anticipation over Frossard, we also determine that the construction of “control device” implies that a control device can include multiple parts. Tr. 36:1–38:19. As such, we determine that a “control device” that is both “[1] a device and [2] a computer” would fall within the scope of the construed claim term because the term “or” is broad enough to include a variant that has both of the listed options. *Id.* Here, we determine Pagliaroli’s receiver 14 and control unit 16 disclose a control device (i.e., “a device or a computer”).

Based on our review of the full record, we find persuasive Petitioner’s arguments and evidence and we adopt them as the basis for our determination that Pagliaroli discloses the limitations of claims 1 and 16. *See* Pet. 39–55. Accordingly, we determine that Petitioner has demonstrated

by a preponderance of the evidence the unpatentability of independent claims 1 and 16 over the disclosures of Pagliaroli.

b. Dependent Claims 2 and 17

Claim 2 depends from claim 1 and claim 17 depends from 16. We have reviewed Petitioner's assertions regarding these claims and we are persuaded that Petitioner has made a sufficient showing that these claims also are anticipated by Pagliaroli. *See* Pet. 52–55. Claim 2, in relevant part, further recites “a monitoring device for monitoring at least one of the vehicle, vehicle operational status, vehicle operation, said one of a vehicle component, a vehicle device.” Claim 17, in relevant part, further recites the “step of determining an operational status of at least one of the vehicle component, vehicle device, vehicle system, and vehicle subsystem.” In its arguments directed to these claims, Petitioner relies upon Pagliaroli's the passages of Pagliaroli discussed above in reference to Petitioner's asserted ground of obviousness over Frossard and Pagliaroli. Patent Owner stands on the arguments proffered in relation to the independent claims and does not make additional arguments directed to dependent claims 20 and 65. PO Resp. 32. We disagree with those arguments for the reasons described above.

Based on our review of the full record, we find persuasive Petitioner's arguments and evidence and we adopt them as the basis for our determination that Pagliaroli anticipates the limitations of claims 2 and 17. *See* Pet. 52–55. Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence the unpatentability of claims 2 and 17 over Pagliaroli.

2. Analysis of Asserted Grounds of Obviousness over Pagliaroli

Petitioner asserts that claims 3 and 11 of the '405 patent are unpatentable under 35 U.S.C. § 103 as obvious over Pagliaroli as combined respectively with Simms and Shimizu. Pet. 55–60. Petitioner relies on claim charts showing how these references allegedly teach the claimed subject matter. *Id.* Petitioner further relies on a declaration from David McNamara. Ex. 1003.

a. Asserted Obviousness of Claim 3 over Pagliaroli and Simms

Petitioner's arguments in regards to claim 3 rely upon the combined teachings of Pagliaroli and Simms. Pet. 55–57. Petitioner relies upon similar teachings from Simms as discussed above in reference to the asserted combination of Frossard and Simms. *See* § III.B.3.c.

As discussed above in regards to the combination of Frossard and Simms, Patent Owner also argues that a substantial redesign of Pagliaroli would be required to combine the functionality of Pagliaroli and Simms. PO Resp. 33–35. Patent Owner's argument relies upon the same testimony from Mr. McNamara that is discussed above in regards to the combination of Frossard and Simms. *Id.* Patent Owner argues that this testimony applies because Pagliaroli's mobile telephone signal transmitter 46 has less functionality than the sophisticated server 1 of Frossard. *Id.* at 34. We, however, credit Mr. McNamara's testimony that one of ordinary skill in the art

could have applied the improvement of Simms to the system in Pagliaroli to achieve the predictable result of locating the vehicle and displaying the location information on a digital map to assist in the recovery of the vehicle by either the police or the vehicle owner. A person of ordinary skill in the art would

recognize that it would be advantageous to use GPS and digital maps in order to locate a vehicle.

Ex. 1003 ¶ 155. We also credit Mr. McNamara's testimony that "a person of ordinary skill in the art would know how to combine Pagliaroli and Simms by, for example, adding the mobile security assembly to the vehicle and incorporating the central dispatch station into a server accessible to the police or the vehicle owner." *Id.*; *See KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 401 (2007).

Based on our review of the full record, we find persuasive Petitioner's arguments and evidence and we adopt them as the basis for our determination that Pagliaroli and Simms teach the limitations of claim 3. *See* Pet. 55–57. Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence the unpatentability of claim 3 over the teachings of Pagliaroli and Simms.

b. Asserted Obviousness of Claim 11 over Pagliaroli and Shimizu

Claim 11 depends from claim 1. We have reviewed Petitioner's assertions regarding this claim and we are persuaded that Petitioner has shown by a preponderance of the evidence that it would have been obvious over Pagliaroli and Shimizu. *See* Pet. 57–60. Petitioner relies upon similar teachings from Simms as discussed above in reference to the asserted combination of Frossard and Shimizu. *See* § III.B.3.d.

As discussed above in regards to the combination of Frossard and Shimizu, Patent Owner also argues that there is no motivation to combine Pagliaroli's anti-theft device with Shimizu's voice synthesizer. PO Resp. 35–37. Petitioner makes the same arguments here as discussed above in reference to the combination of Frossard and Shimizu. Reply 25–27

(combined argument in support of the combination of Shimizu with both Frossard and Pagliaroli). We also note that Petitioner makes the same arguments in the Petition as to the motivation to combine Shimizu with each of Frossard and Pagliaroli. *Compare* Pet. 58–59 (motivation to combine with Pagliaroli) *with id.* 37–38. Thus, for reasons discussed above, we are persuaded that Petitioner has provided sufficient evidence of a motivation to combine Pagliaroli and Shimizu. *See* § III.B.3.d.

Based on our review of the full record, we find persuasive Petitioner’s arguments and evidence and we adopt them as the basis for our determination that Pagliaroli and Shimizu teach the limitations of claim 11. *See* Pet. 57–60. Accordingly, we determine that Petitioner has demonstrated by a preponderance of the evidence the unpatentability of claim 11 over the teachings of Pagliaroli and Shimizu.

IV. CONCLUSION

Based on the arguments in the Petition, as well as the evidence of record, we determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1 and 16 of the ’405 patent are anticipated by Frossard; claims 2 and 17 would have been obvious over Frossard and Pagliaroli; claim 3 would have been obvious over Frossard and Simms; and claim 11 would have been obvious over Frossard and Shimizu. We further determine that Petitioner has demonstrated by a preponderance of the evidence that claims 1, 2, 16, and 17 are anticipated by Pagliaroli; claim 3 have been obvious over Pagliaroli and Simms; and claim 11 would have been obvious over Pagliaroli and Shimizu.

V. ORDER

For the reasons given, it is

IPR2015-01585
Patent 5,917,405 B1

ORDERED that claims 1–3, 11, 16, and 17 of the '405 patent are held unpatentable;

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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