

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BANK OF AMERICA, N.A.,
Petitioner,

v.

NANT HOLDINGS IP, LLC,
Patent Owner.

IPR2021-01389
Patent 9,031,278 B2

Before JAMESON LEE, ROBERT J. WEINSCHENK, and
ELIZABETH M. ROESEL, *Administrative Patent Judges*.

ROESEL, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. *Background and Summary*

Bank of America, N.A. (“Petitioner”) filed a Petition (Paper 2, “Pet.”) seeking an *inter partes* review of claims 1 and 3–5 of U.S. Patent No. 9,031,278 B2 (Ex. 1001, “the ’278 Patent”). Nant Holdings IP, LLC (“Patent Owner”) filed a Preliminary Response. Paper 7 (“Prelim. Resp.”).

We have authority to determine whether to institute an *inter partes* review. 35 U.S.C. § 314 (2018); 37 C.F.R. § 42.4(a) (2021). An *inter partes* review may not be instituted “unless . . . the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” 35 U.S.C. § 314(a). After considering the information presented in the Petition and the Preliminary Response, we determine that the reasonable likelihood standard is not met. Accordingly, we deny institution of an *inter partes* review.

B. *Related Matters*

The parties identify the following as a related matter: *Nantworks, LLC v. Bank of America Corp.*, 2-20-cv-07872 (C.D. Cal.). Pet. 59–60; Paper 4, 2 (Patent Owner’s mandatory notices).

C. *The ’278 Patent (Ex. 1001)*

The ’278 Patent is titled “Image capture and identification system and process.” Ex. 1001, code (54). The Abstract states: “A digital image of the object is captured and the object is recognized from [a] plurality of objects in a database. An information address corresponding to the object is then used to access information and initiate communication pertinent to the object.” *Id.* at code (57).

The '278 Patent addresses “a need to provide hyperlink functionality in known objects without modification to the objects, through reliably detecting and identifying the objects based only on the appearance of the object.” Ex. 1001, 1:38–41. One disclosed example is “identification, screening, or validation of documents, such as passports, by a security officer ‘pointing and clicking’ a camera-equipped device at the document and receiving a response from a remote computer.” *Id.* at 2:34–37.

The '278 Patent discloses the following process:

Once an image is captured digitally, a search of the image determines whether symbolic content is included in the image. If so the symbol is decoded and communication is opened with the proper database, usually using the Internet, wherein the best match for the symbol is returned. In some instances, a symbol may be detected, but non-ambiguous identification is not possible. In that case and when a symbolic image can not be detected, the image is decomposed through identification algorithms where unique characteristics of the image are determined. These characteristics are then used to provide the best match or matches in the data base, the “best” determination being assisted by the partial symbolic information, if that is available.

Ex. 1001, 3:25–38. The disclosed process allows linking objects and images to information via the Internet without requiring modification of the linked object, *e.g.*, by the application of a barcode, “because the image or object can be identified solely by its visual appearance.” *Id.* at 3:39–48.

According to the '278 Patent, “decomposition algorithms . . . allow fast and reliable detection and recognition of images and/or objects based on their visual appearance in an image.” *Id.* at 3:57–59.

The overall processing flow is shown in Figure 1, which is reproduced below.

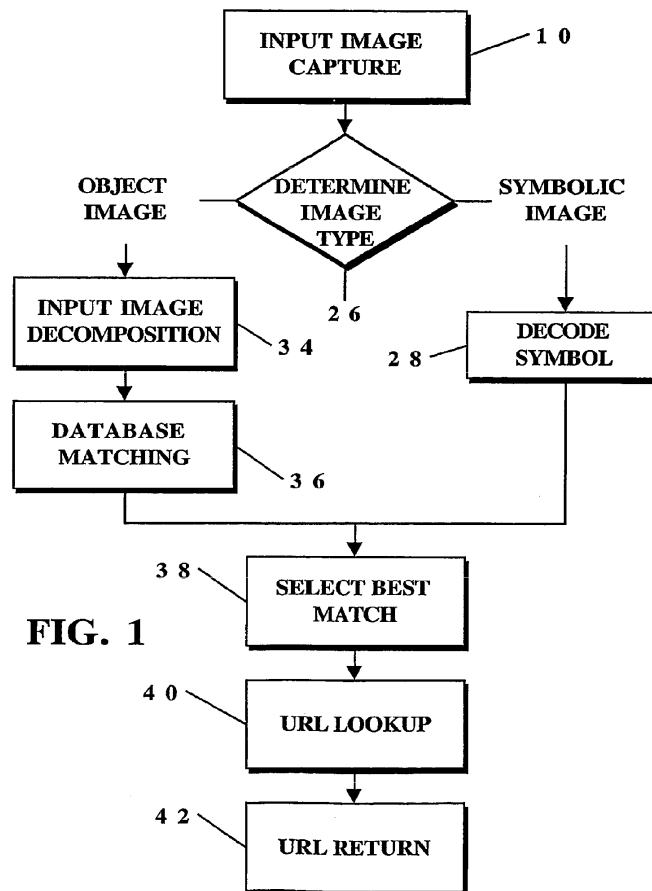


Figure 1 is a flowchart. Ex. 1001, 4:55–56, 5:38–39. At step 10, the user utilizes a computer, mobile telephone, personal digital assistant, or other similar device equipped with an image sensor to capture an input image. *Id.* at 5:41–44. At step 26, a discriminator algorithm determines whether the input image contains recognizable symbols, such as barcodes, matrix codes, or alphanumeric characters. *Id.* at 6:1–5. If such symbols are found, then the process proceeds to step 28 along the “Symbolic Image” branch of the process flow. *Id.* at 6:5–17. Depending on the confidence level with which symbols are found, the process proceeds alternatively or additionally to the

“Object Image” branch of the process flow, which includes steps 34 and 36. *Id.* For example, if an input image contains both a barcode and an object, it may be analyzed by both the Object Image and Symbolic Image branches, and the branch that has the highest success in identification will be used to identify and link from the object. *Id.* at 6:11–17.

At step 28, the symbols are decoded and their content information is extracted. Ex. 1001, 6:5–6, 6:18–22. At step 34, an object image is decomposed into “different types of quantifiable salient parameters,” which are used to conduct one or more searches in database matching step 36. *Id.* at 6:23–29. At step 38, the best match from either the symbol decoding step or the image database matching step, or both, is then determined. *Id.* at 6:29–31. At steps 40 and 42, if a specific URL (or other online address) is associated with the image, then an URL lookup is performed and the Internet address is returned. *Id.* at 6:32–35.

D. Illustrative Claim

Petitioner challenges claims 1 and 3–5 of the ’278 Patent. Pet. 1. Claim 1 is the only independent challenged claim and is reproduced below.

1. A computer-assisted method, comprising:
 - receiving, via a mobile device, an image comprising a representation of at least a portion of a document;
 - determining that symbolic content is on the at least the portion of the document based on the image;
 - extracting symbol information based on the symbolic content according to symbol type;
 - determining a validity of the document based at least in part on the image and the symbol information; and
 - recognizing the document as a first target object based at least in part on the image, the symbol information, and a query

of a database storing target object information associated with a plurality of target objects including the first target object;

receiving, via an address, first target object information associated with the first target object, wherein the first target object information comprises a response regarding the validity of the document.

Ex. 1001, 24:22–39.

E. Asserted Ground and Evidence

Petitioner asserts that claims 1 and 3–5 are unpatentable under 35 U.S.C. § 102(e)¹ as anticipated by Rhoads.² Pet. 8, 15. Petitioner submits the Declaration of Jeffrey J. Rodriguez in support of the Petition. Ex. 1003. Patent Owner submits the Declaration of Chandrajit Bajaj in support of the Preliminary Response. Ex. 2001.

II. ANALYSIS

A. Legal Standards

“In an [*inter partes* review], the petitioner has the burden from the onset to show with particularity why the patent it challenges is unpatentable.” *Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1363 (Fed. Cir. 2016) (citing 35 U.S.C. § 312(a)(3) (requiring *inter partes* review petitions to identify “with particularity . . . the evidence that supports the grounds for the challenge to each claim”)); *see also* 37 C.F.R. § 42.104(b) (requiring a petition for *inter partes* review to identify how the challenged

¹ The Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112-29, 125 Stat. 284, 287–88 (2011), amended 35 U.S.C. § 102, effective March 16, 2013. Because the ’278 Patent has an effective filing date before this date, the pre-AIA version of § 102 applies. Ex. 1001, code (60).

² Ex. 1022, US 6,947,571 B1, filed May 15, 2000, issued September 20, 2005.

claim is to be construed and where each element of the claim is found in the prior art patents or printed publications relied upon).

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. Inc., v. Union Oil Co. of Calif.*, 814 F.2d 628, 631 (Fed. Cir. 1987).

B. Level of Ordinary Skill in the Art

Petitioner contends that a person of ordinary skill in the art (“POSITA”) would have had “a range of knowledge roughly equivalent to the knowledge and/or training of a person holding the degree of Bachelor of Science in Electrical Engineering, Computer Science, Computer Engineering, or equivalent, and one to two years of experience working with image processing, image recognition, or a related field.” Pet. 29 (citing Ex. 1003 ¶¶ 62–67). Petitioner asserts that, “[i]ndividuals with additional education or additional practical experience could still be of ordinary skill in the art if that additional aspect compensates for a deficit in any other aspect” of these requirements. *Id.*

For purposes of the Preliminary Response, Patent Owner does not dispute Petitioner’s definition of a POSITA. *See, generally* Prelim. Resp.

We find that Petitioner’s definition of a POSITA is consistent with the scope and content of the ’278 Patent and the asserted prior art, and we apply this definition for purposes of this Decision.

C. Claim Construction

In an *inter partes* review, we apply the same claim construction standard as would be used by a district court to construe a claim in a civil action involving the validity or infringement of a patent. 37 C.F.R.

§ 42.100(b). Under that standard, claim terms are given their ordinary and customary meaning, as would have been understood by a person of ordinary skill in the art at the time of the invention, in light of the language of the claims, the specification, and the prosecution history of record. *Id.*; *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–19 (Fed. Cir. 2005) (en banc); *Thorner v. Sony Comput. Entm’t Am. LLC*, 669 F.3d 1362, 1365–66 (Fed. Cir. 2012).

We determine that we do not need to resolve any claim construction disputes for purposes of this Decision. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”); *see also Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (applying *Vivid Techs.* in the context of *inter partes* review).

D. Petitioner’s Anticipation Ground

Petitioner contends that claims 1 and 3–5 are unpatentable as anticipated by Rhoads. Pet. 30–52. Patent Owner opposes. Prelim. Resp. 13–24. We provide an overview of Rhoads before addressing the parties’ arguments.

1. Rhoads (Ex. 1022)

Rhoads discloses a cell phone equipped with an optical sensor and “provided with a digital watermark decoder, permitting decoding of steganographic data on imaged objects.” Ex. 1022, code (57). Rhoads discloses the recognition and decoding of “Bedoop data,” which it defines as “any form of plural-bit data encoding recognized by the system 110—data

which, in many embodiments, initiates some action.” *Id.* at 7:21–24.³ The Bedoop data can be steganographically encoded (e.g., digitally watermarked) or encoded with barcodes or other machine-readable data. *Id.* at 5:4–6, 7:3–11, 7:31–33.

Rhoads discloses a three-step steganographic decoding process. Ex. 1022, 9:42–46. In the first step, a Bedoop object is located within the image data. *Id.* at 9:43, 10:8–10. In the second step, “the object’s orientation is discerned.” *Id.* at 9:43–44, 10:11–46. In the third step, “the Bedoop data is extracted from the image data corresponding to the Bedoop object.” *Id.* at 9:44–46, 10:47–55. Describing the first step, Rhoads discloses that locating an object within an image “can be assisted by various clues,” including shape and color of the object and characteristic markings on the object. *Id.* at 9:47–10:7; *see also id.* at 22:9–12 (“To aid in identification, the Bedoop objects (e.g., badges) can be colored a distinctive color, permitting the system to more easily identify candidate objects from other items within the optical capture devices’ field of view.”). According to Rhoads, “[m]uch of the time, . . . the Bedoop sensor is staring out and grabbing image frames that have no Bedoop data,” and “the detection process includes one or more checks to assure that Bedoop data is not wrongly discerned from non-Bedoop image data.” *Id.* at 11:9–13.

Rhoads discloses embodiments in which an identification (“ID”) badge is used to control access to a building. Ex. 1022, 16:36–18:7. In a first example, Rhoads discloses that an employment candidate prints an access badge at home by downloading a Bedoop data-encoded photo from

³ “System 110” includes an optical sensor, a computer, and a network connection to the Internet. Ex. 1022, 7:13–15, Fig. 11.

the Department of Motor Vehicles (“DMV”) and encoding the photo with an employer-provided access code. *Id.* at 16:14–59. When the candidate arrives at the employer’s building, he “presents the badge to an optical sensor device, which reads the embedded building access code, checks it for authenticity and, if the candidate arrived within the permitted hours, unlocks the door.” *Id.* at 16:60–65. When the candidate encounters a security guard, “the guard can present the badge to a portable Bedoop device.” *Id.* at 16:66–17:3. “The Bedoop system extracts the Bedoop data from the card (i.e., from the DMV photograph), interrogates the DMV’s DNS server with this Bedoop data, and receives in reply the name of the person depicted in the photograph.” *Id.* at 17:4–8; *see also id.* at 16:31–35 (“When that [DMV DNS] server is presented with a UID [Universal Identifier] decoded from a photograph, the server accesses a database and returns to the inquiring computer a text string indicating the name of the person depicted by the photograph.”).

In a second example, Rhoads discloses that an ID badge includes a steganographically-encoded photograph of the bearer and a proximity ID device, e.g., a radio frequency identification device (“RFID”). Ex. 1022, 17:32–18:7. In this example, a building is provided with an image sensor, an associated Bedoop detection system, and a proximity detector. *Id.* at 17:46–48. An access control system “checks whether the badge ID discerned from the proximity sensor properly corresponds to the Bedoop data extracted from the photograph on the badge.” *Id.* at 17:54–58. “If so, access is granted; if not, the data is logged and an alarm is sounded.” *Id.* at 17:58–59.

2. Independent Claim 1

Our analysis focuses on claim 1’s recitation of “determining a validity of the document based at least in part on the image and the symbol information.”

Petitioner contends that “Rhoads discloses determining a validity of the document (e.g., whether the ID badge is authentic or valid) based at least in part on the image (e.g., the image captured by the mobile device’s camera) and the symbol information (e.g., a badge ID).” Pet. 34 (citing Ex. 1003 ¶¶ 144–155); *see also* Pet. 5 (equating “symbol information,” as recited in the claim, to “an identifier or badge ID” in Rhoads, citing Ex. 1005, 16:14–18:7, among other portions). Petitioner contends that “Rhoads discloses determining a validity of the ID badge by decoding an identifier and finding a corresponding match in a database.” *Id.* According to Petitioner, a “POSITA would have understood that a ‘validity’ of the document is determined by finding a match for a badge ID in the DMV’s DNS server—i.e., if a match is found the document is valid because the badge ID corresponds to a valid identifier in the database.” Pet. 36 (citing Ex. 1003 ¶ 154).

Patent Owner argues that Petitioner fails to establish that Rhoads discloses “determining a validity of the document based at least in part on the image and the symbol information.” Prelim. Resp. 17. Patent Owner acknowledges that “[t]he badge ID is the alleged symbol information” in Rhoads and argues that “Petitioner never explains how Rhoads discloses determination of the validity of the badge that is also based on the image.” *Id.* at 18 (citing Ex. 2001 ¶ 24).

After considering the parties’ arguments and evidence, we agree with Patent Owner that Petitioner fails to establish that Rhoads discloses

“determining a validity of the document based at least in part on the image and the symbol information,” as recited in claim 1. By its express terms, this limitation requires determining a validity of a document based on two things: (1) the image; and (2) the symbol information. Rhoads arguably discloses determining a validity of a document based on the symbol information, for example, the “Bedoop data” extracted from an ID badge. Pet. 36; Ex. 1022, 17:1–16; 17:23–31, 17:46–59. But Petitioner does not show sufficiently that Rhoads discloses determining a validity of a document based on the image, for example, an image of the ID badge.

Petitioner contends that Rhoads discloses “symbol information” in the form of a “badge ID.” Pet. 33–34. According to Petitioner, Rhoads discloses using this symbol information to determine a validity of a document (an ID badge) by searching a database (the DMV DNS server database) to find a match for the badge ID. Pet. 34–35. Although Petitioner contends that Rhoads discloses determining a validity of the ID badge based at least in part on the image captured by a mobile device’s camera (Pet. 34), Petitioner does not direct us to disclosure in Rhoads sufficient to support that contention. Instead, Petitioner directs us to Rhoads’ disclosures relating to the use of a decoded identifier (i.e., symbol information) to determine a validity of a document. *See, e.g.*, Pet. 35 (citing Ex. 1022, 51:26–37).

Petitioner asserts that “Rhoads discloses that the ‘color’ of the ID badge can assist in locating the ID badge within an image.” Pet. 34 (citing Ex. 1022, 22:9–26). Petitioner does not, however, assert that Rhoads teaches using color to determine a validity of the ID badge. We agree with Patent Owner that using color to locate an ID badge within an image, as disclosed by Rhoads, is not the same as using the color to determine a validity of the ID badge, as recited in claim 1. Prelim. Resp. 18.

The '278 Patent, for example, discloses how color and other image parameters can be used to compare an input image to images stored in a database. Ex. 1001, 6:23–12:46, Figs. 1, 3A, 3B (describing and illustrating Input Image Decomposition and Database Matching steps, including Color Cube Decomposition and Color Cube Comparison). Petitioner does not direct us to any disclosure in Rhoads that color or any other aspect of an image captured by a mobile device's camera is used for determining a validity of a document, for example, by database matching. The portions of Rhoads relied upon by Petitioner disclose determining a validity of a document, e.g., an ID badge, based on the symbol information, e.g., the badge ID, but not based on the image of the ID badge or attributes of the image, such as color.

Accordingly, we find that Petitioner does not show sufficiently that Rhoads discloses “determining a validity of the document based at least in part on the image,” as recited in claim 1, and that Petitioner does not show sufficiently that Rhoads anticipates claim 1.

3. Dependent Claims 3–5

Claims 3–5 each depend directly or indirectly from claim 1. Petitioner contends that claims 3–5 are anticipated by Rhoads. Pet. 44–52. We find that Petitioner's arguments and evidence for dependent claims 3–5 do not remedy the shortcomings in Petitioner's arguments and evidence for independent claim 1 and that Petitioner does not show anticipation of dependent claims 3–5 for the same reasons as set forth above for independent claim 1.

E. Discretion under 35 U.S.C. § 314(a)

In view of our determination that Petitioner does not meet the threshold for instituting review on the merits, we need not address the parties' dispute about whether the Board should exercise its discretion to deny the Petition under 35 U.S.C. § 314(a) and *Fintiv*.⁴ Pet. 52–59; Prelim. Resp. 24–36.

III. CONCLUSION

For the above reasons, we determine that Petitioner does not establish a reasonable likelihood that it would prevail in showing that claims 1 and 3–5 of the '278 Patent are unpatentable on the grounds asserted in the Petition.

IV. ORDER

It is

ORDERED that, the Petition is *denied*, and no trial is instituted.

⁴ *Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential).

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