

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

OLD REPUBLIC GENERAL INSURANCE GROUP, INC.;
OLD REPUBLIC INSURANCE COMPANY; OLD REPUBLIC TITLE
INSURANCE GROUP, INC.; and OLD REPUBLIC NATIONAL TITLE
INSURANCE COMPANY,
Petitioners,

v.

INTELLECTUAL VENTURES I LLC,
Patent Owner.

IPR2016-00020
Patent 6,510,434 B1

Before MEREDITH C. PETRAVICK, JENNIFER S. BISK, and
SHEILA F. McSHANE, *Administrative Patent Judges*.

McSHANE, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

Old Republic General Insurance Group, Inc., Old Republic Insurance Company, Old Republic Title Insurance Group, Inc., and Old Republic National Title Insurance Company, (collectively, “Old Republic” or “Petitioners”) filed a Petition requesting *inter partes* review of claims 7, 8, 12, 14, 27, and 28 (“the challenged claims”) of U.S. Patent No. 6,510,434 B1 (Ex. 1001, “the ’434 patent”) pursuant to 35 U.S.C. §§ 311–319. Paper 1 (“Pet.”).

Pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review as to claims 7, 8, 12, and 14 of the ’434 patent on April 18, 2016. Paper 8 (“Dec. on Inst.” or “Institution Decision”).

During the course of trial, Intellectual Ventures (“IV”) filed a Response (Paper 12, “PO Resp.”), and Old Republic filed a Reply to the Patent Owner Response (Paper 16, “Pet. Reply”). IV filed a Motion to Exclude (Paper 20, “Mot. to Exclude”); with Old Republic filing an Opposition to the Motion to Exclude (Paper 21, “Opp. to Mot. to Exclude”); and IV filing a Reply to Old Republic’s Opposition to the Motion to Exclude (Paper 23, “Reply to Opp. to Mot. to Exclude”). We held a consolidated oral hearing on January 10, 2017, in relation to this proceeding as well as Case IPR2016-00019, which is a proceeding also related to the ’434 patent. A transcript (Paper 26, “Tr.”) of the oral hearing has been entered into the record, as well as copies of the demonstratives the parties referred to at the oral hearing (Ex. 1037; Ex. 2004).

We have jurisdiction under 35 U.S.C. § 6. This Final Written Decision, issued pursuant to 35 U.S.C. § 318(a) and 37 C.F.R. § 42.73, addresses issues and arguments raised during trial.

For the reasons discussed below, we determine that Old Republic has shown by a preponderance of the evidence that claims 7, 8, 12, and 14 of the '434 patent are unpatentable under 35 U.S.C. § 103(a). We *dismiss* the Motion to Exclude Exhibits 1028 and 1029 as moot.

B. Related Proceedings

The parties indicate that the '434 patent is at issue in *Intellectual Ventures I LLC v. Erie Indemnity Co.*, Case No. 1:14-cv-000220, *Intellectual Ventures I LLC v. Old Republic Gen. Ins. Grp., Inc.*, Case No 2:14-cv-01130, and *Intellectual Ventures I LLC v. Highmark, Inc.*, Case No. 2:14-cv-01131, all in the U.S. District Court for the Western District of Pennsylvania. Pet. 1; Paper 4, 2.

IV indicates that in September 2015, the District Court in the Western District of Pennsylvania found the asserted claims patent ineligible under 35 U.S.C. § 101. Paper 4, 2. IV appealed the dismissal to the Court of Appeals for the Federal Circuit, and the Federal Circuit affirmed that the asserted claims are patent ineligible under 35 U.S.C. § 101. *See* Paper 27, *Intellectual Ventures I LLC v. Erie Indemnity Co.*, No. 12-1128, 2017 WL 900018 (Fed. Cir. March 7, 2017).

Old Republic indicates that the '434 patent was the subject of an *inter partes* review petition filed by International Business Machines Corporation in June 2015 (IPR2015-01481) ("the IBM case"), and another *inter partes* review petition filed by Old Republic (IPR2016-00020). Pet. 2. The Board issued a final written decision in Case IPR2015-01481, finding that claims

1–3, 5, and 6 of the ’434 patent are unpatentable. *Int’l Bus. Machines Corp., v. Intellectual Ventures I LLC*, Case IPR2015-01481 (PTAB Jan. 9, 2017) (Paper 40). We issue a final written decision in Case IPR2016-00019 at the same time as this decision, determining that claims 1–6 of the ’434 patent are unpatentable.

C. The Instituted Grounds of Unpatentability

We instituted the instant *inter partes* review of claims 7, 8, 12, and 14 of the ’434 patent based on the following ground of unpatentability (Dec. on Inst. 22):

Reference(s)	Basis	Claims
Okamoto ^{1,2}	§ 103(a)	7, 8, 12, and 14

C. The ’434 Patent

The ’434 patent is titled “System and Method for Retrieving Information From a Database Using an Index of XML Tags and Metafiles” and issued on January 21, 2003 from an application filed on December 29, 1999. Ex. 1004, [22], [45], [54].

The ’434 patent discloses a method of “[r]etrieving information from a database using XML (eXtensible Markup Language) tags and metafiles.” Ex. 1001, Abstract. Each record in the database contains an alpha component and an index component. *Id.* at 10:9–14. The alpha component contains identifying information for the record, and the index component contains XML domain tags and XML category tags. *Id.* Figure 4B of the ’434 patent is reproduced below.

¹ U.S. Patent No. 6,377,946 B1 (issued April 23, 2002) (Ex. 1005).

² For clarity and ease of reference, we only list the first named inventor.

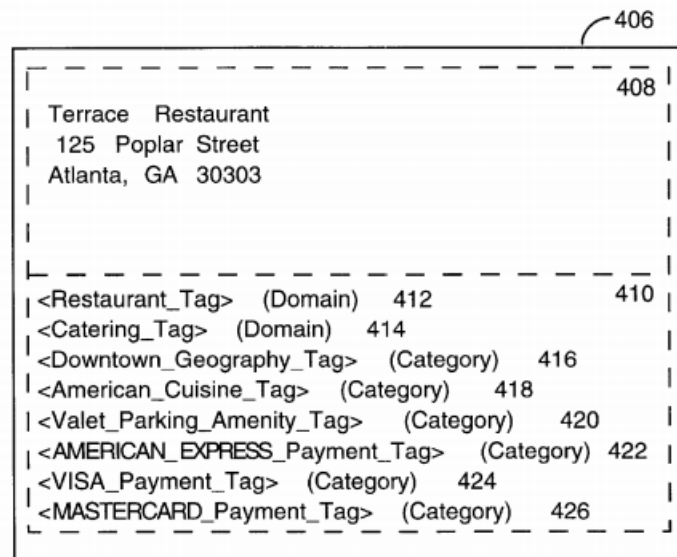


FIG. 4B

Figure 4B depicts an example of a database record. Ex. 1001, 10:9–16. In the example depicted in Figure 4B, alpha component 408 contains the name and address of the Terrace Restaurant and index component 410 includes, among others, Restaurant domain tag 412 and American Cuisine category tag 418. *Id.* at 10:16–51. Restaurant domain tag 412 identifies the Terrace Restaurant as a restaurant, and American Cuisine category tag 418 indicates that it serves American Cuisine. *Id.* at 10:36–42.

An index defines the tags and associates metafiles with many of the tags. See Ex. 1001, 4:11–40, 10:7, 10:18–22. The metafile provides additional information about the tag and includes related tags and the relationship between related tags. *Id.* at 9:18–58. Figure 3B of the '434 patent is reproduced below.

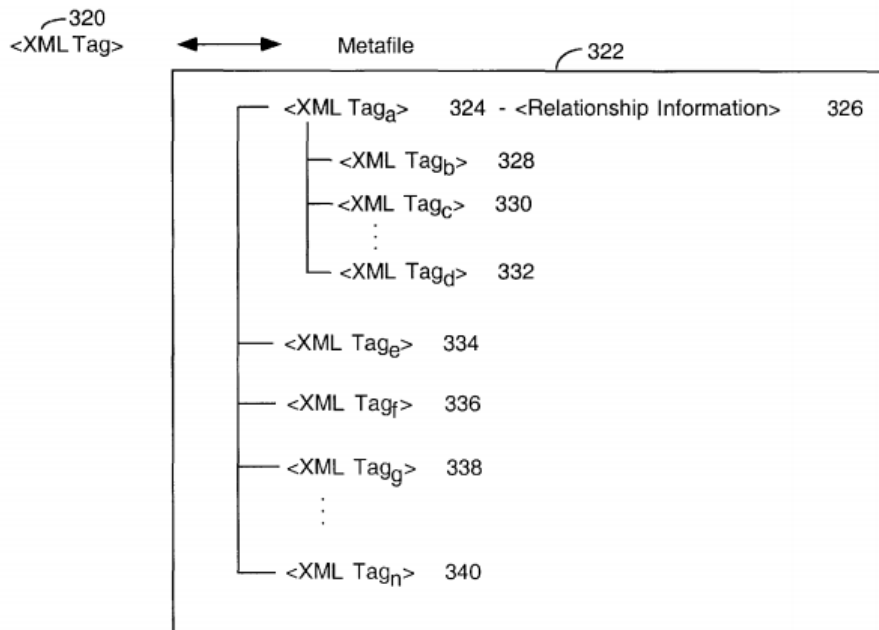


FIG. 3B

Figure 3B depicts metafile 322 for XML Tag 320. Ex. 1001, 9:34–35. Metafile 322 includes relationship information 326 and related XML Tags 328, 330, 332, 334, 336, 338, and 340, arranged in a hierarchy. *Id.* at 9:35–41. As an example, XML Tag 320 may be a Restaurant domain tag and related XML Tag 328 may be an American Cuisine category tag. *Id.* at 9:48–54. The hierarchy of the tags in the metafile can be used to prioritize search criteria. *Id.* at 9:54–58; *see also* Fig. 3B (depicting related tags in a hierarchy).

When a search request is received, a set of tags that correspond to the search terms is identified, and metafiles that correspond to the identified tags are also identified. Ex. 1001, 12:53–58; Fig. 6A, steps 602, 604. From the metafiles, related tags that are appropriate for the request are identified. *Id.* at 13:62–14:11; Fig. 6A, step 608. The tags corresponding to the search terms and the appropriate tags are combined to create a key, and the

database is search to identify records that include the tags of the key. *Id.* at 13:17–24; Fig. 6A, steps 610, 612.

E. Illustrative Claim

Claim 7, reproduced below, and with brackets added on claim elements, is illustrative of the claims at issue in this proceeding.

7. A method for searching a database of records using an index including a plurality of tags, comprising the steps of:

- [a] receiving a request for information;
- [b] identifying a first tag that is associated with the request;
- [c] determining whether a first metafile comprising a second tag corresponds to the first tag;
- [d] if the first metafile corresponds to the first tag, then determining whether the second tag is relevant to the request;
- [e] if the second tag is relevant to the request, then combining the first tag and the second tag to create a key; and
- [f] using the key to search the database to locate at least one record that includes the first tag and the second tag.

II. ANALYSIS

A. Claim Construction

Consistent with the statute and legislative history of the Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284, 329 (2011), the Patent Trial and Appeal Board (“Board”) construes claims by applying the broadest reasonable interpretation in light of the specification. 37 C.F.R. § 42.100(b); *Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2144–46 (2016) (upholding the use of the broadest reasonable interpretation approach). Under that standard, and absent any special definitions, we give claim terms their ordinary and customary meaning, as they would be understood by one of ordinary skill in the art at the time of the invention.

In re Translogic Tech., Inc., 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim terms must be set forth with reasonable clarity, deliberateness, and precision. *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Old Republic proposed constructions for a number of claim terms in the Petition. Pet. 7–11.³ IV contends that the only claim terms that require construction to resolve this proceeding are “index” and “metafile.” PO Resp. 9. Old Republic disputes IV’s construction of these terms. Pet. Reply 3–9.

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

“index” and “metafile”

IV proposes that the broadest reasonable construction of the term “index” is “a data structure that includes tags and metafiles to locate the information in a database.” PO Resp. 9. IV also proposes, in the alternative, that if the term “index” is not construed as it advocates, then the modified construction of the term “metafile” should be a “data structure included in the index comprising additional information about a tag, including related tags.” *Id.* at 15–16.

IV’s position on the term “index” is based on the allegation that the construction we adopted for the purposes of the Decision to Institute, that is,

³ For the purposes of the Decision to Institute in this proceeding, the claim constructions used in the Decision to Institute in Case IPR2015-01481 were used for consistency reasons, and those constructions were not substantially different from those proposed by Old Republic. Dec. on Inst. 7–8.

a “data structure used to locate information in a database,” is too broad because the scope would extend to any structure meeting this function, rather than to a data structure with certain structural limitations. PO Resp. 9–10 (citing Ex. 2001 ¶ 30). In further support, IV points to testimony from Old Republic’s expert, and also alleges that the ’434 patent consistently refers to tags and metafiles as separate data structures included in the index. *Id.* at 10–11 (citing Ex. 1001, Abstract, 1:25–27, 2:36–39, 4:10–13, 7:18–32, 15:4–6; Ex. 1003 ¶ 52; Ex. 2001 ¶¶ 31–33). IV also refers to its adversary’s position in the related IBM case, where the Petitioner in that case agreed with IV’s position on the claim construction advocated in the instant action.⁴ *Id.* (citing *Int’l Bus. Machines Corp., v. Intellectual Ventures I LLC*, Case IPR2015-01481, Paper No. 24). IV additionally asserts that “[e]very description in the specification of the ’434 patent describes the index as including tags and metafiles,” and therefore shows a “clear and consistent

⁴ Old Republic alleges that IV itself has taken a directly opposing position on the construction of the terms “index” and “metafile” in the instant case from the position it took in the IBM case, and the same IV expert used in both cases provided directly conflicting testimony on the terms at issue. Pet. Reply 1–2, 6–7. At oral hearing, IV attempted to distinguish its positions taken on claim construction in the two proceedings. *See* Tr. 31–46, 62–65. Although it appears that IV admitted that it has taken a different position here compared to that reflected in the testimony of its expert in the IBM case, in light of our claim construction determinations for the terms, *infra*, we need not reach the issue of IV’s potentially disparate positions in the different proceedings. *See* Reply to Opp. to Mot. to Exclude 4 (“There is no credible basis to assert that Patent Owner has adopted this alleged testimony [Ex. 1029, Dr. Yanni Papakonstantinou’s testimony in the IBM case concerning the index and metafile being separate structures] given Patent Owner has taken the exact opposite position in this proceeding.”). We therefore need not address or rely upon the associated exhibits that are the subject of the Motion to Exclude. *See* Mot. to Exclude 1–15.

intent to limit the invention” by the proposed claim construction. *See id.* at 11–15 (citing, e.g., Ex. 1001, 3:8–37; 4:34–50; 7:18–31; 15:5–24).

In construing claim terms in light of their broadest reasonable interpretation, the Federal Circuit has stated that “[t]he protocol of giving claims their broadest reasonable interpretation . . . does not include giving claims a legally incorrect interpretation.” *In re Skvorecz*, 580 F.3d 1262, 1267 (Fed. Cir. 2009). “[A] claim term should be construed consistently with its appearance in other places in the same claim or in other claims of the same patent.” *Rexnord Corp. v. Laitram Corp.*, 227 F. 3d 1336, 1342 (Fed. Cir. 2001).

Here we look to all the claims of the ’434 patent to inform our construction of the term “index.” Claim 1, in particular, is directed to “[a] method for creating a database and an index to search the database,” that includes “creating the index by defining a plurality of XML tags,” and “creating a first metafile that corresponds to a first domain tag.” Ex. 1001, 15:39–44. Although IV advocates that the term “index” should be construed to include tags and metafiles, we see no reason to include these elements because they are expressly recited in claim 1, as is their respective interrelationships. As the Federal Circuit has stated, “[c]onstruing a claim term to include features of that term already recited in the claims would make those expressly recited features redundant.” *Apple, Inc., v. Ameranth, Inc.*, 842 F.3d 1229, 1237 (Fed. Cir. 2016). Moreover, we do not agree with IV’s allegation that every description in the Specification refers to the index as always including tags and metafiles. The Specification states that, for instance, “[i]n general, an index is essentially a guide that is used to locate information stored in a database.” Ex. 1001, 2:39–42. It further states that:

“[p]referably, the index includes tags that correspond to categories and domains,” indicating that the inclusion of a tag in an index is to an embodiment of the invention. *Id.* at 2:42–43. We are therefore not persuaded by IV’s arguments on this issue, and maintain the construction of “index” as a “data structure used to locate information in a database.” We note that this construction does not preclude interrelationships of index[es] with tags and metafiles.

The construction we used in the Decision to Institute for “metafile” was “data structure comprising additional information about a tag, including related tags.” Dec. on Inst. 7. IV proposes, as an alternative to adoption of its proposed construction of “index,”—which we have above declined to adopt—that the modified construction of the term “metafile” should be a “data structure included in the index comprising additional information about a tag, including related tags.” PO Resp. 14–15. We do not find the construction of the term “metafile” used in the Decision to Institute to be overbroad in light of the Specification because the ’434 patent states that “[a] metafile provides additional information about the tag,” which is consistent with our previous construction. Ex. 1001, 2:61–62. We also decline to adopt IV’s proposed construction of “metafile” to add the limitation “included in the index” because, as discussed above, claim 1 recites the respective interrelationship of “index” and “metafile.” We maintain the construction of the term “metafile” as a “data structure comprising additional information about a tag, including related tags.”

B. The Level of Skill in the Art

In determining the level of skill in the art, various factors may be considered, including “type of problems encountered in the art; prior art

solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC, Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citing *Custom Accessories, Inc. v. Jeffrey-Allan Indus., Inc.*, 807 F.2d 955, 962–63 (Fed. Cir. 1986)). Old Republic proposes that a person with ordinary skill in the art as of the priority date of the ’434 patent would be an individual who possesses a bachelor’s degree in computer science with at least one year of experience designing database systems. Pet. 3. With that education and experience, IV’s expert, Dr. Jeffrey F. Naughton, testifies in his Declaration (“Naughton Declaration”), that “[s]uch a person would therefore have a good working knowledge of various database indexing techniques and would have also been familiar with Web technologies such as structured documents and markup languages, including HyperText Markup Language (‘HTML’), Standard Generalized Markup Language (‘SGML’), and eXtensible Markup Language (‘XML’).” Ex. 1003 ¶ 85. IV does not present any position on this issue.

We adopt and apply the level of ordinary skill in the art articulated by Old Republic to our obviousness analysis in this proceeding. In addition, we note that the prior art of record in this proceeding—namely, Okamoto—is indicative of the level of ordinary skill in the art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 1471); *GPAC*, 57 F.3d at 1579.

B. Obviousness of Claims 7, 8, 12, and 14 over Okamoto

In support of its asserted ground of unpatentability, Old Republic explains how Okamoto teaches the subject matter of claims 7, 8, 12, and 14. Pet. 26–37, 51–53. Old Republic also relies upon the Naughton Declaration (Ex. 1003), to support its positions. In its Response, IV contends that Old

Republic fails to demonstrate that Okamoto renders claims 7, 8, 12, and 14 obvious because the references fail to teach several limitations of the claims at issue and Old Republic employs impermissible hindsight. PO Resp. 16–35. IV relies upon the Declaration of Dr. Yannis Papakonstantinou (“the Papakonstantinou Declaration”) to support its positions. Ex. 2001.

In its Reply, Old Republic counters IV’s arguments with the assertions that the limitations at issue are taught by Okamoto under legally correct claim constructions, that IV attempts to impermissibly import limitations not in the claims, and that IV misapplies and misinterprets the rationale of Old Republic’s challenges to the claims. Pet. Reply 10–19.

We begin our analysis with the principles of law that generally apply to an obviousness ground, followed by a brief summary of Okamoto, and then we address the arguments presented by the parties.

1. Principles of Law

In assessing obviousness, “the scope and content of the prior art are to be determined; differences between the prior art and the claims at issue are to be ascertained; and the level of ordinary skill in the pertinent art resolved.” *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966).⁵ A party who petitions the Board for a determination of obviousness must show that “a skilled artisan would have been motivated to combine the teachings of the prior art references to achieve the claimed invention, and that the skilled

⁵ Additionally, secondary considerations such as “commercial success, long felt but unsolved needs, failure of others, etc., might be utilized to give light to the circumstances surrounding the origin of the subject matter sought to be patented. As indicia of obviousness or nonobviousness, these inquiries may have relevancy.” *Graham*, 383 U.S. at 17–18. Here, IV has not presented any such evidence.

artisan would have had a reasonable expectation of success in doing so.”

Procter & Gamble Co. v. Teva Pharms. USA, Inc., 566 F.3d 989, 994 (Fed. Cir. 2009) (quoting *Pfizer, Inc. v. Apotex, Inc.*, 480 F.3d 1348, 1361 (Fed. Cir. 2007)).

2. *Okamoto (Ex. 1005)*

Okamoto generally discloses “a method of document registration and a method of document search for a document search system or a document management system using a computer system.” Ex. 1005, 1:6–9. Okamoto uses “structure-specific search[es]” for “structured documents” that are described in Standard Generalized Markup Language (“SGML”) in the embodiments. *Id.* at 1:31–35. The document content format is specified in the document type definition (“DTD”) that is associated with the structured document. *Id.* at 12:65–67, 13:1–4, 13:7–10. When a document is to be registered, its DTD file is analyzed to create a document structure table. *Id.* at 14:56–15:15. The DTD includes tags that are used to define the document elements. *Id.* at 14:33–43. The content of the document is compared to the document structure table, and the data structure of the analyzed document data, which can be graphically depicted. *Id.* at 15:16–65, Fig. 6.

For each “node” in the analyzed document data, which is each element defined by tags in the structured document, the program determines whether a corresponding “meta-node” exists in a structured index. Ex. 1005 at 16:25–28. A “Meta Structure Index” is created and used, that combines the structure indexes for different, but related, tags into an index, where the document elements of the structure indexes are connected by a root meta-node. *Id.* at 39:7–33, 41:15–58, Figs. 49, 53, 54. Figure 49 of Okamoto is reproduced below:

FIG.49

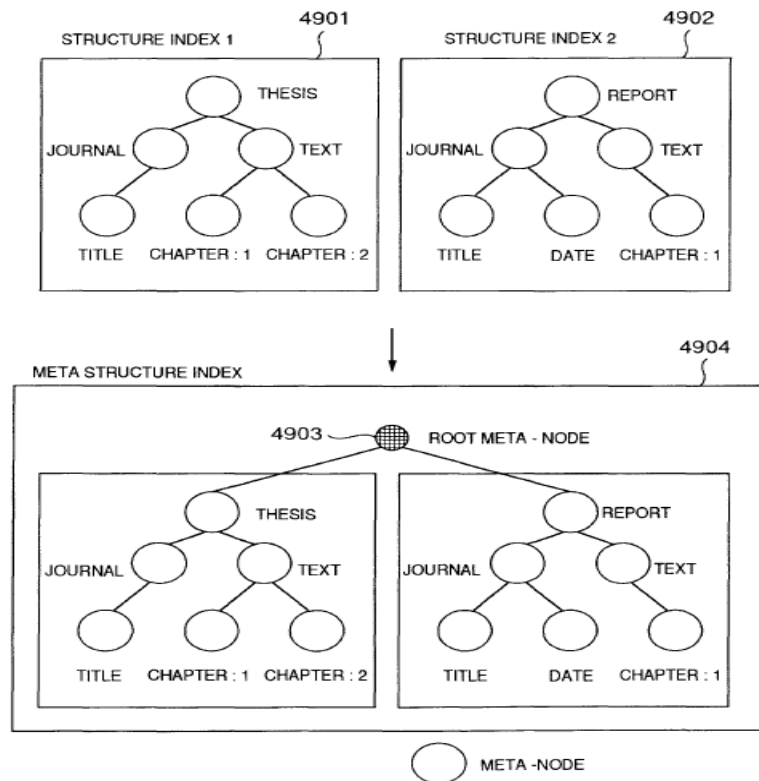


Figure 49 is a diagram showing an example of generating a meta structure index. Ex. 1005 at 8:40–42.

Okamoto also discloses the creation of an Alias Structure Index by the generation of an “alias definition table,” from user input or by extraction of the structure of a structure index, which identifies and associates a subset of the nodes found in the registered documents. Ex. 1005 at 48:37–45. The Alias Structure Index, “unlike the structure index, is not always generated for tracing the elements of the whole document, but is generated by cutting out the subelements of the document structure from the structure index and superposing them one on another.” *Id.* at 47:30–34. A user can search the database using the Alias Structure Index, rather than the Meta Structure

Index, by indicating this manner of searching in the search request. *Id.* at 49:44–46. Figure 65 of Okamoto is reproduced below.

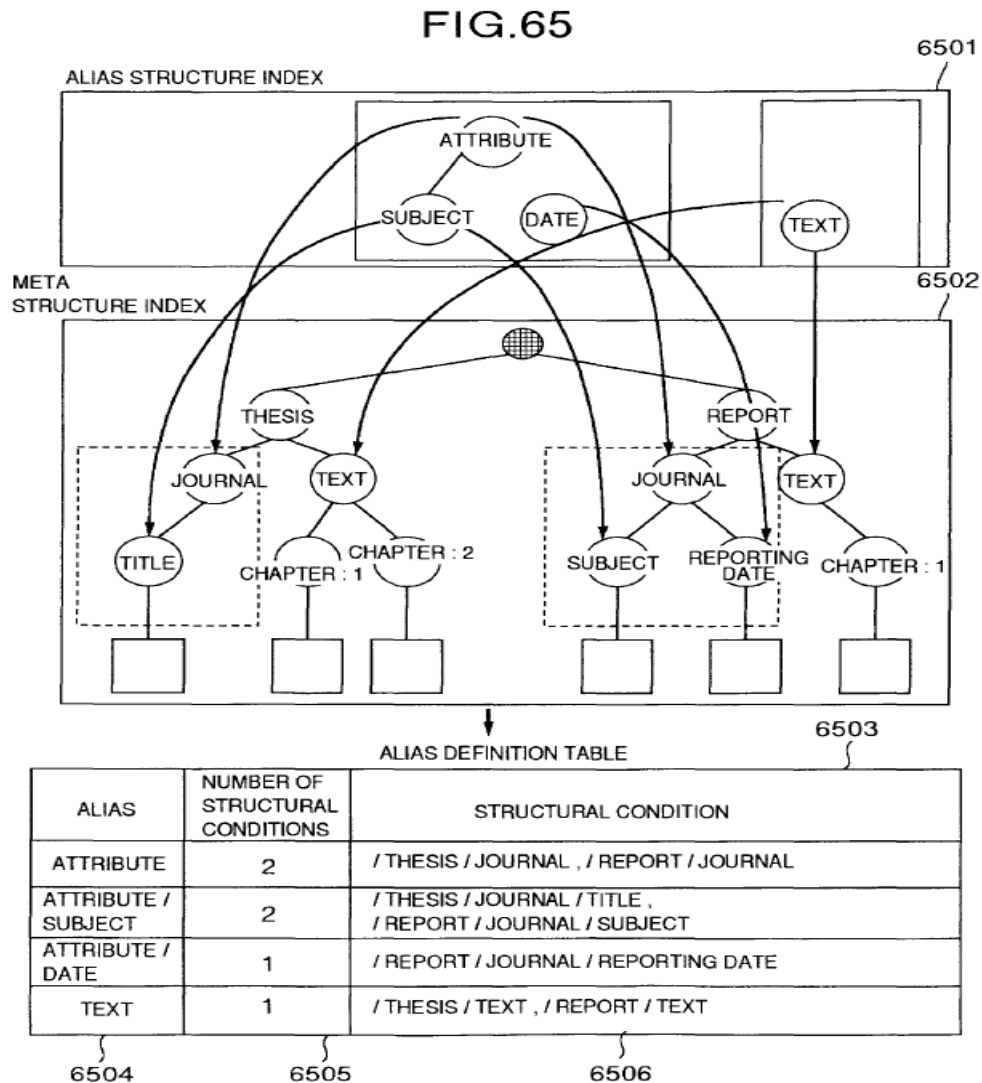


Figure 65 is a diagram depicting an Alias Structure Index. Ex. 1005 at 9:23–24.

3. Analysis

a. Claims 7 and 14

IV asserts that Old Republic fails to demonstrate that independent claims 7 and 14 are obvious over Okamoto. PO Resp. 16–35. We will present a summary of Old Republic’s obviousness challenge, then address

IV's arguments.

i. Basis of Old Republic's obviousness challenge

Old Republic contends that Okamoto teaches all the elements of independent claims 7 and 14. Pet. 26–32, 35–36, 51–52.⁶ The Petition alleges that Okamoto discloses searching a database of records using an index including a plurality of tags by its teaching of a structure index that includes meta-nodes that correspond to the tags of structured documents. *Id.* at 26. The Petition further contends that Okamoto discloses receiving a request for information such as a search request. *Id.* at 27. The Petition asserts that Okamoto determines whether the request includes a structural condition (*id.*), which is shown as “Type: Attribute/Type: Subject” depicted in Figure 59 reproduced below. *Id.* at 28, 30 (citing, e.g., Ex. 1005, 4:29–34, 44:46–45:11, Fig. 59; Ex. 1003 ¶¶ 213, 222).

⁶ The Petition includes an asserted ground of anticipation of claims 7, 8, 12, and 14 by Okamoto, as well as a ground of obviousness over Okamoto for these claims. Pet. 26–37, 51–52. We declined to institute on the anticipation ground. For the instituted obviousness ground, Old Republic relies upon Okamoto's disclosures for individual claim elements limitations as discussed in the Petition in the anticipation section, and we will similarly refer to that section of the Petition herein. *See* Pet. 26–37.

FIG.59

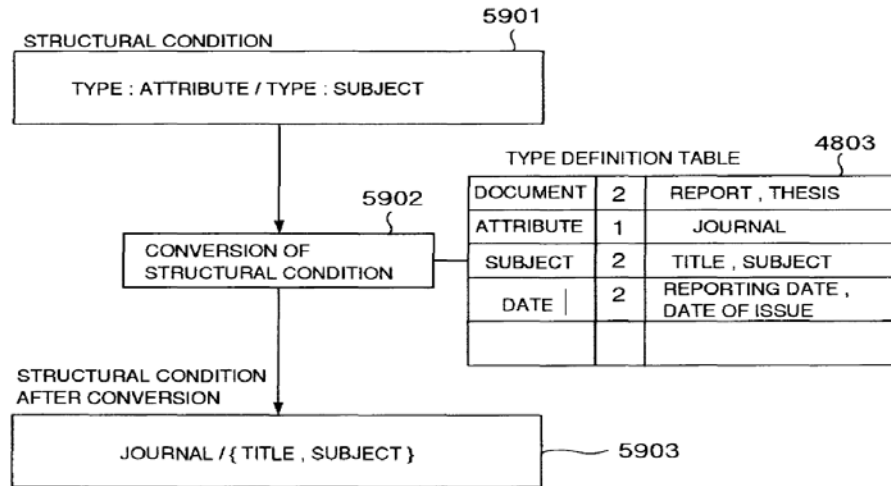


Figure 59 is a diagram of an embodiment showing a structure condition conversion. Ex. 1005, 9:4–6, 44:46–45:4.

Old Republic further asserts that Okamoto determines whether a search request includes an alias. Pet. 29 (citing Ex. 1005, 49:31–51 (“in the case where an alias is used for the structural condition, the string “Alias:”, for example, is added to the head of the structural condition.”)). It contends that Okamoto “equates a ‘structural condition’ of a search with one or more tags associated with an element to be searched.” *Id.* at 27–28. Old Republic identifies a search request including a <THESIS> tag or a <SUBJECT> tag in the structural condition as examples of this association. *Id.* at 28 (citing Ex. 1005, 43:16–25, 22:44–55; 42:50–58, 45:12–16, Figs. 19, 57). With this, the Petition argues that these tags teach “‘a first tag that associated with the request’ because it is included in the request” and the “determination of whether the search request includes a ‘structural condition,’ is ‘identifying a first tag that is associated with the request.’” *Id.*

The Petition identifies the Alias Structure Index of Okamoto as disclosing a “metafile” based on the view that “it is a list of related tags that implements a hierarchy between the tags.” Pet. 28. Okamoto’s Meta Structure Index is also identified as teaching a metafile for similar reasons. *Id.* at 28–29. Old Republic asserts that “[t]he presence of an alias in the search request indicates the Alias Structure Index should be searched . . . while the absence of an alias in the search request indicates the Meta Structure Index should be searched.” *Id.* at 29. Old Republic contends that “[t]he determination of whether the search request includes an alias is a determination of ‘whether a first metafile . . . corresponds to the first tag’ because it determines which ‘metafile’ will be searched with ‘the first tag’ of the search request.” *Id.* at 29 (citing Ex. 1003 ¶ 217).

Turning to the limitation, “if the first metafile corresponds to the first tag, then determining whether the second tag is relevant to the request,” the Petition asserts that if a search request is received that includes a structural condition of “Type: Attribute/Type: Subject,” the tag <SUBJECT> is an example of a “first tag that is associated with the request,” and further that the “search request is converted to one with the structural condition of: ‘Journal/ {Title:Subject}’.” Pet. 30 (citing, Ex. 1005, 44:56–45:31, Fig. 59).

Old Republic argues that

the converted search request includes three tags: ‘<JOURNAL>,’ ‘<TITLE>’ and ‘<SUBJECT>’. The identification of the tag “<JOURNAL>” using the Type Definition Table is “determining whether the second tag is relevant to the request” because it is a determination that ‘<JOURNAL>’ (“the second tag”) should be added to the converted search request.

Pet. 30.

Old Republic then concludes that “Okamoto discloses ‘*if the first metafile corresponds to the first tag* [by the absence of an alias in the search request], *then determining whether the second tag* [<JOURNAL>] *is relevant to the request* [by locating it in the Type Definition Table and thereby determining that it should be added to the converted search request].” Pet. 30–31.

As to the motivation to combine embodiments, Old Republic contends that “[t]he Average Artisan would have understood the functionality of the different embodiments could have been combined in different ways and would have been motivated to do so in order to achieve the most efficient result in a particular circumstance,” (Pet. 52), where

[i]ndeed, there would have been a motivation to combine each as set forth above in order to create a system that accurately and efficiently searches a set of structured documents having different document structures by disambiguating structure terms in a search request and identifying synonyms in order to focus the search on those elements of the structured documents likely to include the search term strings.

Pet. 53 (citing Ex. 1005, 4:23–17; Ex. 1003 ¶ 207).

ii. Okamoto’s teaching of “using an index” and “metafile” (claim 7 and claim 14)

IV argues that Okamoto’s structured index does not read on the “index” of claims 7 and 14. PO Resp. 23–24. The contention is based upon IV’s proposed claim construction of “index” and “metafile,” alleged to impermissibly result in an index being included in a metafile under Old Republic’s mapping of the claim elements to Okamoto. *Id.* We are not persuaded by IV’s argument because under the claim construction adopted

for “index” and “metafile,” *supra* Section II.A, the scenario that IV alleges does not occur.

IV also contends that Okamoto’s Meta Structure Index is an “index,” under the definition proposed by Old Republic and adopted in the Decision to Institute, but it cannot also be a “metafile.” PO Resp. 25–27. IV argues that the only structural differences between Okamoto’s Meta Structure Index, which Old Republic alleges is the “metafile” of claim 1, and the Structure Index, which Old Republic alleges is the “index” of claim 1, is the addition of the “root meta-node.” *Id.* at 26 (citing Ex. 1004, 39:7–13; Fig. 53; Ex. 2001 ¶ 41). As such, IV alleges that there is no explanation of how there is a transformation of an “index” into a “metafile,” and Okamoto’s meta structure index remains an index only. *Id.*

IV’s arguments are misplaced. The Petition addresses the issues of the creation of the “index” and the “metafile” (Pet. 26–31), acknowledging that Okamoto’s Meta Structure Index is formed from a combination of structure indexes with the addition of the root meta-node (*id.* at 14–15). The claims require “using an index” and a “metafile,” but there is no requirement in the claims that the index and metafile have to be distinct, separate structures under the claim construction adopted, which is consistent with the use of these terms in the ’434 patent.

We have reviewed Old Republic’s explanations and the supporting evidence and are persuaded that the claim limitations at issue are disclosed in Okamoto in the view of a person of skill in the art.

iii. Okamoto’s teaching of “determining whether a first metafile comprising a second tag corresponds to the first tag” (claim 7); “determining that the second tag is included in a metafile associated with the first tag.” (claim 14)

IV argues that Okamoto does not teach “determining whether a first metafile . . . corresponds to the first tag” because under Old Republic’s interpretation what is actually determined is which metafiles to search using the first tag. PO Resp. 27. With this, IV argues that the metafile that is searched is not dependent on the nodes actually included in the metafile, and “it is impossible for Okamoto to make a determination of whether the meta structure index corresponds to a particular tag, when it makes a determination of whether or not the query includes the ‘Alias:’ structural condition.” *Id.* at 27–28. IV additionally argues that Okamoto’s Meta Structure Index does not correspond to a first tag because the alleged metafile corresponds to an index and not a tag, and also that “merely because a meta structure index includes a node relating to a tag, does not show the metafile corresponds to the included tag.” *Id.* at 29.

We have reviewed Old Republic’s explanations and the supporting evidence and are persuaded that the claim limitations at issue are disclosed in Okamoto in the view of a person of skill in the art. We are not persuaded by IV’s arguments on these issues. IV’s assertion boils down to the view that Old Republic’s mapping for the claim limitation is equivalent to a determination of which two metafiles to search, and with that, there are no specific tags in the metafile identified, when, allegedly, the tags have to be identified to meet the claim limitations. Old Republic’s mapping to Okamoto, however, is directed to whether there is an alias signal in a search, and if not, Okamoto’s Meta Structure Index are searched, with the “first tag,” mapped to tag in the search request, such as a <THESIS> tag or a <SUBJECT> tag in the structural condition. Pet. 28–29. The claim element does not require that the tags in the metafile be searched in this step, and IV

fails to point us to any evidence of any such requirement. Additionally, we find that Old Republic's evidence supports that "metafile" and "first tag" "correspond" as mapped because Okamoto's Meta Structure Index contains the tags that will be searched and, therefore, correspond to the tag included in the search request.

iv. Okamoto's teaching of "if the first metafile corresponds to the first tag, then determining whether the second tag is relevant to the request" (claim 7)

IV argues that Okamoto fails to teach the claim limitation of "if the first metafile corresponds to the first tag, then determining whether the second tag is relevant to the request" because this is an "if/then" clause and there is no "determination of whether the second tag is relevant to the request [] in response to a determination that the first metafile corresponds to the first tag." PO Resp. 30–31. More specifically, IV asserts that "any determination in Okamoto that 'Journal' is related to the search request is *not* performed in response to a determination that the search request does not include an 'Alias:' structural condition but rather is performed in response to a determination that the search request includes a 'Type:' structural condition." *Id.* at 31 (citing Ex. 2001 ¶ 46).

We have reviewed Old Republic's explanations and the supporting evidence and are persuaded that the claim limitation at issue is disclosed in Okamoto in the view of a person of skill in the art. IV's argument attempts to frame the issue too narrowly. Under Old Republic's mapping, the absence of an alias in the search request is determinative of which "metafile" will be searched, and, with that, Okamoto teaches that there is then conversion of the request, where the type definition table is used to determine that another tag (the "second tag") is relevant. Pet. 29–31. The

search request prompts the steps of Okamoto, and Okamoto discloses not only the determination of a “type” signal, it also includes the determination of whether there is an “alias” in the search request. *See* Pet. 30–31 (“Okamoto discloses “*if the first metafile corresponds to the first tag* [by the absence of an alias in the search request], *then determining whether the second tag* [<JOURNAL>] *is relevant to the request* [by locating it in the Type Definition Table and thereby determining that it should be added to the converted search request].”) With that, we determine that Okamoto teaches the claim 7 limitation of “if the first metafile corresponds to the first tag, then determining whether the second tag is relevant to the request.”

v. Okamoto’s teaching of “identifying a second tag that is associated with the request by determining that the second tag is included in a metafile associated with the first tag” (claim 14)

IV alleges that Okamoto fails to teach the limitation of “determining that the second tag is included in a metafile associated with the first tag” of claim 14. PO Resp. 21–22. IV first asserts that the Petition’s reliance on its analysis of claim element 7(d) is insufficient for the rationale as to the claim 14 limitation at issue. *Id.* at 21. Second, IV argues that Old Republic’s mapping does not make sense because under it, there is “no need . . . to determine if a meta-node for Journal (the alleged second tag) is included in a meta structure index (the alleged metafile) because all tags . . . would have an associated meta-node in the meta structure index.” *Id.* at 22. Further, IV alleges that Old Republic’s expert, Dr. Naughton, admits that Okamoto does not determine that the journal tag is included in the meta structure index. *Id.* (citing Ex. 2003, 170:21–171:15).

We have reviewed Old Republic’s explanations and the supporting evidence and are persuaded that the claim limitation at issue is disclosed in

Okamoto in the view of a person of skill in the art. We are not persuaded by IV's arguments. Although the Petition relies, for claim 14, on its analysis of element 7(d), it also identifies other relevant portions of the Naughton Declaration. Pet. 35–36 (citing Ex. 1003 ¶¶ 216–220, 250). Related discussions of elements of 7(e) and 7(f) relied upon in the analysis of claim 14 immediately follow claim 7(d), and Old Republic's assertions were therefore ascertainable without undue searching of the record. Moreover, based on its responsive arguments for claim 14, IV clearly had sufficient notice of Old Republic's arguments.

On the second issue of alleged discrepancies in mapping, Old Republic argues in reply (Pet. Reply. 14), and, we agree, that although the Meta Structure Index of Okamoto would include all tags found in documents registered in the database, not every tag included in every search request could be found in the Meta Structure Index.

We turn to the issue of whether “determining that the second tag is included in a metafile” is disclosed in Okamoto. IV does not present any specific additional argument as to why this element is not disclosed, except its reliance on the alleged admission in Dr. Naughton's testimony, reproduced below, that Okamoto does not disclose the determination that the journal tag is included in the meta structure index. PO Resp. 21 (citing Ex. 2003, 170:21–171:5).

Q And in [paragraph] 224 [of the Naughton Declaration] you describe the journal tag as the second tag, right?

A Yes, that's right.

Q And does Okamoto ever make a determination that the journal tag is in the Metafile Index?

MR. DILLON: Objection. Form.

THE WITNESS: Let me look at the Type Index again.
Type Definition Table. Sorry.

(Witness peruses document.)

THE WITNESS: Could you repeat the question?

BY MR. MURPHY: Q Does Okamoto ever make a
determination that the journal tag is included in the metafile or
the Meta-Structure Index?

MR. DILLON: Objection. Form.

THE WITNESS: No, it doesn't.

Ex. 2003, 170:21–171:5.

The limitations of claims 7 and 14 are similar, however, there are some differences. *See* Ex. 1001, 16:11–22, 17:1. Specifically, claim 7's limitation recites "determining whether the second tag is relevant to the request," and claim 14's corresponding limitation is to "determining that the second tag is included in a metafile associated with the first tag." *Id.* Although we agree that Dr. Naughton's testimony represents an opinion on Okamoto's determination of inclusion of a tag in a metafile, the direction provided to Dr. Naughton was, however, to a portion of the declaration that is not specific to the claim 14 limitation (Ex. 1003 ¶ 224).⁷ Our view is that there is a possibility of confusion, and we therefore consider the weight of the testimony in that light.

Old Republic alleges that the cited functionality of Okamoto—the same functionality of claim 7—in the step of resorting to the Type Definition Table to identify those related tags that are included in the Meta Structure Index therein discloses the "identification" limitation of claim 14.

⁷ For support of its assertions as to the claim 14 limitations, Old Republic refers to paragraphs 216 to 220, and 250 of the Naughton Declaration. Pet. 35–36 (citing Ex. 1003 ¶¶ 216–220, 250).

Reply Br. 13. As above, although we do not agree with IV's contention that all tags are in the meta structure index would be found in a search, we do agree that a search request could serve to identify certain tags in that index.

vi. Impermissible Hindsight

IV asserts that Old Republic employs impermissible hindsight in asserting its obviousness challenges for all the claims because its expert, Dr. Naughton, relies on a date of September 2001 in his declaration, when the filing date of the '434 patent is December 1999. PO Resp. 32–33 (citing Ex. 1003 ¶¶ 33, 42). IV cites to Dr. Naughton's testimony alleged to confirm that the September 2001 date was used. *Id.* at 32–34 (citing Ex. 2003, 21:8–17, 22:4–19, 23:12–20, 24:3–18). IV argues that “Dr. Naughton's conclusions regarding obvious[ness] are tainted with impermissible hindsight from knowledge gained from the time period after the date of the invention on December 29, 1999 to at least September 2001,” and therefore little, if any, weight should be afforded to the testimony. *Id.*

Old Republic argues that Dr. Naughton's analysis considered the time range of the invention, and therefore does not implicate hindsight bias. Pet. Reply 20. Old Republic refers to Dr. Naughton's statements that “my obviousness arguments were valid for that time period” for the full time period and his obviousness conclusions would remain the same even if he considered the exact filing date of the '434 Patent. *Id.* at 20–21 (citing Ex. 2003, 22:18–19, 177:19–25). Old Republic also points to Dr. Naughton's testimony that “I don't believe anything happened in there that would change my obvious consideration” as to the December 1999 date. *Id.* at 25 (citing Ex. 2003 at 22:2–3). Old Republic additionally argues that IV does

not identify anything in the art from the time period from 1998 to 2001 that could affect Dr. Naughton's obviousness analysis. *Id.*

We have reviewed the evidence presented on this issue, and although Dr. Naughton suggests that the September 2001 date in his expert report was possibly a typographical error, he also confirms that it was the approximate date used therein. Ex. 2003, 177:12–17, 178:4–17. Dr. Naughton also states, however, that his obviousness views would be the same using the December 29, 1999 filing date. *Id.* at 21:23–22:3, 177:19–25. The evidence therefore indicates that even if the September 2001 date was used by Dr. Naughton, there was no difference in the opinions rendered. As such, we determine, that based upon this issue, the evidence supports that the opinions do not reflect hindsight bias resulting from the date identified in Dr. Naughton's declaration.

vii. Summary

As to the additional limitations of the claims 7 and 14 and the motivation to combine the embodiments Okamoto for which the Patent Owner presents no separate arguments, we have reviewed Old Republic's explanations and supporting evidence, and we agree with and adopt Old Republic's analysis. Pet. 26–32, 34–35, 51–53. We therefore find that Okamoto teaches the limitations of claims 7 and 14 as discussed above.

Accordingly, having considered the arguments and the evidence developed during the course of trial, we determine that Old Republic has established, by a preponderance of the evidence, that claims 7 and 14 of the '434 patent would have been obvious over Okamoto.

b. Claims 8 and 12

Claims 8 and 12 depend from claim 7. IV presents no additional arguments as to Old Republic's challenges to the claims. We have reviewed Old Republic's explanations and supporting evidence, and we agree with and adopt Old Republic's analysis. Pet. 32–35, 51–53. Accordingly, having considered the arguments and the evidence developed during the course of trial, we determine that Old Republic has established, by a preponderance of the evidence, that claims 8 and 12 of the '434 patent would have been obvious over Okamoto.

E. IV's Motion to Exclude Exhibits 1028 and 1029

IV moves to exclude Exhibits 1028 and 1029, which are exhibits from the IBM case, alleging they are inadmissible under the Federal Rules of Evidence because they are incomplete and also because Exhibit 1029 purports to show a prior inconsistent statement without giving the witness an opportunity to explain or deny the statement. Mot. To Exclude 1–15. Old Republic submits that the Motion to Exclude should be denied because complete documents have been provided and prior testimony consisting of statements of an opposing party is admissible under the Federal Rules of Evidence. Opp. to Mot. Exclude 1–15.

We did not reference or rely upon these Exhibits in reaching this Final Written Decision. Accordingly, we *dismiss* the Motion to Exclude Exhibits 1028 and 1029 as moot.

III. CONCLUSION

Old Republic has demonstrated by a preponderance of the evidence that claims 7, 8, 12, and 14 of the '434 patent are unpatentable under § 103(a) over Okamoto.

IV. ORDER

In consideration of the foregoing, it is
ORDERED that claims 7, 8, 12, and 14 of the '434 patent are held to
be unpatentable;

FURTHER ORDERED that IV's Motion to Exclude is *dismissed* as
moot; and

FURTHER ORDERED that, because this is a Final Written Decision,
parties to this proceeding seeking judicial review of our decision must
comply with the notice and service requirements of 37 C.F.R. § 90.2.

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