

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

UNIFIED PATENTS INC.,
Petitioner,

v.

PORTAL COMMUNICATIONS, LLC,
Patent Owner.

IPR2019-00513
Patent 7,376,645 B2

Before JEFFREY S. SMITH, THOMAS L. GIANNETTI, and
KAMRAN JIVANI, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
Denying Patent Owner's Motion to Amend
35 U.S.C. § 318(a)

I. INTRODUCTION

A. Background

Unified Patents Inc. (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–30, which are all claims, of U.S. Patent No. 7,376,645 B2 (Ex. 1001, the “‘645 patent”). Paper 2 (“Pet.”). Patent Owner waived filing of a preliminary response. Paper 6. We instituted *inter partes* review. Paper 7.

After institution, Patent Owner did not file a response to the Petition. Rather, Patent Owner filed only a contingent motion to amend. Paper 11. Petitioner filed an opposition thereto. Paper 19. We provided preliminary guidance as to the contingent motion to amend. Paper 21.

After receiving our preliminary guidance, Patent Owner filed a revised contingent motion to amend, proposing substitute claim 31. Paper 22 (“Mot.”). Petitioner opposed the revised contingent motion to amend. Paper 26 (“Opp.”). Although our revised scheduling order (Paper 23, 7) authorizes Patent Owner to file a reply to the Petitioner’s opposition, Patent Owner did not file a reply.

Petitioner requested an oral hearing in this proceeding. Paper 25. Patent Owner requested permission to be excused from participating in the oral hearing, which we granted. Paper 30. An oral hearing, in which only Petitioner participated, was held, and a transcript was entered into the record. Paper 32 (“Tr.”).

We have jurisdiction to conduct this *inter partes* review under 35 U.S.C. § 6. This Final Written Decision is entered pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73. For the reasons discussed below, we determine claims 1–30 are unpatentable, and Patent Owner’s Motion to Amend is *denied* with respect to proposed substitute claim 31.

B. Related Proceedings

The parties identify the following district court proceedings concerning the '645 patent: *Portal Communications, LLC v. Apple Inc.*, No. 2:18-cv-00061 (E.D. Tex.) (Dismissed); *Portal Communications, LLC v. Microsoft Corp.*, No. 2:18-cv-00140 (E.D. Tex.) (Dismissed); and *Portal Communications, LLC v. SoundHound Inc.*, No. 1:18-cv-01371 (D. Del.) (Pending). Pet. 2; Paper 3, 2.

C. Real Party-in-Interest

The Petition identifies Unified Patents Inc. as the real party-in-interest. Pet. 1. Patent Owner identifies Portal Communications, LLC as the real party-in-interest. Paper 3, 2.

D. The '645 Patent

The '645 patent discloses a “wireless natural language query system, architecture, and method for processing multimodally-originated queries, including voice and proximity-based queries.” Ex. 1001, code (57). The patent discloses that a web-enabled device, including a speech plug-in, receives and records a voice-based query from a user. *Id.* at 8:25–27, 8:32–41, 9:41–58. “The speech plug-in 18 . . . sends the recorded voice-based query to the speech server 20, which converts the voice-based query to text and returns the text to the Web-enabled device.” *Id.* at 8:41–48, 9:45–47, 9:58–67. The patent discloses that the web-enabled device receives location or proximity information from a global positioning system (GPS) or radio frequency identification (RFID) tag. *Id.* at 8:49–9:1, 10:1–3. The web-enabled device sends the converted text and the location and proximity information to a remote server for subsequent processing. *Id.* at 9:1–4, 10:3–7.

The remote server performs natural language processing (NLP). *Id.* at 9:12–13, 10:20–21. “First, a semantic engine ‘interprets’ the text associated with the user’s voice-based query and converts the text into a formal database query.” *Id.* at 9:13–15, 10:21–26. “A database look-up is then performed using the formal database query and the result is sent back to the remote server,” then to the web-enabled device. *Id.* at 9:17–21, 10:26–30. “The location or proximity information provide a context or environment that is used to narrow and streamline the database look-up related to the converted text associated with the user’s voice-based query.” *Id.* at 9:27–30, 10:33–37.

For example, each exhibit in an art museum can be equipped with an RFID tag to provide location or proximity information to the system. *Id.* at 10:7–9. When a user asks “who painted this picture,” the system uses the location or proximity information to determine which picture is proximate to the user. *Id.* at 10:9–14. The system then retrieves a relevant set of information and displays the information to the user. *Id.* at 10:14–18.

E. Illustrative Claim

The ’645 patent has 30 claims, all of which are challenged in the Petition. System claim 1, architecture claim 11, and method claim 21 are the independent claims, and contain similar limitations. Claim 1 is illustrative:

1. A natural language query system processing voice and proximity-based queries, comprising:
 - a device, comprising:
 - a speech input module receiving a voice-based query in natural language form from a user; and
 - a location/proximity module receiving location/proximity information from a location/proximity device;

a speech conversion module converting the voice-based query in natural language form to text in natural language form;

a natural language processing module converting the text in natural language form to text in searchable form using lexicons and grammar rules to parse sentences and determine underlying meanings of the voice-base query, wherein the underlying meanings are further determined responsive to the location/proximity information from the location/proximity module;

a semantic engine module converting the text in searchable form to a formal database query; and

a database-look-up module using the formal database query to obtain a result related to the voice-based query in natural language form from a database, wherein the location/proximity module is configured to provide a context and environment to the database-look-up module narrowing and streamlining the formal database query associated with the voice-based query, and wherein the narrowing and streamlining is responsive to the location/proximity information.

F. Asserted Grounds of Unpatentability

Petitioner contends that claims 1–30 are unpatentable under 35 U.S.C. § 103(a) over the combination of Junqua¹ and Julia². Pet. 5, 13.

II. CLAIM CONSTRUCTION

For this *inter partes* review, the Board applies the same claim construction standard as that applied in federal courts. *See* Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340, 51,340, 51,358 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b))

¹U.S. Patent No. 6,598,018 B1 issued July 22, 2003 (Ex. 1004).

²U.S. Patent No. 6,513,063 B1 issued Jan. 28, 2003 (Ex. 1005).

(2019)). Petitioner submits that the term “plug-in” recited in claims 3, 11, 13, 14, 20, and 23 should be construed to mean “hardware and/or software that provides functionality to a system.” Pet. 11–12. We do not need to construe the term “plug-in,” or any other claim terms, to resolve a controversy. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (Only terms that are in controversy need to be construed, and then only to the extent necessary to resolve the controversy.).

III. ANALYSIS OF THE CHALLENGED CLAIMS

Petitioner, relying on the testimony of Mr. Bruce McNair, contends that claims 1–30 would have been obvious over the combination of Junqua and Julia. Pet. 13–72; Ex. 1003. As discussed above, Patent Owner did not file a response to the Petition, but instead filed a Motion to Amend the claims contingent on our first determining the claims to be unpatentable under the grounds set forth in the Petition. Paper 11.

Nevertheless, Petitioner bears the burden of proving unpatentability of the challenged claims, and the burden of persuasion never shifts to Patent Owner. *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015). Accordingly, we proceed by analyzing Petitioner’s challenges as set forth in Petition and in light of the evidence presented. To prevail in its challenges, Petitioner must demonstrate by a preponderance of the evidence that the challenged claims are unpatentable. 35 U.S.C. § 316(e); 37 C.F.R. § 42.1(d).

A. Description of the Prior Art References

1. Junqua (Ex. 1004)

Junqua discloses a method for “providing a natural dialog interface for a device installed on an automobile.” Ex. 1004, 1:26–28; *see id.* at 1:7–10.

Junqua's interface "includes a speech recognizer . . . [that] recognizes input speech provided by a user." *Id.* at 1:28–30. A "speech understanding module determines semantic components of the input speech." *Id.* at 1:30–32. A "dialog manager determines a condition of insufficient semantic information existing within the input speech based upon the determined semantic components and provides information to the user about the device in response to the input speech." *Id.* at 1:34–38.

Junqua discloses, as an example, a user saying, "I am now on State Street and I want to go to Santa Barbara Street." *Id.* at 3:67–4:1. By understanding phrases such as "now" and "I want to go," the natural language interface can automatically determine a start and end point for input to a navigation system. *Id.* at 4:1–5. If more than two State Streets exist in a city, the natural language interface may use GPS information to determine on which State Street the user is traveling. *Id.* at 4:6–16.

2. *Julia (Ex. 1005)*

Julia discloses a method of navigating an electronic data source that has an online interface, using spoken input. Ex. 1005, at [57]. The method interprets a spoken request from a user, and constructs a navigation query based on the interpretation. *Id.* The method automatically constructs an operational navigation query, retrieves desired information from the electronic data source, and transmits the information to the user's client device. *Id.* The navigation query can be embodied using a formal database query language such as Standard Query Language (SQL). *Id.* at 8:56–58.

In some instances, details about a query may not be provided by the user, but may be deduced through reasonable assumptions, rather than requiring the user to provide explicit clarification. *Id.* at 12:37–42. For example, if a user requests a weather report, the system may simply assume

that the user means a weather report for his or her home area. *Id.* at 12:42–48. Making such an assumption may be justified if the cost of doing so is not significantly greater than the cost of asking the user to clarify the query, or where user histories indicate that a particular user or group of users typically expect local information. *Id.* at 12:48–53.

B. Independent Claims 1, 11, and 21

Claim 1 recites “a device, comprising: a speech input module receiving a voice-based query in natural language form from a user; and a location/proximity module receiving location/proximity information from a location/proximity device.” Claims 11 and 21 recite a similar limitation. Petitioner contends Junqua discloses the claimed “speech input module” in describing an audio interface and digitizer that receives input speech from a user such as natural speech. Pet. 26–28 (citing Ex. 1004, 1:7–10, 1:57–59, 3:40–56, 3:59–4:1, 6:15–23, 6:29–32, Fig. 3a). Petitioner contends Junqua discloses the claimed “location/proximity module” in describing a context module that receives navigation information from a global positioning system (GPS) receiver. *Id.* at 27–28 (citing Ex. 1004, 2:26–37, 4:14–16, 7:31–34).

Junqua discloses that input speech from a user, such as casual, dialog style, natural speech, is supplied through an audio interface and digitizer to a speech recognizer. Ex.1004, 1:57–59, 6:17–19. Junqua discloses that a context module supplies navigation related context information from a GPS receiver to a natural language parser. *Id.* at 2:26–37. We determine for the reasons given that Junqua describes this limitation.

Claim 1 recites “a speech conversion module converting the voice-based query in natural language form to text in natural language form.” Claims 11 and 21 recite a similar limitation. Petitioner contends Junqua

discloses this limitation in describing a speech recognizer that receives a digitized form of the user's speech and generates an output of natural language text. Pet. 28–30 (citing Ex. 1004, 1:28–30, 1:57–61, 6:3–12, 6:32–33, 7:10–11, Fig. 3a). Junqua discloses a speech recognizer that recognizes input speech provided by a user and generates natural language text. Ex. 1004, 1:28–30, 6:5–8. We determine for the reasons given that Junqua describes this limitation.

Claim 1 recites “a natural language processing module converting the text in natural language form to text in searchable form using lexicons and grammar rules to parse sentences and determine underlying meanings of the voice-base query.” Claims 11 and 21 recite a similar limitation. Petitioner contends Junqua discloses this limitation in describing a natural language parser that uses recognized key words and a set of grammars to extract semantically meaningful topics from natural language text. Pet. 30–34 (citing Ex. 1004, 1:59–2:3, 3:65–4:5, 4:46–54, 6:3–23, 6:30–42, 7:12–15, Fig. 3a). Junqua discloses a natural language parser that works in conjunction with a set of grammars that define semantics of what the natural language processor can understand, to recognize key words and phrases from the text generated by the speech recognizer, and to use the recognized key words and phrases to fill slots in predefined templates that represent different tasks. Ex. 1004, 1:59–2:12, 6:3–8. We determine for the reasons given that Junqua describes this limitation.

Claim 1 recites “wherein the underlying meanings are further determined responsive to the location/proximity information from the location/proximity module.” Claims 11 and 21 recite a similar limitation. Petitioner contends Junqua discloses this limitation in describing a dialog manager that uses GPS information from a context module to determine the

underlying meaning of an ambiguous or illogical location in a voice query. Pet. 34–37 (citing Ex. 1004, 2:20–37, 3:18–4:16, 5:49–6:2, 6:43–59, Fig. 3b). Junqua discloses that “a user may input ‘I am now on State Street and I want to go to Santa Barbara Street.’” Ex. 1004, 3:67–4:1. Junqua discloses that if more than two State Streets exist in the city, a context module may provide GPS information to determine on which of the two State Streets the user is traveling. *Id.* at 4:14–16. Junqua also discloses that if the user’s start location is not logical, a dialog manager may use GPS positioning information provided by a context module to select a more likely start location. *Id.* at 5:58–67. We determine for the reasons given that Junqua describes this limitation.

Claim 1 recites “a semantic engine module converting the text in searchable form to a formal database query.” Claims 11 and 21 recite a similar limitation. Petitioner contends this limitation is taught by the combination of Junqua and Julia. Pet. 37–39.

Petitioner contends Junqua teaches “a semantic engine module converting the text in searchable form to a . . . database query” in describing a dialog manager constructing a database search from the template filled with key words and phrases output from the natural language parser. *Id.* at 37–38 (citing Ex. 1004, 1:65–2:3, 3:8–11, 3:21–27, 5:38–48, 6:43–48, Fig. 3b). Junqua teaches that “dialog manager 34 utilizes the output of natural language parser 14 to capture the user’s requests so that command requests can be properly generated.” Ex. 1004, 3:21–27, 6:43–48, Fig. 3b. Figure 3b of Junqua shows that the step of generating commands includes constructing a database search. *Id.* at Fig. 3b, block 96. For the reasons given, we are persuaded that Junqua teaches “a semantic engine module converting the text in searchable form to a . . . database query.”

Petitioner contends that Julia teaches the database query is “a formal database query” in describing a server database for natural language query systems which accepts formal database queries using structured query language (SQL). Pet. 39 (citing Ex. 1005, 8:45–47, 8:56–9:18, Figs. 1a, 2). Julia teaches query construction logic to construct an SQL query that reflects the user’s request, as interpreted by a speech recognition engine and a natural language parser. Ex. 1005, 8:45–47, 9:8–16. Julia teaches that SQL is a formal database query language that is a “standard interactive and programming language for getting information from and updating a database,” and is “both an ANSI and an ISO standard.” *Id.* at 8:56–64. Julia teaches that “[p]ractitioners of ordinary skill in the art will be thoroughly familiar with the notion of database navigation through structured query, and will be readily able to . . . utilize the existing data structures and navigational mechanisms for a given database, or to create such structures and mechanisms where desired.” *Id.* at 9:2–7. We determine for the reasons given that Julia teaches “converting the text . . . to a formal database query.”

Petitioner, relying on testimony of Mr. McNair, contends that a person of ordinary skill in the art would have been motivated to implement the database of Junqua using the well-known query language of SQL as taught by Julia, for the benefit of providing “a standard interactive and programming language for getting information from and updating a database” as taught by Julia. Pet. 20 (citing Ex. 1005, 8:56–64, 9:2–18; Ex. 1003 ¶¶ 28, 74). We determine for the reasons given that converting the text in searchable form to a database query as taught by Junqua, where the database query is written in the well-known query language of SQL as taught by Julia, does no more than yield the predictable result of getting information from a database using the standard programming language of

SQL as taught by Julia. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 416 (2007) (“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.”).

Claim 1 recites “a database-look-up module using the formal database query to obtain a result related to the voice-based query in natural language form from a database.” Claims 11 and 21 recite a similar limitation.

Petitioner contends this limitation is taught by the combination of Junqua and Julia. Pet. 39–42. Petitioner contends that Junqua teaches that a dialog manager constructs a database search related to the voice-based query, and a computer response module queries databases, obtains results, and delivers results to the user. *Id.* (citing Ex. 1004, 5:38–44 (“[D]ialog manager 34 instructs computer response module 68 to perform a search on remote database 74 in order to provide a user 8 with timely traffic information.”); Ex. 1004, 3:8–11, 3:21–27, 3:59–66, 5:20–27, 6:43–48, Fig. 3b) (emphasis omitted). Petitioner contends that Julia teaches that the query is SQL, which is a formal database query. Pet. 42 (citing Ex. 1005, 8:56–9:18). Petitioner, relying on testimony of Mr. McNair, contends that implementing the database of Junqua in SQL as taught by Julia does no more than yield the predictable result of getting information from the database using the standard programming language of SQL as taught by Julia. *See id.* (citing Ex. 1003 ¶ 28). For the reasons given, we determine that Junqua and Julia teach this limitation.

Claim 1 recites “wherein the location/proximity module is configured to provide a context and environment to the database-look-up module narrowing and streamlining the formal database query associated with the voice-based query, and wherein the narrowing and streamlining is responsive to the location/proximity information.” Claims 11 and 21 recite a

similar limitation. Petitioner contends this limitation is taught by the combination of Junqua and Julia. Pet. 42–47.

Petitioner contends Junqua teaches a context module that provides proximity information used to resolve an ambiguous or illogical voice command. *Id.* at 42–45 (citing Ex. 1004, 3:59–4:16, 5:49–6:2, Fig. 3b). Junqua teaches that a context module provides GPS information to resolve an ambiguous input from a user, such as “I am on State Street” where a city has more than two State Streets, by determining on which State Street the user is traveling. Ex. 1004, 3:59–4:16. Junqua also teaches that, when input from a user is illogical, the context module uses GPS information to select a more likely alternative. *Id.* at 5:58–67. For the reasons given, we determine that Junqua teaches this limitation.

Petitioner contends that Julia teaches query construction logic that makes reasonable assumptions for queries, such as assuming that a user’s request for a weather forecast is a request for the weather forecast in the user’s home area. Pet. 45 (citing Ex. 1005, 12:37–53). Julia teaches that when a user requests information, some details not provided in the request may be deduced by query construction logic or query refinement logic through reasonable assumptions, such as assuming the user expects local information when asking for a weather forecast. Ex. 1005, 12:37–46. For the reasons given, we determine that Julia teaches this limitation.

Petitioner, relying on testimony of Mr. McNair, contends that a person of ordinary skill in the art would have avoided a location-based ambiguity, such as a query that includes State Street in a city with more than two State Streets as taught by Junqua, by performing the query on information local to the user as taught by Julia, to achieve the predictable results of avoiding unnecessary inquiries to the user and increasing user convenience. Pet. 18–

19 (citing Ex. 1003 ¶ 71). Julia teaches that assuming the user wants local information is justified, where the cost of doing so is not significantly greater than the cost of asking the user to clarify the query, or where user histories indicate that a particular user or group of users typically expect local information. Ex. 1005, 12:46–53. For the reasons given, we determine that resolving the location-based ambiguity of Junqua using local information as taught by Julia does no more than yield the predictable results of avoiding the cost of asking the user to clarify the query, and meeting the user’s typical expectation for local information, as taught by Julia.

We determine that for the foregoing reasons, the Petition has demonstrated, by a preponderance of the evidence, that claims 1, 11, and 21 would have been obvious over the combination of Junqua and Julia.

C. Dependent Claims 2–10, 12–20, and 22–30

Petitioner has set forth contentions regarding the remaining claims (Pet. 46–55, 61–65, 68–72). For the reasons discussed below, we determine that the Petition has demonstrated, by a preponderance of the evidence, that claims 2–10, 12–20, and 22–30 would have been obvious over the combination of Junqua and Julia.

Claim 2 recites “the device comprises a device selected from the group consisting of a Web-enabled portable personal computer, a Web-enabled laptop computer, a Web-enabled personal digital assistant, and a Web-enabled phone.” Claims 12 and 22 recite a similar limitation. Petitioner contends this limitation is taught by the combination of Junqua and Julia. Pet. 46–47 (citing Ex. 1004, Abstract, 1:1–11, 1:26–28, 2:54–61; Ex. 1005, 5:47–63, 12:1–7). Junqua discloses a natural language interface including a mapping module updater that “receives update information over . . . the Internet.” Ex. 1004, 2:56–59. Julia discloses a mobile client

embodiment implemented as a cellular telephone or a wireless personal digital assistant. Ex. 1005, 5:45, 54–56. For the reasons given, we determine that the combination of Junqua and Julia teaches this limitation, and that claims 2, 12, and 22 are unpatentable.

Claim 3 recites “the speech input module comprises a speech plug-in and a microphone.” Claims 13 and 23 recite a similar limitation. Petitioner contends this limitation is taught by the combination of Junqua and Julia. Pet. 47 (citing Ex. 1004, 1:57–59; Ex. 1005, 3:40–56, 17:27–28; Ex. 1003 ¶¶ 39, 40, 46). Junqua discloses “[i]nput speech from the user 8 is supplied through an audio interface and digitizer.” Ex. 1004, 1:57–59. Julia discloses that “voice input data is captured by a voice input device 102, such as a microphone.” Ex. 1005, 3:40–56. For the reasons given, we determine that the combination of Junqua and Julia teaches this limitation, and that claims 3, 13, and 23 are unpatentable.

Claim 4 recites “the location/proximity module comprises a location/proximity module selected from the group consisting of a radio frequency identification reader and a global positioning system.” Claims 14 and 24 recite a similar limitation. Petitioner contends this limitation is taught by Junqua. Pet. 48 (citing Ex. 1004, 2:35–37, 4:14–15). Junqua discloses a context module that provides navigation information from a global positioning system (GPS) receiver. Ex. 1004, 2:35–37. For the reasons given, we determine that Junqua teaches this limitation, and that claims 4, 14, and 24 are unpatentable.

Claim 5 recites “the location/proximity device comprises a location/proximity device selected from the group consisting of a radio frequency identification tag and a satellite.” Claims 15 and 25 recite a similar limitation. Petitioner, relying on the testimony of Mr. McNair,

contends this limitation is taught by Junqua’s disclosure of providing GPS information, because GPS is based on a system of satellites continuously broadcasting time and position information. Pet. 48 (citing Ex. 1004, 2:35–37, 4:14–15; Ex. 1003 ¶¶ 42–44). Mr. McNair testifies that the “GPS system includes a number of satellites that broadcast signals . . . to the receiver. Four satellites are sufficient to make a . . . location measurement.” Ex. 1003 ¶ 42. For the reasons given, we determine that Junqua teaches this limitation, and that claims 5, 15, and 25 are unpatentable.

Claim 6 recites “the speech conversion module resides in a speech server located remotely from the device.” Claims 16 and 26 recite a similar limitation. Petitioner contends this limitation is taught by the combination of Junqua and Julia. Pet. 49–50 (citing Ex. 1004, Abstract, 1:1–11, 2:54–65, 5:38–48, Fig. 1; Ex. 1005, 3:61–4:4, 5:35–39, 5:58–63). Junqua discloses searching a remote database to provide the user with timely traffic information. Ex. 1004, 5:38–41. Julia discloses that at “remote server 108, the voice data is processed by request processing logic 300 in order to understand the user’s request.” Ex. 1005, 3:61–63. For the reasons given, we determine that the combination of Junqua and Julia teaches this limitation, and that claims 6, 16, and 26 are unpatentable.

Claim 7 recites “the natural language processing module resides in a server located remotely from the device.” Claims 17 and 27 recite a similar limitation. Petitioner contends the combination of Junqua and Julia teaches this limitation. Pet. 50–51 (citing Ex. 1004, Abstract, 1:1–11, 2:54–61, 5:38–48, Fig. 1; Ex. 1004, 3:61–4:4, 5:35–39, 5:58–63). Julia discloses that at “remote server 108, the voice data is processed by request processing logic 300 in order to understand the user’s request,” where “request processing logic 300 comprises . . . speech recognition engine 310, natural

language (NL) parser 320, query construction logic 330, and query refinement logic 340.” Ex. 1005, 3:61–4:4. For the reasons given, we determine that the combination of Junqua and Julia teaches this limitation, and that claims 7, 17, and 27 are unpatentable.

Claim 8 recites “the semantic engine module resides in a database server located remotely from the device.” Claims 18 and 28 recite a similar limitation. Petitioner contends the combination of Junqua and Julia teaches this limitation. Pet. 51–52 (citing Ex. 1004, Abstract, 1:1–11, 2:54–65, 5:38–48, Fig. 1; Ex. 1005, 3:61–4:9, 5:35–39, 5:58–63). Julia discloses that at “remote server 108, the voice data is processed by request processing logic 300 in order to understand the user’s request,” where “request processing logic 300 comprises . . . speech recognition engine 310, natural language (NL) parser 320, query construction logic 330, and query refinement logic 340.” Ex. 1005, 3:61–4:4. For the reasons given, we determine that the combination of Junqua and Julia teaches this limitation, and that claims 8, 18, and 28 are unpatentable.

Claim 9 recites “the database look-up module resides in a database server located remotely from the device.” Claims 19 and 29 recite a similar limitation. Petitioner contends the combination of Junqua and Julia teaches this limitation. Pet. 52–53 (citing Ex. 1004, Abstract, 1:1–11, 2:54–65, 5:38–48, Fig. 1; Ex. 1004, 3:61–64, 4:4–17, 5:35–39, 5:58–63). Julia discloses that at “remote server 108, the voice data is processed by request processing logic 300 in order to understand the user’s request and construct an appropriate query or request for navigation of remote data source 110.” Ex. 1005, 3:61–64. Julia discloses that “[d]ata source 110 . . . preferably resides on a central server,” and that the “contents of data source 110 are navigated --- i.e., the contents are accessed and searched, for retrieval of

particular information desired by the user.” Ex. 1005, 4:4–17. For the reasons given, we determine that the combination of Junqua and Julia teaches this limitation, and that claims 9, 19, and 29 are unpatentable.

Claim 10 recites “a speech output module for delivering the result 40 related to the voice-based query in natural language form to the user.” Claims 20 and 30 recite a similar limitation. Petitioner contends this limitation is taught by Junqua. Pet. 53–55 (citing Ex. 1004, 3:34–38, 5:20–31, Figs. 1, 2). Junqua discloses computer response module 68 that “uses the semantics . . . to generate a sentence based on the semantic concept,” and “speaks the directions to the user using speech synthesis.” (Ex. 1004, 5:26–31). For the reasons given, we determine that Junqua teaches this limitation, and that claims 10, 20, and 30 are unpatentable.

IV. ANALYSIS OF THE MOTION TO AMEND

In *Aqua Products, Inc. v. Matal*, 872 F.3d 1290 (Fed. Cir. 2017), the Federal Circuit addressed the burden of persuasion that the Board applies when considering the patentability of substitute claims presented in a motion to amend filed under 35 U.S.C. § 316(d) in an *inter partes* review. The lead opinion concludes with the following:

The only legal conclusions that support and define the judgment of the court are: (1) the PTO has not adopted a rule placing the burden of persuasion with respect to the patentability of amended claims on the patent owner that is entitled to deference; and (2) in the absence of anything that might be entitled to deference, the PTO may not place that burden on the patentee.

Aqua Prods., 872 F.3d at 1327.

In accordance with *Aqua Products*, Patent Owner does not bear the burden of persuasion to demonstrate the patentability of substitute claims presented in a motion to amend. Rather, the burden of persuasion ordinarily

will lie with Petitioner to show that any proposed substitute claims are unpatentable by a preponderance of the evidence. The Board itself also may justify any finding of unpatentability by reference to evidence of record in the proceeding under limited circumstances, for example, when a Petitioner ceases to participate. *Hunting Titan, Inc. v. DyanEnergetics Europe GmbH*, IPR2018-00600, Paper 67, 25–26 (PTAB July 6, 2020) (precedential) (explaining that the Board may raise grounds of unpatentability not raised, or insufficiently developed by, a petitioner “for example, where the petitioner ceased to participate in the proceeding”). Ultimately, the Board determines whether substitute claims are unpatentable by a preponderance of the evidence based on the entirety of the record, including any opposition made by the Petitioner. *See Lectrosonics, Inc. v. Zaxcom, Inc.*, Case IPR2018-01129, -01130, Paper 15 at 4 (PTAB Feb. 25, 2019) (precedential).

Patent Owner proposes substitute claim 31 to replace claim 24. Mot.

2. Substitute claim 31 is reproduced below.³

31. The natural language query method of claim 21, wherein the location/proximity module ~~comprises a location/proximity module selected from the group consisting~~ consists of a radio frequency identification reader ~~and a global positioning system,~~ the location/proximity device consists of an art museum exhibit equipped with a radio frequency identification tag, and the method includes the radio frequency identification reader receiving location/proximity information associated with the art museum exhibit from the radio frequency identification tag during a user interaction with the device that takes place through a speech-enabled Web page resident on a remote server running

³ Additions to original claim 24 are underlined and omitted words are stricken through. Patent Owner’s revised contingent motion to amend supersedes its earlier motion to amend and that continued reference to “substitute claims 31–33” in the revised motion is considered to be inadvertent error. *See* Paper 22, 13.

one or more active server pages (ASPs) and displayed on a display of the device when a user presses a speak button of the device and asks, “who painted this picture?”.

Petitioner contends that claim 31 would have been obvious over the combination of Junqua, Julia, Amitay, and the knowledge of a person of ordinary skill in the art. Opp. 8–11. Petitioner also contends that claim 31 would have been obvious over the combination of Julia, Amitay, and the knowledge of a person of ordinary skill in the art. Opp. 18–24.⁴ Patent Owner contends that claim 31 is patentable over the combination of Junqua, Julia, and Amitay. Mot. 18–19.⁵

A. Amitay (Ex. 1018)

Amitay discloses:

A dynamic index may list physical items in the changing vicinity of a user or a generator of the index. The vicinity may be within the same space as the user or the generator, such as a store, a library, a shelf, an aisle, within a given radius, a street, a city, a campus, a building, an area and a park. The index may store information about the physical items near the user or generator, such as content found on tags associated with the physical items. The content might be a description of the physical items and their locations.

Ex. 1018, Abstract. Amitay discloses that the items can have RFID tags that can be read by an RFID reader. *Id.* at 4:14–15. Amitay discloses that the reader can read the tags when a person with the reader is in proximity of the

⁴ Petitioner presents additional reasons that claim 31 is unpatentable. Opp. 5–7. We do not reach these additional reasons, because we determine that claim 31 is unpatentable over the prior art as obvious.

⁵ Because Petitioner has shown that proposed substitute claim 31 is unpatentable over the prior art as obvious, we do not address the statutory and regulatory requirements associated with filing a motion to amend under 35 U.S.C. § 316(d)(3) and 37 C.F.R. § 42.121(a)(2)(ii).

items, and generate the index of items. *Id.* at 2:49–60. Amitay discloses that the index can provide information about the items. *Id.* at 2:1–6, 3:32–40, 3:61–4:6.

B. Obviousness over Junqua, Julia, Amitay, and Knowledge of a Person of Ordinary Skill in the Art

Claim 31 depends from claim 21. The Petition has demonstrated, by a preponderance of the evidence, that claim 21 would have been obvious over the combination of Junqua and Julia, as discussed in our analysis above.

Claim 31 recites “wherein the location/proximity module consists of a radio frequency identification reader.” Petitioner, relying on testimony of Mr. McNair, contends Amitay teaches this limitation. Opp. 12 (citing Ex. 1018, 6:17–19, 6:37–41; Ex. 1022 ¶ 58). Amitay discloses a location sensor which may be an RF reader. Ex. 1018, 6:17–19, 6:37–41. For the reasons given, we determine that Amitay teaches this limitation.

Claim 31 recites “the location/proximity device consists of an art museum exhibit equipped with a radio frequency identification tag.” Petitioner contends that Amitay combined with the knowledge of a person of ordinary skill teaches this limitation. Opp. 12–14 (citing Ex. 1018, 6:27–32, 7:32–33; Ex. 1027; Ex. 1022 ¶¶ 34, 58). Patent Owner contends that Amitay does not teach tagging art exhibits with RFID tags. Mot. 18.

We disagree with Patent Owner’s contention that Amitay alone does not teach this limitation, because, as Petitioner demonstrates, Amitay combined with the knowledge of a person of ordinary skill teaches this limitation. Amitay discloses tagging an item with an RFID tag. Ex. 1018, 7:31–33. Mr. McNair testifies that tagging an art museum exhibit with an RFID tag was within the knowledge of a person of ordinary skill in the art. Ex. 1022 ¶ 34 (citing Ex. 1026). Mr. McNair also testifies that using an

RFID system as a virtual tour guide to provide information to museum guests about art museum exhibits was known in the art. *Id.* (citing Ex. 1027, 78–79, 84–87). Mr. McNair testifies that using the device of Junqua, Julia, and Amitay to provide information about art exhibits to museum guests yields the known benefit of reducing museum costs by providing virtual docents instead of human ones. *Id.* (citing Ex. 1027, 86). We rely on the testimony and supporting evidence of Mr. McNair to determine that Amitay combined with the knowledge of a person of ordinary skill teaches this limitation.

Claim 31 recites “the method includes the radio frequency identification reader receiving location/proximity information associated with the art museum exhibit from the radio frequency identification tag during a user interaction with the device.” Petitioner contends that this limitation is taught by Amitay combined with the knowledge of a person of ordinary skill. Opp. 13–14 (citing Ex. 1018, 2:52–56, 6:17–19, 6:21–46; Ex. 1022 ¶¶ 38–43). Patent Owner contends that Amitay does not teach that an RFID reader would receive location/proximity information associated with an art exhibit. Mot. 18–19.

We disagree with Patent Owner’s contention that Amitay alone does not teach this limitation, because, as Petitioner demonstrates, Amitay combined with the knowledge of a person of ordinary skill teaches this limitation. Amitay discloses that the RFID tags transmit signals continually or in the presence of a querying signal. Ex. 1018, 2:52–56. Amitay further discloses that when a person with a generator, such as a location sensor, comes in the proximity of items having RFID tags, the generator transmits a querying signal and decodes the received signals. *Id.* at 2:56–61, 6:1–2, 17–20; *see id.* at 6:21–46; Ex. 1003 ¶¶ 38–43. Amitay further discloses that the

received signals may contain the location of an item. Ex. 1018, 3:7–9, 3:15–24, 4:17–21; 5:23–28, 6:36–41, 7:11–20; Ex. 1022 ¶¶ 40–41. Mr. McNair testifies that associating art museum exhibits with RFID tags to locate art museum exhibits was known in the art. Ex. 1022 ¶¶ 34, 41 (citing Ex. 1026; Ex. 1027). Mr. McNair also testifies that an RFID reader reading a tag in an art museum during a user interaction with an art exhibit was known in the art. Ex. 1022 ¶ 43 (citing Ex. 1027, 85–86 (The user presses a smart card with an RFID tag to the RFID reader while at a museum exhibit to obtain further information about the exhibit)). We rely on the testimony and supporting evidence of Mr. McNair to determine that Amitay combined with the knowledge of a person of ordinary skill teaches this limitation.

Claim 31 recites the user interaction “takes place through a speech-enabled Web page resident on a remote server running one or more active server pages (ASPs).” Petitioner contends that Julia combined with the knowledge of a person of ordinary skill teaches this limitation. Opp. 14–16 (citing Ex. 1005, 3:61–4:4, 5:35–39, 5:58–63; Ex. 1022 ¶¶ 47–55, 58). Mr. McNair testifies that Julia discloses a remote server with voice processing logic and a database look-up module for navigating remote “Internet/web sites.” Ex. 1022 ¶ 49 (citing Ex. 1005, 3:61–4:17, 5:35–39, 5:59–63). Mr. McNair testifies that active server page (ASP) is the name for Microsoft’s server-side script engine, and that the benefits and results of using ASPs, such as avoiding difficulties of designing numerous static web pages, were well-known. *Id.* at ¶¶ 50–51 (citing Ex. 1028, 35). Mr. McNair testifies that although Julia does not explicitly refer to ASPs by name, Julia suggests their use by disclosing the use of Microsoft technology and the details of how to scrape the Internet to obtain search results that could be used to generate and display results to a user. *Id.* at ¶ 52 (citing Ex. 1005,

4:4–5, 6:53–58, 8:66, 9:19–34, 11:46–49). We rely on the testimony and supporting evidence of Mr. McNair to determine that Julia combined with the knowledge of a person of ordinary skill teach this limitation.

Claim 31 recites “displayed on a display of the device.” Petitioner contends Julia teaches this limitation. Opp. 16 (citing Ex. 1005, 11:46–49). Julia discloses “query refinement logic 340 might preferably generate a display for client display device 112 showing the (relatively short) list of film titles that satisfy the user’s stated constraints.” Ex. 1005, 11:46–49. We determine for the reasons given that Julia teaches this limitation.

Claim 31 recites “when a user presses a speak button of the device and asks, ‘who painted this picture?’”. Petitioner contends that Julia combined with the knowledge of a person of ordinary skill teaches this limitation. Opp. 16–18 (citing Ex. 1005, 3:41–45, 10:10–13; Ex. 1026; Ex. 1027; Ex. 1022 ¶¶ 8, 22–23, 33–34, 56–58). Patent Owner contends that Amitay does not teach an RFID reader receiving location/proximity information from a tag associated with an exhibit when a user asks “who painted this picture.” Mot. 18–19.

We disagree with Patent Owner’s contention that Amitay alone does not teach this limitation, because, as Petitioner demonstrates, Julia combined with the knowledge of a person of ordinary skill teaches this limitation. Julia discloses that “voice input device 102 includes a button or the like that can be pressed or held down to activate a listening mode.” Ex. 1005, 3:41–45. Julia discloses that users “can directly speak the natural language request” such as “Show me the movie Unforgiven.” *Id.* at 10:10–13. Mr. McNair testifies that a person of ordinary skill in the art, in order to use the system in a museum, would have configured the system to address the specific question “who painted this picture,” because the person of ordinary

skill would have known that a visitor to an art museum who wants to obtain information about an exhibit would ask about the name of the artist.

Ex. 1022 ¶ 57 (citing Ex. 1024; Ex. 1005, 11:25–45). We rely on the testimony of Mr. McNair to determine that Julia combined with the knowledge of a person of ordinary skill teaches this limitation.

We determine that Petitioner has provided a sufficient rationale for combining the teachings of Junqua, Julia, Amitay, and the knowledge of a person of ordinary skill. Opp. 9–11. As discussed in our analysis of claim 21 above, we determine that Petitioner has provided a sufficient rationale for combining the teachings of Junqua and Julia. Petitioner contends that a person of ordinary skill in the art would have modified the combined teachings of Junqua and Julia to replace the GPS of Junqua with the RFID system of Amitay, because the RFID system would have provided the benefit of reliable indoor use without the need for a line of site to a satellite, and would have been less expensive than a GPS receiver. Opp. 9 (citing Ex. 1020 ¶ 3; Ex. 1022 ¶¶ 37, 45–47). Petitioner contends that using such a combined system in a museum environment is the simple substitution of the known city environment with points of interest for the known museum environment with art exhibits of interest and yields the predictable result of using a verbal query to obtain information about an item of interest. Opp. 10 (citing Ex. 1022 ¶¶ 33–34, 42). Mr. McNair testifies that using the device of Junqua, Julia, and Amitay to provide information about art exhibits to museum guests yields the known benefit of reducing museum costs by providing virtual docents instead of human ones. Ex. 1022 ¶ 34 (citing Ex. 1027, 86); *see* Opp. 11.

For the foregoing reasons, we determine that Petitioner has demonstrated, by a preponderance of the evidence, that substitute claim 31

would have been obvious over the combination of Junqua, Julia, Amitay, and the knowledge of a person of ordinary skill.

C. Obviousness over Julia, Amitay, and Knowledge of a Person of Ordinary Skill in the Art

In the Opposition, Petitioner contends that independent claim 21 and dependent claim 31 would have been obvious over Julia, Amitay, and the knowledge of a person of ordinary skill in the art. Opp. 18. Petitioner explains how the combination of Julia and Amitay renders claim 21 obvious. Opp. 18–24. Petitioner then contends that the combination of Julia, Amitay, and the knowledge of a person of ordinary skill in the art renders claim 31 obvious for the reasons given in the previous ground of unpatentability for claim 31. Opp. 24.

Claim 21 recites “providing a device comprising: a speech input module that receives a voice-based query in natural form from a user and a location/proximity module receiving location/proximity information from a location/proximity device.” Petitioner contends this limitation is taught by the combination of Julia and Amitay. Opp. 21 (citing Ex. 1005, 3:39–56, 5:47–63; Ex. 1022 ¶¶ 64–65).

Julia discloses “mobile information appliance 202 receives spoken natural language input requests from the user in the form of voice data.” Ex. 1005, 5:58–60. We determine for the reasons given that Julia teaches “a speech input module that receives a voice-based query in natural form from a user.”

Amitay discloses “receiver 42 . . . may receive and decode signals from a tag 24,” where the “signals may contain information describing the item . . . and is location within its space.” Ex. 1018, 4:13–19; *see id.* at 4:7–14, 6:17–19, 37–41. For the reasons given, we determine that Amitay

teaches “a location/proximity module receiving location/proximity information from a location/proximity device.”

Petitioner contends that a person of ordinary skill in the art would have incorporated the location/proximity module of Amitay in the device of Julia for the benefit of using location to resolve ambiguities in a query from a user. Opp. 18–19 (citing Ex. 1005, 12:1–46; Ex. 1022 ¶¶ 61–62).

Mr. McNair testifies that incorporating an RFID reader that receives location/proximity information from RFID tags as taught by Amitay into the voice input device that receives a voice-based query as taught by Julia yields the benefit of providing context to the query by adding the location information to the query. Ex. 1022 ¶¶ 61–62 (citing Ex. 1005, 12:1–19, 37–61; Ex. 1018, 6:42–46).

Amitay discloses a search engine that adds location information to a query before performing a search. Ex. 1018, 6:42–46. Julia discloses that when a user asks a query about the weather, query construction logic and query refinement logic resolve the ambiguity by assuming the user is asking about the weather in his or her area. Ex. 1005, 12:1–46. We agree with Petitioner and Mr. McNair, that adding location information to a query as taught by Amitay when constructing a query as taught by Julia yields the predictable benefit of resolving an ambiguity in the query by assuming the user is asking about information in his or her area as taught by Julia.

Claim 21 recites “converting the voice-based query in natural language form to text in natural language form using a speech conversion module.” Petitioner contends Julia teaches this limitation. Opp. 22 (citing Ex. 1005, 7:12–24; Ex. 1022 ¶ 64). Julia discloses “a speech recognition engine processes acoustic voice data and attempts to generate a text stream

of recognized words.” Ex. 1005, 7:22–24. We determine for the reasons given that Julia teaches this limitation.

Claim 21 recites “converting the text in natural language form to text in searchable form using a natural language processing module configured to use lexicons and grammar rules to parse sentences and determine underlying meanings of the voice-based query.” Petitioner contends this limitation is taught by Julia. Opp. 22 (citing Ex. 1005, 7:25–28, 7:47–8:24; Ex. 1022 ¶¶ 64, 66). Julia discloses that “the speech recognition engine is provided with a vocabulary lexicon of likely words or phrases that the recognition engine can match against its analysis of acoustical signals” and that the “natural language interpreter (or parser) 320 linguistically parses and interprets the textual output of the speech recognition engine . . . to determine both the meaning of spoken words (semantic processing) as well as the grammar of the statement (syntactic processing).” Ex. 1005, 7:25–58, 7:47–53; Ex. 1022 ¶ 66. For the reasons given, we determine Julia teaches this limitation.

Claim 21 recites “wherein the underlying meanings are further determined responsive to the location/proximity information from the location/proximity module.” Petitioner contends this limitation is taught by the combination of Julia and Amitay. Opp. 18 (citing Ex. 1005, 12:1–46; Ex. 1018, 6:44–46). Julia discloses that when a user asks about the weather, the system assumes “that the user means a weather report for his or her home area.” Ex. 1005, 12:1–46. Amitay discloses that a search engine receives a query, and “may search using the query itself or may add the location information from location sensor 85 to the query.” Ex. 1018, 6:44–46. Mr. McNair testifies that adding the location information of Amitay to the query of Julia allows the system to make the assumption about the user’s

location. Ex. 1022 ¶¶ 62–64. For the reasons given, we determine that the combination of Julia and Amitay teaches this limitation and that a person of ordinary skill would have combined those teachings for the benefit of allowing the system to assume the user is asking about information in the user’s location.

Claim 21 recites “converting the text in searchable form to a formal database query using a semantic engine module.” Petitioner contends Julia teaches this limitation. Opp. 23 (citing Ex. 1005, 8:45–47, 8:56–9:18, Figs. 1a, 2; Ex. 1022 ¶ 64). Julia discloses query construction logic that constructs a navigation query that is “embodied using a formal database query language.” Ex. 1005, 8:45–47, 8:56–58. We determine Julia teaches this limitation.

Claim 21 recites “narrowing the formal database query responsive to the location/proximity information from the location/proximity module, wherein the location/proximity module is configured to provide a context and environment narrowing and streamlining the formal database query associated with the voice-based query.” Petitioner contends the combination of Julia and Amitay teaches this limitation. Opp. 23 (citing Ex. 1005, 12:1–19, 12:37–53; Ex. 1018, 6:44–46; Ex. 1022 ¶ 64). Julia discloses that when a user asks a query about the weather, query construction logic and query refinement logic can resolve the ambiguity by assuming the user is asking about the weather in his or her area, and retrieves that information. Ex. 1005, 12:1–46. Amitay discloses a search engine that adds location information to a query when performing a search to provide context to the query. Ex. 1018, 1:63–2:7, 3:15–24, 6:42–46, 7:1–6.

Petitioner contends that a person of ordinary skill in the art would have modified the device of Julia to incorporate the RFID reader of Amitay

for the benefit of providing location context to queries as taught by Amitay, in order to clarify ambiguities as taught by Julia. Opp. 18–19 (citing Ex. 1005, 12:1–46, 12:37–61; Ex. 1018, 6:42–46; Ex. 1022 ¶¶ 61–62). We determine for the reasons given that the combination of Julia and Amitay teaches this limitation and that a person of ordinary skill would have combined those teachings.

Claim 21 recites “obtaining a result related to the voice-based query in natural language form from a database using the formal database query and a database-look-up module.” Petitioner contends that Julia teaches this limitation. Opp. 24 (citing Ex. 1005, 4:4–20, 9:39–55, Figs. 4, 5; Ex. 1022 ¶ 64). Julia discloses that a “navigational query is then transmitted . . . to data source 110” and the “contents of data source 110 are then . . . accessed and searched, for retrieval of the particular information desired by the user.” Ex. 1005, 3:66–4:9. We determine that Julia teaches this limitation.

Petitioner contends that the limitations of dependent claim 31 are taught by the combination of Julia, Amitay, and the knowledge of a person of ordinary skill, as discussed in the previous ground. Opp. 24 (citing Ex. 1022 ¶¶ 67, 68, 70). Petitioner contends that the known work in the field of museums, including the use of RFID-tagging of art exhibits and the use of virtual tour guides to answer questions, would have promoted the use of the device of Julia and Amitay in a museum, for the benefit of reducing museum costs and human resource needs by providing virtual docents. Opp. 19–20 (citing Ex. 1022 ¶ 59). We agree with Petitioner for the reasons given in our analysis of claim 31 above.

In sum, we determine for the foregoing reasons that Petitioner has demonstrated, by a preponderance of the evidence, that substitute claim 31

would have been obvious over the combination of Julia, Amitay, and the knowledge of a person of ordinary skill.

IV. CONCLUSION⁶

Claims 1–30 are unpatentable over the prior art. We deny Patent Owner’s Motion to Amend because proposed claim 31 is unpatentable over the prior art.

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not shown Unpatentable
1–30	103	Junqua, Julia	1–30	
Overall Outcome			1–30	

Motion to Amend Outcome	Claim(s)
Original Claims Cancelled by Amendment	
Substitute Claims Proposed in the Amendment	31
Substitute Claims: Motion to Amend Granted	
Substitute Claims: Motion to Amend Denied	31
Substitute Claims: Not Reached	

⁶ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

V. ORDER

Upon consideration of the record before us, it is:

ORDERED claims 1–30 are unpatentable;

FURTHER ORDERED that Patent Owner’s Motion to Amend is
denied;

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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