

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ORACLE CORPORATION,
Petitioner,

v.

PARKING WORLD WIDE LLC,
Patent Owner.

IPR2023-00385
Patent 10,438,421 B2

Before WILLIAM V. SAINDON, BENJAMIN D. M. WOOD, and
ROBERT J. SILVERMAN, *Administrative Patent Judges*.

WOOD, *Administrative Patent Judge*.

JUDGMENT
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

A. *Summary*

This is a Final Written Decision in an *inter partes* review, issued pursuant to 35 U.S.C. § 318(a), that addresses claims 1–7 of U.S. Patent No. 10,438,421 B2 (Ex. 1001, “the ’421 patent”). We have jurisdiction under 35 U.S.C. § 6(b). Having reviewed the arguments of the parties and the supporting evidence, we determine that Petitioner has established by a preponderance of the evidence that claims 1–7 are unpatentable.

B. *Background*

Oracle Corporation (“Petitioner”) filed a Petition requesting *inter partes* review of claims 1–7 of the ’421 patent. Paper 1 (“Pet.”). Patent Owner filed a Preliminary Response. Paper 7. We instituted *inter partes* review of all challenged claims on all proposed grounds of unpatentability. Paper 8 (“Decision” of “Dec.”). Parking World Wide LLC (“Patent Owner”) filed a Response to the Petition (Paper 10, “PO Resp.”). Petitioner filed a Reply (Paper 11, “Pet. Reply”) and Patent Owner filed a Sur-reply (Paper 14, “PO Sur-reply”).

An oral hearing was held on April 17, 2024, a transcript of which is included in the record. Paper 21 (“Tr.”).

C. *Real Parties-in-Interest*

Petitioner identifies itself as the real party-in-interest. Pet. 3. Patent Owner identifies itself as the real party-in-interest. Paper 5, 1.

D. *Related Proceedings*

The parties state that the ’421 patent has been asserted in the following district court proceedings: *Parking World Wide, LLC v. City of*

Clayton, Case No. 4:22-cv-01373 (E.D. Mo.) (filed Dec. 26, 2022); *Parking World Wide, LLC v. City of St. Louis*, Case No. 4:22-cv-01252 (E.D. Mo.) (filed Nov. 22, 2022). Pet. 4; Paper 5, 1.

The parties state that the '421 patent was previously at issue in: *Parking World Wide, LLC v. City of San Francisco et al.*, Case No. 4:21-cv-01499 (E.D. Mo.) (filed Dec. 23, 2021, dismissed Aug. 15, 2022). Pet. 4; Paper 5, 2.

E. The '421 Patent

The '421 patent, titled "Parking Status System," issued October 8, 2019, from an application filed December 5, 2014. Ex. 1001, codes (22), (45), (54). The '421 patent describes a parking status system that overlays on a real-time image of a street, lot, or garage the payment status of any parking space shown in the image. *Id.* at code (57). Figure 6 of the '421 patent, reproduced below, illustrates the operation of the parking status system of the '421 patent. Ex. 1001, 7:18–20, 13:28–30.

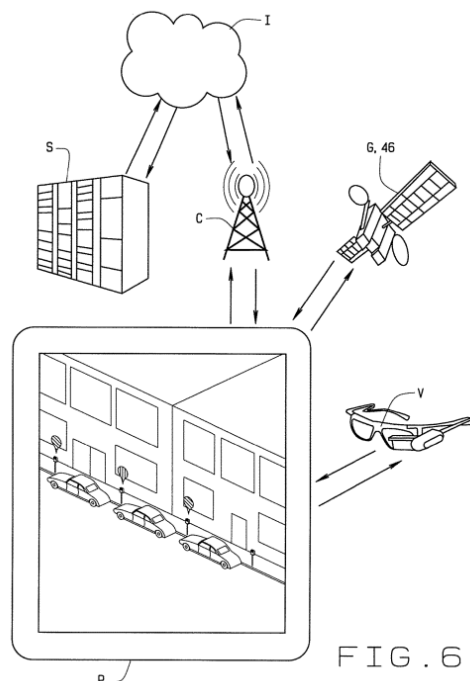


Figure 6 depicts the communication channels and devices used by the parking status system of the '421 patent. *Id.* at 7:18–20, 13:28–30. The parking status system generally operates on a portable electronic device—e.g., a tablet or virtual video glasses V—used by parking control officer P. Ex. 1001, 13:28–49, Fig. 6. The parking status system displays a live image of the actual street scene in front of the device. *Id.* at 7:45–8:8, Fig. 1. The device ascertains its position using GPS system G and its orientation using an onboard gyroscope and compass, and communicates both via wireless telecommunications network C and Internet I to parking authority server S. *Id.* at 14:7–10. The system then obtains the payment status (paid or unpaid) of parking spaces appearing in the image from server S or, alternatively, from the meters themselves (so called “smart meters”), or from sensors embedded in the street surface of the parking space. *Id.* at 8:29–40. A visual display of the meters’ payment status is superimposed on the image viewed on the device; for example, a green flag may appear over a parking space that has been paid for, and a red flag may appear over an unpaid parking space. *Id.* at 11:63–12:6. Displayed payment-status markers allow the parking control officer to readily determine if vehicles near the officer are improperly parked in an unpaid space:

[T]he parking control officer glances at the visual image on the portable electronic device to identify unpaid parking spaces and then glances at the actual scene to find vehicles in the unpaid parking spaces. The parking control officer then proceeds with enforcement measures against the vehicles in unpaid spaces, such as writing parking tickets or deploying a boot.

Id. at 9:25–32.

F. The Challenged Claims

Petitioner challenges claims 1–7 of the '421 patent. Pet. 1. Claims 1 and 5 are independent. Ex. 1001, 17:33–18:20, 18:37–20:8. Claim 1 is reproduced below (with Petitioner's limitation designations added):

1. [1.PRE] A method for representing the parking status of a plurality of parking spaces to a screen of a user's portable electronic device upon a real time camera view, any of said at least one parking space being one of PAID for current payment and UNPAID upon exhaustion of payment, any of a plurality of subscribers utilizing said method to reserve at least one of the plurality of parking spaces and then to pay for at least one of the plurality of parking spaces, the method comprising:

[1.A] assembling a database upon a computer of said plurality of parking spaces, said database including geographic locations of said plurality of parking spaces and time limits applicable to each of said plurality of parking spaces;

[1.B] updating a database upon a computer of subscribers, said database including a list of parking spaces reserved by each subscriber, a list of parking spaces paid for by each subscriber, and a list of the expiration times for each paid for parking space of each subscriber;

[1.C] calculating a location of said user, said calculating a location of said user adapted to utilize a location finding feature of said user's portable electronic device;

[1.D] determining upon a computer a location of one of said plurality of parking spaces by comparing the location of said user to said database of said plurality of parking spaces and selecting one of said plurality of parking spaces within eight to ten feet of the position of said user;

[1.E] comparing upon a computer the location of one of said plurality of parking spaces with said database of

subscribers further comprising comparing upon a computer the location of one of said plurality of parking spaces against said list of parking spaces paid for by said subscribers for a match between said location and said list of parking spaces paid for by said subscribers;

[1.F] upon detecting a match between said location and said list of parking spaces paid for by said subscribers, comparing the matched parking spaces to said list of expiration times and upon detecting the matched parking spaces exceeding an expiration time displaying upon said user's screen an UNPAID payment indicia upon an image of the matched parking space, wherein the user may execute enforcement measures upon any vehicle in said matched parking space showing said UNPAID indicia;

[1.G] wherein said method transforms upon a computer location data of said plurality of parking spaces and payment status data of said plurality of parking spaces into indicia of UNPAID parking spaces;

[1.H] said comparing the matched parking space to said list of expiration times and upon detecting the matched parking space exceeding an expiration time and said method places said indicia of UNPAID on an image of a matched parking space upon the real time camera view on the screen of a user's device for enforcement.

Ex. 1001, 17:33–18:20 (Claim 1).

Independent claim 5 is essentially the same as claim 1, differing only in the following respects: (1) limitation [5.A] specifically recites storing the assembled parking space database “upon a computer server”; (2) limitation [5.B] likewise specifically recites storing the subscriber database “upon a computer server,” and further recites “enrolling each of said subscribers into a membership plan for parking payment”; and (3) limitations [5.D] and [5.E] recite that the determining and comparing steps are performed “upon a

computer *server*” rather than a “upon a computer.” Ex. 1001, 18:37–20:8 (Claim 5) (emphasis added).

G. Asserted Grounds of Unpatentability

Petitioner contends that the challenged claims are unpatentable based on the following specific grounds (Pet. 9):¹

No.	Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1	1–3, 5, 6	§ 103	Ivey, ² Matsumoto, ³ Tillotson ⁴
2	4, 7	§ 103	Ivey, Matsumoto, Tillotson, Slemmer ⁵
3	1–3, 5, 6	§ 103	Ward, ⁶ Haynes, ⁷ Tillotson
4	4, 7	§ 103	Ward, Haynes, Tillotson, Slemmer

Petitioner also relies on the Declaration of Dr. Joseph Paradiso (Ex. 1003) to support its proposed grounds. Pet. 9 (citing Ex. 1003 (“Paradiso Decl.”)).

¹ Petitioner’s list of grounds (Pet. 9) erroneously indicates that claim 7 is challenged under Grounds 1 and 3, and claim 6 is challenged under Grounds 2 and 4.

² Ivey et al., US 2006/0059037 A1, published March 16, 2006 (Ex. 1005).

³ Matsumoto, JP 2008-217835 A, published September 18, 2008 (Ex. 1006), for which Petitioner submitted a Certified English Translation (Ex. 1007).

⁴ Tillotson et al., US 2006/0250278 A1, published November 9, 2006 (Ex. 1011).

⁵ Slemmer et al., US 2006/0170566 A1, published August 3, 2006 (Ex. 1010).

⁶ Ward, US 2008/0114675 A1, published May 15, 2008 (Ex. 1008).

⁷ Haynes et al., US 7,123,166 B1, issued October 17, 2006 (Ex. 1009).

II. ANALYSIS

A. *Legal Standards Used in the Merits Analysis*

“In an IPR, 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”)); *Dynamic Drinkware, LLC v. Nat’l Graphics, Inc.*, 800 F.3d 1375, 1378 (Fed. Cir. 2015) (discussing the burden of proof in *inter partes* review).

“A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in [35 U.S.C. § 102], if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103. Obviousness is a question of law based on underlying findings of fact. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966). The underlying factual considerations include the scope and content of the prior art, the differences between the prior art and the claimed invention, the level of ordinary skill in the art, and any relevant secondary considerations of non-obviousness, including commercial success of the patented product or method, a long-felt but unmet need for the functionality of the patented invention, and the failure of others who have unsuccessfully

attempted to accomplish what the patentee has achieved. *Id.* at 17.⁸ The obviousness analysis should not be conducted “in a narrow, rigid manner,” but should instead focus on whether a claimed invention is merely “the result[] of ordinary innovation,” which is not entitled to patent protection. *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 406, 427–28 (2007).

B. Level of Ordinary Skill in the Art

Petitioner contends that:

A person of ordinary skill in the art (“POSITA”) at the time of the alleged invention would have had at least a Bachelor’s Degree in computer science, electrical engineering, or a related subject, and two years of experience working with augmented reality, portable electronic devices, mobile computing, databases, computer networks, or related technologies. A more advanced degree can substitute for work experience. This POSITA would be aware of and generally knowledgeable about the structure and operation of augmented reality devices as well as different databases and computer networks. Paradiso Decl., ¶¶ 40–43.

Pet. 15.⁹

Patent Owner concurs with Petitioner’s definition. *See* PO Resp. 6 (“Patent Owner concurs with the Board in adopting Petitioner’s definition of a POSITA” for the Decision on Institution). As we did in our Decision on Institution, we adopt Petitioner’s unopposed definition of a person of ordinary skill. *See* Dec. 9.

⁸ Patent Owner has not presented any evidence of secondary considerations.

⁹ We find (and Patent Owner does not dispute) that Dr. Paradiso is qualified to offer expert testimony from the perspective of a skilled artisan. *See, e.g.*, Ex. 1003 ¶¶ 7, 13.

C. Claim Construction

We construe claim terms “using the same claim construction standard that would be used to construe the claim in a civil action under 35 U.S.C. [§] 282(b), including construing the claim in accordance with the ordinary and customary meaning of such claim as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent.” 37 C.F.R. § 42.100(b); *see Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). Any special definitions for claim terms must be set forth in the Specification with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner “submit[s] that the terms of the ’421 Patent’s claims do not require further construction and can be afforded their plain and ordinary meaning.” Pet. 14–15 (citing *Paradiso Decl.* ¶ 78). According to Petitioner, the Petition’s “sections comparing the claims to the prior art include further discussion of the plain and ordinary meaning of certain claim terms.” *Id.* at 15 (citing *Paradiso Decl.* ¶¶ 115–386).

Patent Owner “reserves the right to use the Specification of the ’421 Patent to define claim terms,” but does not propose any constructions in the Patent Owner Response. PO Resp. 6.

As the parties do not expressly dispute the construction of any particular term, we determine that no express construction of any term is necessary. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (approving Board decision not to construe claim language where the construction is not material to the dispute). Several of Patent Owner’s arguments, however, imply that the claims are limited in particular ways. For example, Patent Owner suggests

that the claims are limited to parking spaces along a street as opposed to in a parking lot. *See, e.g.*, PO Resp. 10 (arguing that Matsumoto “differs markedly” from the ’421 patent because its camera “view[s] an entire parking lot,” whereas the ’421 patent uses “a real time image . . . along streetside parking”); *id.* at 13 (“the prior art focuses on parking lots or compact, contiguous, defined polygonal areas,” whereas “[t]he ’421 patent focuses on strips of spaces along active traffic and dispersed around a city, far from compact, contiguous areas.”).

We disagree that the claims are limited to parking spaces along a street. First, neither independent claim includes any such limitation; instead, the claims are directed to methods “for representing the parking status of a plurality of parking spaces,” without indicating where the plurality of parking spaces are located. Ex. 1001, claims 1, 5. Second, the Specification teaches that the parking spaces that may be represented can be in a lot or garage, not only on a street. *See, e.g., id.*, Abstr. (“A parking status system overlays upon images of a street, a lot, or a garage with representations of parking vehicles the status of any parking space shown in the image.”); *id.* at 5:4–7 (“The present invention overlays the parking status of vehicles upon a visual image of a street or lot as it matches the GPS coordinates of the parking control officer, the vehicle, and the street scene.”).

Patent Owner also suggests that the claims are limited to images obtained from a camera that is part of the user’s portable electronic device. Patent Owner asserts, for example, that Haynes obtains video images from “a camera upon a pole” that is “in a fixed position at a fixed elevation,” whereas “the ’421 patent receives imagery from a mobile device camera held by an officer at his height,” which is “movable.” PO Resp. 24. Again,

we disagree that the claims are so limited. The independent claims recite a method for “representing the parking status of a plurality of parking spaces to a screen of a user’s portable electronic device upon a real time camera view.” Ex. 1001, claims 1, 5. “Represent[ing] . . . to a screen” means that the real time camera view of the parking spaces is *displayed* on the portable electronic device, but does not require the real time camera view to be *obtained from* the portable electronic device.

*D. Ground 1: Claims 1–3, 5, and 6—
Ivey, Matsumoto, and Tillotson*

Petitioner alleges that claims 1–3, 5, and 6 would have been obvious over Ivey, Matsumoto, and Tillotson. Pet. 9, 23–49.¹⁰ Patent Owner opposes. PO Resp. 9–16.

1. Ivey (Ex. 1005)

Ivey is titled “Local Enforcement of Remotely Managed Parking Payment Systems,” and “relates to the field of computer-implemented parking payment status displays, and more specifically to a particularly efficient graphical representation and intuitive user interface by which a parking control officer can verify remotely administered payment of parking fees.” Ex. 1005, code (54), ¶ 1. Figure 1 of Ivey, reproduced below, illustrates a hand-held computer displaying a parking status map, and Figure 3 of Ivey, also reproduced below, illustrates the parking status map (color added by Petitioner). *Id.* ¶¶ 9, 11; Pet. 17.

¹⁰ We find (and Patent Owner does not dispute) that each of Ivey, Matsumoto, and Tillotson is prior art under 35 U.S.C. § 102(a)(1). *See* Ex. 1005, code (43); Ex. 1006, code (43); Ex. 1011, code (43).

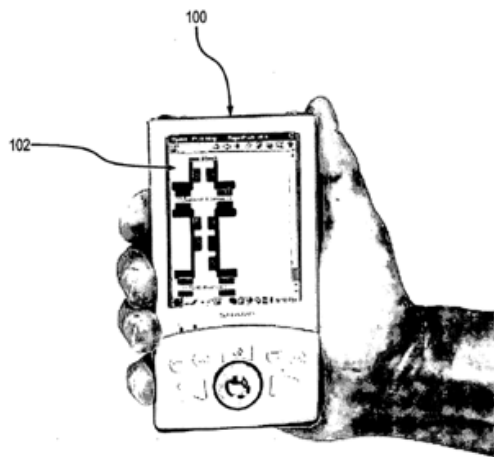


FIGURE 1

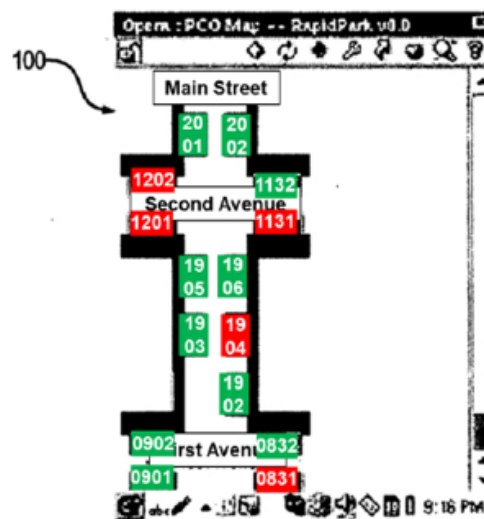


FIGURE 3

Parking payment status map 100 shown in Figures 1 and 3 is received from server 502 via wide area network 504, and displayed on hand-held computer 102 carried by a parking control officer. *Id.* ¶¶ 20, 25, Figs. 5, 6. Parking payment status map 100 includes spatially-related representations of parking spaces, indicating each space's status as paid or unpaid. *Id.* ¶ 20, Fig. 3. For example, paid spaces may be shown in green and unpaid spaces may be shown in red (as indicated by Petitioner's annotations). *Id.* ¶ 22, Fig. 3; Pet. 16–17.

2. *Matsumoto (Exs. 1006, 1007)*

Matsumoto describes a “parking lot guidance system,” and “relates to a system for indicating to the user the vacant status of a parking lot.”

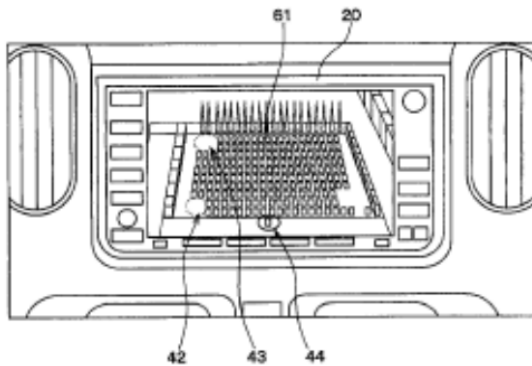
Ex. 1007 ¶ 1, Abstr.¹¹ Matsumoto's parking lot guidance system employs a host computer associated with the parking lot that “generates an image

¹¹ Matsumoto is a published Japanese Patent Application. Ex. 1006, code (43). All citations to Matsumoto's disclosure will be to its certified translation, Exhibit 1007.

which makes it possible to visually recognize a vacant parking space in a parking lot . . . on the basis of a bird's-eye image of the parking lot . . . photographed by a camera” and transmitted to nearby vehicles. *Id.* at Abstr.

Figure 5 of Matsumoto, reproduced below, shows an example of a display of a live-action image, and Figure 6 of Matsumoto, reproduced below, shows an example of a display of a live-action image with vacant parking spaces highlighted. Ex. 1007 ¶ 74.

[Fig. 5]



[Fig. 6]

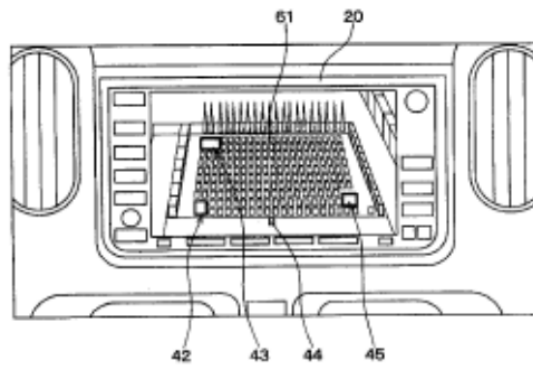
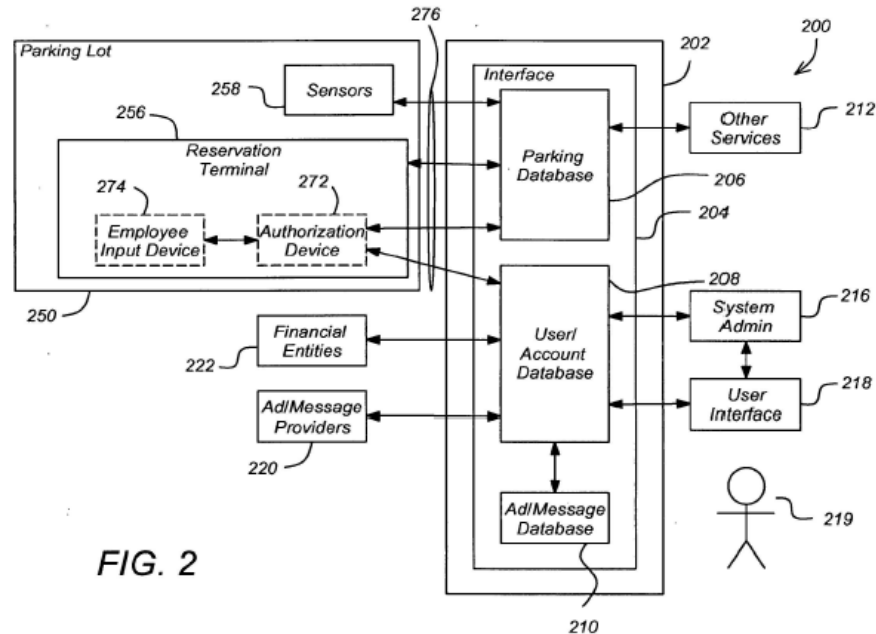


Figure 5 illustrates a live-action image on display device 20 of car navigation device 10 showing vacant spaces 42 and 43 and vehicles 61 occupying other spaces in the parking lot. *Id.* ¶ 59. Figure 6 illustrates the same lot with vacant parking spaces in areas 42, 43, and 45 highlighted, e.g., with a bold line surrounding each vacant space superimposed on the photographed image. *Id.* ¶ 60.

3. Tillotson (Ex. 1011)

Tillotson discloses “a method and apparatus for determining the availability of a plurality of parking spaces and of reserving one or more of such available parking spaces.” Ex. 1011 ¶ 9. Tillotson’s parking space information and reservation system (PSIRS) identifies available parking spaces and allows users to reserve and pay for an available space. *Id.* at

code (57), ¶ 23, Fig. 2. Figure 2 of Tillotson illustrates elements of the PSIRS, and is reproduced below:



As shown in Figure 2, the PSIRS comprises operations center 202 that collects information regarding the parking spaces in one or more parking areas or lots 250. *Id.* ¶ 23. Operations center 202 comprises, *inter alia*, parking database 206 and user account database 208. *Id.* Parking database 206 maintains data relating to available parking spaces in lot 250 as well as reservation data. *Id.* ¶¶ 25, 29. User account database 208 maintains data for users 219 (who may be subscribers) for billing and access purposes. *Id.* ¶ 25. Users 219, who may be participating on a one-time or subscription basis, can use the PSIRS to find available parking spaces, and reserve and pay for an available space. *Id.* ¶¶ 44, 65.

4. *Ivey, Matsumoto, and Tillotson are Analogous to the Claimed Invention*

The scope and content of the relevant prior art that we are required to ascertain is limited to references that are “analogous” to the claimed invention. *In re Clay*, 966 F.2d 656, 658 (Fed. Cir. 1992). “Two separate tests define the scope of analogous art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor’s endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved.” *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004) (citing *In re Deminski*, 796 F.2d 436, 442 (Fed. Cir. 1986)). “The Supreme Court[] . . . directs us to construe the scope of analogous art broadly,” in keeping with its admonition that “familiar items may have obvious uses beyond their primary purposes, and a person of ordinary skill often will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Wyers v. Master Lock Co.*, 616 F.3d 1231, 1238 (Fed. Cir. 2010) (quoting *KSR*, 550 U.S. at 402 (2007) (emphasis omitted)).

a. The Parties’ Positions

Patent Owner argues that Ivey, Matsumoto, and Tillotson are not analogous art. PO Resp. 9–12. Patent Owner contends that Ivey is not in the same field of endeavor as the ’421 patent because “Ivey’s usage of a map 100 . . . differs markedly from the Patent Owner’s usage of a real time image.” *Id.* at 10 (citing Ex. 1005 ¶¶ 20, 45; Ex. 1001, 8:39). Patent Owner further contends that Ivey is not reasonably pertinent to the ’421 patent because “[a] map calls for its user to orient it to north so that the user may

infer from it,” but “[a] real time image shows what a user sees often with little if any orientation, especially to north.” *Id.*

Patent Owner further asserts that Matsumoto is not in the same field of endeavor as the ’421 patent:

Matsumoto’s usage of a fixed-video device viewing an entire parking lot, Oracle Ex. 1007, p. 5 para. [23][27], differs markedly from the Patent Owner’s usage of a real time image, Oracle Ex. 1001, p. 10 c. 8 l. 38, along streetside parking, *Id.* p. 8, c. 4 l. 54. Fixing of the video devices comes from the bird’s eye view and color of road surface compared to a car suggest an elevated, fixed position of the camera, *Id.* p. 9 para. [66]. Matsumoto’s camera fixed in position and elevation while the ’421 patent receives imagery from a mobile device camera held by an officer at his height suggests a movable camera feed in the ’421 patent far from fixed. As an entire polygonal lot image differs from linear streetside parking, the Patent Owner asserts that Matsumoto ’835 is not from the same field of endeavor.

PO Resp. 10–11. Patent Owner also submits that Matsumoto “is not reasonably pertinent to a movable real time image of parking spaces along a street with traffic,” because “[a] parking lot has perimeter boundaries that restrict access into the lot,” while “[a] real time image of parking along a street shows a few cars within a user’s view while moving traffic passes by.” *Id.* at 11.

Patent Owner further contends that Tillotson is not in the same field of endeavor as the ’421 patent because “Tillotson’s usage of an input device or sensor in a parking space within a parking lot . . . differs markedly from the Patent Owner’s usage of a real time image . . . along streetside parking.” PO Resp. 11 (citing Ex. 1011 ¶ 34; Ex. 1001, 4:54, 8:39). According to Patent Owner, “[a]s an input device calls for installation in a parking space while

the '421 Patent does not claim sensors,” Tillotson “is not from the same field of endeavor.” *Id.* Patent Owner asserts:

Tillotson '278 also notes that if a parking lot does not use sensors, Tillotson '278 defaults to counting cars entering and exiting a parking lot. The Patent Owner asserts that the '421 Patent with its real time image of parking along a street does not count cars. Tillotson '278 also requires a boundary, such as a parking lot perimeter or gate, to denote when a car enters and later exits a lot.

Id. at 11.

Finally, Patent Owner contends that Tillotson is not reasonably pertinent to the '421 patent:

Input devices, sensor, and counting cars call for parking lot boundaries that define access into the lot, excluding cars that do not use the parking lot. A real time image of parking along a street does not utilize sensors installed in a parking space. The '421 Patent also just shows a few cars within a user's view and excludes other traffic not considering usage of a particular parking space. The Patent Owner asserts that Tillotson '278 is not reasonably pertinent to a real time image of parking spaces along a street with traffic.

PO Resp. 11.

Petitioner responds that Ivey, Matsumoto, and Tillotson are analogous art to the '421 patent. Pet. Reply 4–12; *see* Pet. 47 (“Ivey, Matsumoto, and Tillotson are from the same field (parking space management) and address the same general concept (facilitating parking by providing information regarding the availability of parking spaces).”). Petitioner contends that the references are within the same field of endeavor as that of the '421 patent, which Petitioner characterizes as “parking management systems.” Pet. Reply 5. Petitioner asserts that Patent Owner's position that these references

are not analogous is based on “alleged differences between a reference’s teachings and the challenged claims,” but this position is “[a]t odds with the law.” *Id.* at 8–9. According to Petitioner, “a fundamental underpinning to all of obviousness law is that the prior art reference is different in at least one respect from the challenged claim,” but if such a difference were sufficient to make the reference non-analogous, “the entire law of obviousness would be wiped away.” *Id.* at 9. Petitioner also contends that the references are reasonably pertinent to at least one problem faced by the inventor of the ’421 patent. Pet. 9–12.

b. Discussion

We agree with Petitioner that Ivey, Matsumoto, and Tillotson are within the same field of endeavor as the ’421 patent. A patent’s field of endeavor may be determined “by reference to explanations of the invention’s subject matter in the patent application, including the embodiments, function, and structure of the claimed invention.” *Netflix, Inc. v. DivX, LLC*, 80 F.4th 1352, 1359 (Fed. Cir. 2023). The Specification of the ’421 patent initially describes the relevant field as “relat[ing] to electronic display of parking status and more specifically to overlay of parking status of vehicles upon a visual image of a street.” Ex. 1001, 1:13–15. The Specification goes on to describe a more expansive view of the relevant field, however. First, the ’421 patent makes clear that the invention is not limited to parking along a street: the patent describes “[a] parking status system [that] overlays upon images of a street, *a lot, or a garage* with representations of parking vehicles the status of any parking space shown in the image.” *Id.* at Abstr (emphasis added); *see also id.* at 5:4–7 (“The present invention overlays the parking status of vehicles upon a visual image

of a street or lot as it matches the GPS coordinates of the parking control officer, the vehicle, and the street scene.”); *id.* at 8:1–5 (noting that GPS signals may be disrupted or disabled “in select locations such as garages,” in which case “the present invention utilizes Augmented Reality technology with a parking status overlay”).

Second, the Specification indicates that the field of the invention is not limited to visual display of parking spaces. For example, the “Description of the Prior Art” section of the ’421 patent’s Specification describes several tasks necessary to manage parking spaces, such as how motorists pay for spaces and how municipalities and their parking control officers enforce payment and time-limit requirements for the parking spaces within their jurisdiction. Ex. 1001, 1:66–4:8. This section also describes a variety of known technologies used to accomplish these tasks, such as: (1) a system in which parking meters are connected to a central server via a network to facilitate cashless mobile-phone payments for a parking space (*id.* at 2:30–59); (2) a parking system that displays a map showing streets and “stylized image[s]” of nearby vehicles (*id.* at 3:3–9); (3) a parking system “with maps of parking spaces that allows subscribers to pay for parking by wireless or web communications” (*id.* at 3:19–26); (4) a system for regulating vehicles within a parking facility that uses GPS technology to provide a vehicle’s position on a map displayed on a mobile unit (*id.* at 3:27–31); (5) a networked parking system with a database of parking terminals and a graphical map display that reorients as a user moves (*id.* at 3:32–40); (6) systems that use augmented reality (AR)—“an imaging technology where a live direct or indirect view of a physical real-world environment has elements augmented by virtual computer-generated

imagery”—to “enhance[] a user’s real time perception of a real image” (*id.* at 3:41–49); and (7) a parking system that uses fixed plates mounted in a parking space and a reading device for an inspector, the fixed plates including a small emitter that transmits when interrogated by the reading device (*id.* at 3:61–64). By describing these known technologies, the Specification indicates that they are relevant to the invention’s field of endeavor.

Third, the “Description of the Preferred Embodiment” section of the ’421 patent Specification describes embodiments that clarify the scope of the relevant field. Ex. 1001, 7:46–17:30; *see Netflix*, 80 F.4th at 1359 (descriptions of embodiments of the invention may be used to determine field of endeavor); *In re Mettke*, 570 F.3d 1356, 1359 (Fed. Cir. 2009) (finding that relevant field of invention was broader than “Internet terminal” because specification described other communication media, such as facsimile machines and email, as related to the invention). This section describes an embodiment that displays on a portable electronic device a “live visual image” collected, e.g., from a digital camera, the image matching the actual street scene in front of the device. Ex. 1001, 7:46–56. The system locates parking spaces on the street scene, determines the payment status of the parking spaces from a central server, and displays a “flag” near each space indicating its payment status. *Id.* at 4:56–58, 7:62–66, 8:31–40, 11:60–12:7. The ’421 patent also describes an embodiment that allows motorists to subscribe to a plan for parking, displays available parking spaces to subscribers near an available parking space or whose destination is near an available parking space, and identifies the subscriber’s electronic

device and collects payment from the subscriber's account. *Id.* at 8:49–9–33, 11:57–59.

Based on the above, we determine that the field of endeavor of the '421 patent is the field of parking-management systems, which encompasses, e.g., electronic display of parking payment status, parking-space payment systems and methods, systems and methods for enforcing parking payment and time-limit requirements, capturing and using camera images of parking spaces, motorist subscription services, and the display of available parking spaces to motorists. The '421 patent's field also encompasses the technologies described in the patent's "Description of the Prior Art." *See In re Wood*, 599 F.2d 1032, 1036 (CCPA 1979) (determining the relevant field of endeavor from an express disclosure in the "Background of Invention" section of the applicant's specification).

Ivey falls within the '421 patent's field of endeavor. The '421 patent, in fact, cites to Ivey as a relevant reference in the "Description of the Prior Art" section of the patent disclosure:

The patent publication to Ivey & Janacek, No. 2006/0059037 explains local enforcement of remotely managed parking payment systems. Ivey shows a system that places the status of parking spaces upon a map. The map shows a street and nearby vehicles in two dimensions, generally from above. The map does not display images of the actual vehicles but rather a stylized image of the vehicles.

Ex. 1001, 3:3–9. Moreover, Ivey describes the field of its invention as "the field of computer-implemented parking payment status displays" (Ex. 1005 ¶ 1), which substantially overlaps with the '421 patent's stated field of "electronic display of parking status" (Ex. 1001, 1:13–14).

As noted above, Patent Owner contends that Ivey is not in the same field of endeavor as the '421 patent because “Ivey’s usage of a map 100 . . . differs markedly from the Patent Owner’s usage of a real time image.” PO Resp. 10 (citing Ex. 1005 ¶¶ 20, 45; Ex. 1001, 8:39). We are not persuaded that Ivey’s display of parking status on a map (which is a real-time display of parking spaces and each space’s payment status (Ex. 1005 ¶¶ 5, 37)) rather than on a camera image means that Ivey is not in the same field of endeavor as the '421 patent. Structural or functional differences between a reference and a patent do not necessarily indicate that the reference and patent are in different fields of endeavor. *See Unwired Planet, LLC v. Google Inc.*, 841 F.3d 995, 1001 (Fed. Cir. 2016) (“The field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field.”). As noted above, the '421 patent includes Ivey in its description of the relevant prior art even though Ivey displays parking status “upon a map” rather than on a camera image. Ex. 1001, 3:3–9.

Matsumoto also falls within the '421 patent’s field of endeavor. Matsumoto teaches “a system for indicating to the user the vacant status of a parking lot.” Ex. 1007 ¶ 1. Matsumoto’s system uses a “host computer” that augments a live image obtained from a parking-lot camera to highlight vacant spaces in the lot and sends the augmented image to nearby vehicles. *Id.* ¶¶ 59, 60, 74, Abstr., Fig. 5. Matsumoto’s system uses technology described in the '421 patent as applicable to parking management systems—e.g., applying AR techniques to camera images of parking spaces. Ex. 1001, 3:41–60.

Finally, we determine that Tillotson falls within the '421 patent's field of endeavor. Tillotson describes a "system and method for monitoring and reserving parking spaces." Ex. 1011 ¶ 2. Tillotson's PSIRS identifies available parking spaces and allows users (who may be participating on a subscription basis) to reserve and pay for an available space. *Id.* at code (57) (Abstr.), ¶ 23, Fig. 2.

5. *Independent Claim 1*

- a. Petitioner has Shown by a Preponderance of the Evidence that the References, Individually or in Combination, Teach or Suggest all of the Limitations of Claim 1

Petitioner contends that Ivey, Matsumoto, and Tillotson teach or suggest, either individually or combined, all of the limitations of independent claim 1. Pet. 25–26, 31–35. Petitioner specifically asserts that:

- (1) "To the extent that the preamble is limiting," the preamble is taught by Ivey in view of Matsumoto and Tillotson. Pet. 24–25 (citing Ex. 1005 ¶¶ 6, 38, Abstr., Fig. 3; Ex. 1007 ¶¶ 57, 59; Ex. 1003 ¶¶ 118–123);
- (2) Ivey teaches limitations [1.A], [1.F], and [1.G]. Pet. 25–26 (citing Ex. 1005 ¶¶ 32–37, Fig. 7; Ex. 1003 ¶¶ 127–33);
- (3) Ivey teaches or suggests limitation [1.E]. Pet. 31–32 (citing Ex. 1005 ¶¶ 36, 39, 40, Fig. 6; Ex. 1003 ¶¶ 175–179);
- (4) limitation [1.B] is taught by Ivey in view of Tillotson. Pet. 26–28 (citing Ex. 1005 ¶¶ 33–36, Fig. 7; Ex. 1011 ¶¶ 23, 59, 65; Ex. 1003 ¶¶ 134–153);
- (5) limitations [1.C], [1.D], and [1.H] are taught by Ivey in view of Matsumoto. Pet. 28–31, 35–37 (citing Ex. 1005 ¶¶ 6, 25, 32, 43, 45, 46,

Figs. 3, 9; Ex. 1006, Fig. 6; Ex. 1007 ¶¶ 42, 46, 50, 51, 53, 60, 61, 65; Ex. 1003 ¶¶ 154–174, 194–205); and

(6) Ivey in view of Matsumoto teaches or suggests limitation [1.D]. Pet. 29–31 (citing Ex. 1005 ¶¶ 32, 45–46, Fig. 9; Ex. 1003 ¶¶ 162–174).

Patent Owner does not expressly dispute any of the above contentions that the prior-art references teach or suggest, individually or combined, all of the limitations of claim 1. For example, Patent Owner does not dispute that Ivey teaches overlaying payment status on an image of a parking space displayed on a map (Pet. 35); that Matsumoto teaches the use of a real-time video image of parking spaces on which information (identification of empty spaces) is overlaid (*id.* at 35–37); and that Tillotson teaches a subscription and reservation system for parking spaces (*id.* at 27–28). *See* Paper 9, 9 (“any arguments not raised in the response may be deemed waived”). Further, we have reviewed the record and determine that Petitioner’s contentions are supported by a preponderance of the evidence. Accordingly, we adopt Petitioner’s undisputed contentions as our findings of fact.

b. Petitioner has Established by a Preponderance of the Evidence that One of Ordinary Skill in the Art Would have had a Reason to Combine Ivey, Matsumoto, and Tillotson, and that the Skilled Artisan Would have had a Reasonable Expectation of Success

Petitioner submits that one of ordinary skill in the art would have displayed Ivey’s parking-space-payment information on a real-time camera view, as taught by Matsumoto, to “more efficiently streamline parking enforcement.” Pet. 47–48 (citing Ex. 1003 ¶¶ 279–281). Petitioner cites as supporting evidence the testimony of its Declarant, Dr. Paradiso, that one of

ordinary skill in the art would have appreciated that as a result of the proposed modification, a parking-control officer “would have a ‘real time camera view’ to identify, move to, and issue citations for unpaid and/or delinquent parking spaces more efficiently,” and “would be able to quickly assess the number of potential parking citations on a street block without walking the entire block and individually checking each parking meter.” Ex. 1003 ¶ 281. Petitioner also asserts that one of ordinary skill in the art would have combined Ivey with Tillotson because the skilled artisan would have recognized that adapting Ivey to incorporate Tillotson’s reservation and subscription systems “would make the parking management system more efficient and easier to use—a result that would have been highly desirable to a POSITA during the relevant time period, particularly in settings with high usage or limited resources.” Pet 48 (citing Ex. 1003 ¶ 282). In support of this assertion, Petitioner relies on Dr. Paradiso’s testimony that:

[A] POSITA would have been motivated to incorporate Tillotson’s reservation and subscription systems to simplify the payment process for reservation and subscription fees. The combination would have predictably resulted in a motorist being able to reserve and/or prepay for a parking space, thereby, simplifying the payment process and reducing the time required for the motorist (*i.e.*, instead of having to identify a vacant parking space, park, and locate the relevant manner to pay for the parking space). Additionally, the incorporation of a reservation and subscription system would enable the repeated and quick acceptance of payment for the parking management operator and parking enforcement officer as well.

Ex. 1003 ¶ 282.

Finally, Petitioner contends that one of ordinary skill in the art would have had a “high expectation of success in adapting Ivey in view of Matsumoto’s teachings to include a real-time camera view and Tillotson’s

teachings of reservation and subscription systems.” Pet. 48 (citing Ex. 1003 ¶¶ 283–291). According to Petitioner, Ivey teaches displaying payment status information on a portable electronic device, so the same information would be suitable to be displayed on a real-time camera view as taught by Matsumoto. *Id.* Petitioner also contends that “Ivey already accepted payment to reserve parking spaces, so only minor modifications to it would be involved in view of Tillotson’s PSIRS teachings.” *Id.* (citing Ex. 1003 ¶¶ 287–291).

Although, as discussed below, Patent Owner appears to dispute that improved “efficiency” would have been a sufficient reason for one of ordinary skill in the art to combine Ivey, Matsumoto, and Tillotson, Patent Owner does not expressly dispute Dr. Paradiso’s testimony that the combination of Ivey and Matsumoto “would more efficiently streamline parking enforcement.” Pet. 48. Based on Dr. Paradiso’s undisputed testimony, we find that one of ordinary skill in the art would have been motivated to combine Ivey and Matsumoto in the proposed manner “to more efficiently streamline parking enforcement.” *Id.* Patent Owner also does not expressly dispute Dr. Paradiso’s testimony that incorporating Tillotson’s reservation and subscription systems into Ivey/Matsumoto would have simplified the payment process and saved motorists’ time. Based on Dr. Paradiso’s testimony, we find that one of ordinary skill in the art would have been motivated to combine Ivey and Matsumoto with Tillotson in the proposed manner to “make the parking management system more efficient and easier to use,” to simplify the process by which parking spaces are paid for, and to save motorists’ time. *Id.* Finally, Patent Owner does not dispute Petitioner’s contention that one of ordinary skill in the art would have had a

reasonable expectation of success in combining the teachings of Ivey, Matsumoto, and Tillotson, or Dr. Paradiso's testimony in support of that contention. Therefore, based on Dr. Paradiso's undisputed testimony, we find that one of ordinary skill in the art would have had a reasonable expectation of success in combining these teachings.

c. The References Do Not Teach Away

Patent Owner argues that Ivey, Matsumoto, and Tillotson teach away from the proposed combination. PO Resp. 12, 13, 15. Patent Owner asserts that: (1) Ivey "uses rectangular shapes or blocks imposed upon a map," whereas the '421 patent "does not use a map" (*id.* at 12); (2) Matsumoto "uses a camera to photograph an entire parking lot," and "seeks to guide a motorist to a vacant parking spot," whereas the '421 patent "operates through a parking officer's portable electronic device" and "views linear parking spaces along a street" (*id.*); and (3) Tillotson "has sensors in each parking space under management and software logic to find the empty spaces," or, alternatively, "count[s] vehicles in and out of a lot under management," whereas the '421 patent "had foreseen use in downtown areas where plenty of vehicles just pass by parking spaces, mak[ing] counting vehicles related to parking spaces more difficult" (*id.* at 12–13). According to Patent Owner, "[t]he '421 patent claims an inference of non-obviousness having great strength where the map of [Ivey], lot photography of [Matsumoto], and counting cars of [Tillotson] as prior art teachings undermine the very reason why one of ordinary skill would have combined the known elements." *Id.* at 13 (citing *DePuy Spine, Inc. v. Medtronic*

Sofamor Danek, Inc., 567 F.3d 1314, 1326 (Fed. Cir. 2009)¹²; *see id.* at 14 (same).

Petitioner disputes that the art teaches away from the combination. Petitioner asserts that a reference that teaches away must “‘criticize, discredit, or otherwise discourage’ investigation into the invention claimed,” but “none of the cited references criticizes or otherwise disparages any of the features claimed in the ’421 patent.” Pet. Reply 13 (quoting *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004)). Petitioner also contends that Patent Owner relies on unclaimed features. *Id.* at 14. For example, Petitioner contends that the claims are not limited to spaces “along a street,” or that the real-time image must come from a camera held by the parking-control officer. *Id.*

We are not persuaded that the references would have taught away from pursuing the claimed invention. “A reference may be said to teach away when a person of ordinary skill, upon reading the reference, would be discouraged from following the path set out in the reference, or would be led in a direction divergent from the path that was taken by the applicant.” *DePuy Spine*, 567 F.3d at 1327. “A reference does not teach away, however, if it merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into the invention claimed.” *Id.* (internal quotation marks omitted).

¹² Patent Owner apparently relies on *DePuy Spine*’s holding that “[a]n inference of nonobviousness is especially strong where the prior art’s teachings undermine the very reason *being proffered* as to why a person of ordinary skill would have combined the known elements.” *DePuy Spine*, 567 F.3d at 1326 (emphasis added).

Patent Owner has not pointed us to any teaching in Ivey, Matsumoto, or Tillotson that criticizes, discredits, or discourages, e.g., superimposing Ivey's parking-payment-status information on Matsumoto's real-time video image. That Ivey teaches displaying this information on a map rather than a camera image is not sufficient to lead one of ordinary skill in the art away from exploring the use of camera images. *See DePuy Spine*, 567 F.3d at 1327 (expressing a general preference for an alternative invention does not criticize, discredit, or discourage investigation into the claimed invention). Similarly, Patent Owner has not pointed us to any teaching in Ivey, Matsumoto, or Tillotson that criticizes, discredits, or discourages incorporating Tillotson's reservation and subscription systems into Ivey's system.

In its Sur-reply, Patent Owner argues that Petitioner's assertion that "one difference between a prior art reference and the '421 Patent claims allowed use of that reference in obviousness analysis," but "contradicted that by noting a difference in a prior art reference is not enough." PO Sur-reply 3 (citing Pet. Reply 9, 12). We disagree that these assertions are contradictory, however. The first statement was made in reply to Patent Owner's argument that the references were not analogous art, whereas the second statement was made in reply to Patent Owner's teaching-away argument. We agree with Petitioner that merely identifying differences between a prior-art reference and a patent claim, by itself, is insufficient to establish that the reference is non-analogous art with respect to the claim, and it is also insufficient to establish that the reference teaches away from investigation into the claimed invention.

Patent Owner further argues that the prior art used by Petitioner has priority dates before the '421 patent's own priority date," which "makes expressly discouraging or criticizing the claims of a later invention impossible." PO Resp. 4. But a reference that teaches away need not criticize the claim per se; rather, it must criticize or discourage "*investigation* into the invention claimed," or lead "in a direction divergent from the path that was taken by the applicant." *DePuy Spine*, 567 F.3d at 1327.

d. Petitioner's Reason to Combine
References is not Based on Hindsight

Patent Owner argues that Ivey, Matsumoto, and Tillotson "describe[] unrelated concepts from the '421 Patent." PO Resp. 13. According to Patent Owner, "the map of [Ivey], the fixed camera of [Matsumoto], and the counters of [Tillotson] through their usage is not obvious from the present invention's parking status overlay upon a real time video image." *Id.* at 14. Patent Owner contends that "[t]he technologies shown by [Ivey], [Matsumoto], and [Tillotson] do not recognize parking status overlay upon a real time video image," and "[i]n overlooking the parking status overlay upon a real time video image, the obviousness rejection using three combined references slips into hindsight." *Id.* (citing *Leo Pharma. Prods., Ltd. v. Rea*, 726 F.3d 1346 (Fed. Cir. 2013)).

Petitioner denies that it "overlook[ed] the parking status overlay upon a real time video image." Pet. Reply 15. According to Petitioner, "[t]he petition clearly argues and shows that Ivey teaches overlaying payment status on an image of a parking space," that "Matsumoto teaches the use of a real-time video image of parking spaces in a parking monitoring system,"

and that “it would have been obvious to a POSITA to combine Matsumoto with Ivey to yield a parking system that included a payment overlay on top of a real-time video image of a parking space.” *Id.*

We are not persuaded that Petitioner’s analysis “slips into hindsight.” We must, of course, be aware “of the distortion caused by hindsight bias and must be cautious of arguments reliant upon *ex post* reasoning.” *KSR*, 550 U.S. at 421 (citing *Graham v. John Deere Co.*, 383 U.S. 1, 36 (1966) (warning against a “temptation to read into the prior art the teachings of the invention in issue”)). But so long as Petitioner’s analysis “takes into account only knowledge which was within the level of ordinary skill [in the art] at the time the claimed invention was made and does not include knowledge gleaned only from applicant’s disclosure,” the analysis is not biased by hindsight. *In re McLaughlin* 443 F.2d 1392, 1395 (CCPA 1971). Here, Petitioner’s analysis relies only on the teachings of the cited references; Patent Owner has not pointed us to teachings obtained only from the disclosure of the ’421 patent. Nor are we aware of Petitioner relying on any of the ’421 patent’s teachings in its analysis.¹³

e. Improving Efficiency May be a Sufficient Reason to Combine References

Patent Owner raises several issues with Petitioner’s stated efficiency-based reasons why one of ordinary skill in the art would have combined Ivey, Matsumoto, and Tillotson. Patent Owner understands “efficiency” to

¹³ Patent Owner suggests that because Ivey was disclosed to the Examiner during prosecution of the ’421 patent, Ivey itself is “information gleaned only from the Applicant’s disclosure.” PO Resp. 10. This is incorrect. Petitioner cites to Ivey, not to any portion of the ’421 patent’s disclosure (including its description of Ivey), in its analysis. Pet. 23–52.

mean “the ratio of useful output to the total input to a system,” or “as acting effectively with a minimum of unnecessary effort,” and acknowledges that “efficiency is an implied goal of nearly every invention, . . . as who would seek to patent an inefficient invention.” PO Resp. 15. But Patent Owner contends that “the map of [Ivey], the fixed camera of [Matsumoto], and the counters of [Tillotson] as older technology do not show the hallmarks of efficiency, that is, more production from less work than the present invention.” Patent Owner further contends that Petitioner’s “assertion of [Ivey], [Matsumoto], and [Tillotson] as being efficient lacks explanation” *Id.*

Petitioner responds that “efficiency concerns have long been recognized as a valid motivation for combining references in an obviousness analysis.” Pet. Reply 17 (citing *Intel Corp. v. Qualcomm, Inc.*, 21 F.4th 784, 797 (Fed. Cir. 2021)). Petitioner contends that its Declarant, Dr. Paradiso, “cogently explained why efficiency concerns would have motivated a POSITA to make the combinations in Grounds 1-4.” *Id.* at 18. In contrast, according to Petitioner, “Patent Owner’s position is based entirely on attorney argument.” *Id.*

Patent Owner argues that “the map of [Ivey], the fixed camera of [Matsumoto], and the counters of [Tillotson] as older technology do not show the hallmarks of efficiency.” PO Resp. 15. But the point is not whether any of Ivey, Matsumoto, and Tillotson is individually “efficient,” but rather whether one of ordinary skill in the art, motivated by efficiency, would have considered the combination of these references to result in a more efficient system. As noted above, Patent Owner does not appear to dispute Dr. Paradiso’s testimony in this regard. We also disagree that

Petitioner’s assertion why the combination improves efficiency “lacks explanation.” Petitioner and Dr. Paradiso do explain why efficiency concerns would have motivated one of ordinary skill in the art to combine the references. See Pet. 47–48 (citing Ex. 1003 ¶¶ 264–291). Patent Owner does not substantively respond to this explanation.

f. Summary as to Claim 1

As discussed above, we find that all the elements of claim 1 are taught or suggested by the combination of Ivey, Matsumoto, and Tillotson; that one of ordinary skill in the art would have had reason to combine Ivey with Matsumoto and Tillotson; and that one of ordinary skill in the art would have had a reasonable expectation of success in carrying out the combination. Accordingly, we determine that claim 1 would have been obvious over Ivey, Matsumoto, and Tillotson.

6. *Independent Claim 5*

As noted above, independent claim 5 is substantially the same as independent claim 1, and additionally recites:

(1) in the “assembling [the parking space] database” step (step [5.A]), “storing said parking space database upon a computer server”;

(2) in the “updating a [subscriber/parking space] database” step (step [5.B]), “storing said subscriber database upon a computer server, and further including enrolling each of said subscribers into a membership plan for parking payment”; and

(3) performing the “determining” step (step [5.D]) and the “comparing” step (step [5.E]) “upon a computer *server*” as opposed to “upon a computer.” Ex. 1001, claim 5.

In addition to referring to its contentions that the combination of Ivey, Matsumoto, and Tillotson teach or suggest all of the limitations of claim 1, Petitioner contends that:

(1) “[b]oth Ivey and Tillotson disclose the ‘storing’ requirement” of step [5.A]. Pet. 42 (citing Ex. 1005 ¶¶ 32, 37; Ex. 1011 ¶¶ 23, 65; Ex. 1003 ¶¶ 234–240);

(2) Ivey and Tillotson both teach the additional “storing” and “enrolling” requirements of step [5.B]. Pet. 43–44 (citing Ex. 1005 ¶ 32; Ex. 1011 ¶¶ 23, 26, 65; Ex. 1003 ¶¶ 243–250); and

(3) Ivey’s server performs the determining step of [5.D] and the comparing step of [5.E]. Pet. 44–45 (citing Ex. 1005 ¶¶ 30–31, 37; Ex. 1003 ¶¶ 252–257).

As with claim 1, Patent Owner does not expressly dispute any of the above contentions, or separately argue the patentability of claim 5. Further, we have reviewed the record and determine that Petitioner’s contentions are supported by a preponderance of the evidence. Accordingly, we adopt Petitioner’s undisputed contentions as our findings of fact. As we have determined that one of ordinary skill in the art would have had reason to combine the references, and would have had a reasonable expectation of success in making the combination, we determine that claim 5 would have been obvious over Ivey, Matsumoto, and Tillotson.

7. Dependent Claims 2, 3, and 6

Claim 2 depends from claim 1 and further recites: “opening an account for each of said subscribers wherein said account permits each of said subscribers to reserve at least one of said plurality of parking spaces and permits each of said subscribers to pay for at least one of said plurality of

parking spaces utilizing means of electronic payment.” Ex. 1001, claim 2. Claim 3 depends from claim 1 and additionally recites: “said indicia of UNPAID overlaying upon said user’s screen one of the work UNPAID, a colored logo, a circle with a bar, and a letter X.” *Id.* at claim 3. Claim 6 depends from claim 5 and includes the same additional limitation as does claim 3. *Id.* at claim 6.

Petitioner contends that: (1) the combination of Ivey and Tillotson teaches or suggests the additional limitation of claim 2 (Pet. 37–39 (citing Ex. 1005 ¶¶ 31, 32; Ex. 1011 ¶¶ 23, 29, 65; Ex. 1003 ¶¶ 207–218)); and (2) the combination of Ivey and Matsumoto teaches or suggests the additional limitation of claims 3 and 6 (Pet. 39–41, 46–47 (citing Ex. 1005 ¶ 6, Fig. 3; Ex. 1007 ¶¶ 62, 65, Fig. 8; Ex. 1003 ¶¶ 220–231)). Patent Owner does not dispute these contentions, or otherwise separately argue the patentability of these claims. We accept the above undisputed contentions as our findings. In light of these findings and our determination above that one of ordinary skill in the art would have had reason to combine Ivey, Matsumoto, and Tillotson, and would have had a reasonable expectation of success, we determine that claims 2, 3, and 6 would have been obvious over Ivey, Matsumoto, and Tillotson.

E. Ground 2: Claims 4 and 7—Ivey, Matsumoto, Tillotson, and Slemmer

Claim 4 depends from claim 1 and additionally recites “said indicia of UNPAID including an audible recitation.” Ex. 1001, claim 4. Claim 7 depends from claim 5 and additionally recites “wherein said indicia of UNPAID includes an audible signal transmitted from a computer server to the user’s portable electronic device.” *Id.*, claim 7. Petitioner alleges that

claims 4 and 7 would have been obvious over Ivey, Matsumoto, Tillotson, and Slemmer. Pet. 9, 49–52.¹⁴

Slemmer “relates to intelligent parking lot systems and methods of operating same.” Ex. 1010 ¶ 2. Slemmer detects available parking spaces in a lot by using object detectors located at each space; the available-space locations are provided to users by “visually relaying an illustration of the locations on a map or grid of the parking lot,” or “by generating a text message of one or more available parking spaces to prospective parking lot customers.” *Id.* ¶ 33. Available parking space locations also “can be audibly provided using an automated voice translation system that converts digital space data to a verbal message that can be transmitted over predetermined broadcast systems such as radiochannel(s) thereby directing the driver of a vehicle to a lot and/or open space as they arrive in the vicinity of the parking lot.” *Id.* ¶ 40.

Petitioner relies on the combination of Ivey, Matsumoto, and Tillotson to teach all of the limitations of independent claims 1 and 5, as discussed above. Pet. 50. Petitioner contends that Slemmer teaches or suggests the additional audible-recitation limitations of claims 4 and 7 because “Slemmer discloses the concept of converting digital data about a parking space into an audible recitation of parking space information and transmitting that data from a server to the user’s portable device.” *Id.* (citing Ex. 1010 ¶ 40). Petitioner contends that it would have been obvious to one of ordinary skill in the art to convert Ivey’s visual UNPAID indicia into a verbal message, as Slemmer teaches, because the combination “would have been advantageous

¹⁴ We find (and Patent Owner does not dispute) that Slemmer is prior art under 35 U.S.C. § 102(a)(1). *See* Ex. 1010, code (43).

for efficiency and ease of use.” *Id.* at 51 (citing Ex. 1003 ¶ 311). In support of this contention, Dr. Paradiso testifies that:

For example, with an audible signal, a parking enforcement officer would be able to identify, move to, and issue citations for unpaid and/or delinquent parking spaces more efficiently. A parking enforcement officer would be able to be quickly notified of a potential parking citation without individually checking each parking meter. Additionally, the officer would be able to identify unpaid parking spaces without having to take his eyes off the road, when the officer is patrolling a parking area in a vehicle.

Ex. 1003 ¶ 311.

Patent Owner does not address Petitioner’s contentions that Slemmer teaches the additional limitations of claims 4 and 7. We find that Petitioner’s contentions in this regard are supported by a preponderance of the evidence.

Patent Owner repeats its argument that none of Ivey, Matsumoto, or Tillotson is analogous art to the claimed invention. PO Resp. 16–17. For the reasons discussed above in connection with Ground 1, we disagree. Patent Owner further argues that Slemmer is non-analogous art. *Id.* at 18–19. Patent Owner characterizes Slemmer as teaching deploying object detectors in parking spaces displayed in a grid, which is non-analogous because it “does not suggest usage of a real time image with overlaid parking space status in the street side parking management field.” *Id.* Petitioner responds that Slemmer is within the same field of endeavor as the ’421 patent, i.e., parking management systems. Pet. Reply 5.

As discussed above in connection with Ground 1, we determine that the ’421 patent’s field of endeavor is the field of parking-management systems, including, *inter alia*, displaying available parking spaces to

motorists. *See* sec. II.D.4.b., *supra*. Slemmer falls within this field. Slemmer “relates to intelligent parking lot systems and methods,” and specifically teaches systems that “provide space-specific location data to potential users to facilitate efficient utilization of parking lots.” Ex. 1010 ¶ 6. Identified available spaces are “automatically provided to prospective users” by “relaying an illustration of the locations on a map or grid of the parking lot,” “generating a text message of one or more available parking spaces,” or provided “audibly” by “using an automated voice translation system that converts digital space data to a verbal message.” *Id.* ¶¶ 33, 40. That Slemmer identifies available spaces using object detectors to detect whether or not a car is parking in a particular space, as Patent Owner points out, does not justify narrowing Slemmer’s field to only parking-management systems with that feature. *See Unwired Planet*, 841 F.3d at 1001 (“The field of endeavor of a patent is not limited to the specific point of novelty, the narrowest possible conception of the field, or the particular focus within a given field.”).

Patent Owner also repeats the teaching-away, hindsight, and efficiency arguments discussed above in connection with Ground 1. For example, Patent Owner argues that Slemmer’s use of detectors “undermine[s] the very reason why one of ordinary skill would have combined the known elements.” PO Resp. 20 (citing *DePuy Spine*, 567 F.3d at 1327). We are not persuaded that Slemmer teaches away from its combination with Ivey, Matsumoto, and Tillotson, however, because Patent Owner has not pointed us to any teaching in Slemmer that criticizes, discredits, or discourages exploring the combination. We determine that

Patent Owner's remaining arguments are unpersuasive for the same reasons discussed above in connection with Ground 1.

*F. Ground 3: Claims 1–3, 5, and 6
— Ward, Haynes, and Tillotson*

Petitioner contends that claims 1–3, 5, and 6 would have been obvious over Ward, Haynes, and Tillotson. Pet. 52–73.¹⁵ Patent Owner opposes. PO Resp. 23–30.

1. Ward (Ex. 1008)

Ward describes a parking-payment system in which a customer can pay for a parking space using a mobile phone. Ex. 1008 ¶ 7. When a customer parks a vehicle in a parking space associated with Ward's system, the customer transmits a parking-space identifier to the telecommunications provider servicing the customer's mobile phone. *Id.* ¶ 20. The telecommunications provider communicates with a parking meter management system to charge the customer for the parking space and record in a database that the fee has been paid. *Id.* ¶¶ 20, 33, 42. A municipality (e.g., city, county, airport) that receives fees from parking meters can access the meter management system's database records for parking fee enforcement purposes. *Id.* ¶¶ 43–44. For example, the municipality may be able to use the records to display a graphical depiction of the parking meters for which a fee has been paid, and the meters for which a fee has not currently been paid. *Id.* ¶ 44. The display may include a map of the streets, garages, or other locations where the parking meters are located. *Id.* A user

¹⁵ We find (and Patent Owner does not dispute) that Ward and Haynes are prior art references under 35 U.S.C. § 102(a)(1). *See* Ex. 1008, code (43); Ex. 1009, code (43).

may be able to zoom in on the streets on the map and view an indicator associated with each meter showing whether or not a fee has been paid to use the parking space. *Id.* Figures 3a and 3b of Ward depict such a display, and are reproduced below:

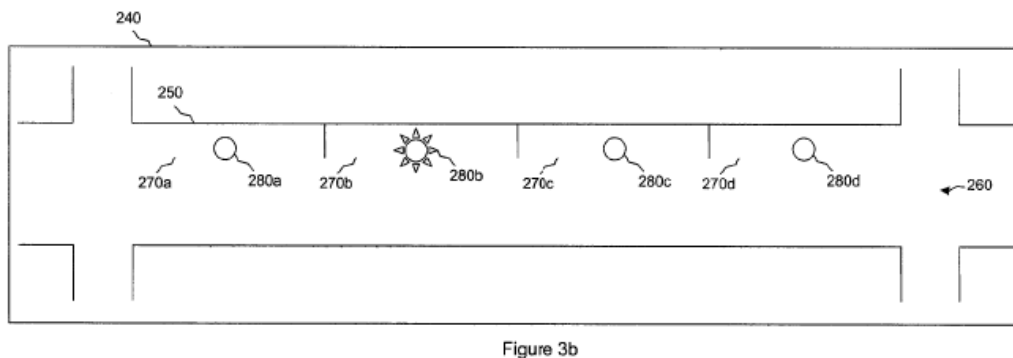
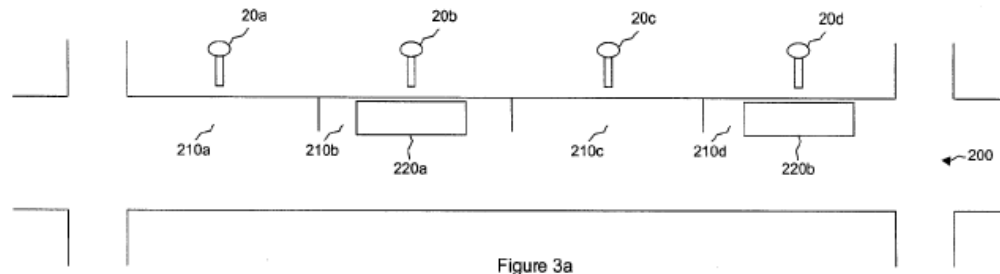


Figure 3a depicts a physical street section that is represented virtually in Figure 3b. *Id.* ¶¶ 45–46. In Figure 3a, several parking meters 20a–d, each associated with parking spaces 210a–d, respectively, are located along street 200. *Id.* ¶ 45. First vehicle 220a is parking in second parking space 210b and second vehicle 220b is parking in fourth parking space 210d. *Id.* In the illustrated example, a fee has been paid for second parking meter 20b but not for fourth parking meter 20d. *Id.*

Figure 3b depicts display screen 240 that appears on a municipality computer accessing the meter management system’s parking database. Ex. 1008 ¶ 46. Screen 240 shows map 250 representing street 200 as virtual street 260 and parking spaces 210a–d as virtual parking spaces 270a–d. *Id.*

Indicators 280a–d associated with each of virtual spaces 270a–d graphically depict the payment status of each space. *Id.* Indicators 280 “might be lights that are illuminated when a fee has been paid and that are not illuminated when a fee has not been paid, lights that are a first color when a fee has been paid and a second color when a fee has not been paid,” etc. *Id.*

A parking enforcement officer walking along street 210 can access this display using a laptop or other portable device and determine from the indicators which spaces are paid for. Ex. 1008 ¶¶ 47, 49. In the example depicted in Figure 3b, indicator 280b is illuminated and the other indicators are not. *Id.* ¶ 47. The officer can then observe actual parking spaces 210, and notice that second parking space 210b and fourth parking space 210d are occupied whereas first parking space 210a and third parking space 210c are unoccupied. *Id.* ¶ 48. “When a comparison is made between the parking spaces 210 for which a fee has been paid and the parking spaces 210 that are occupied, it will be observed that the second vehicle 220b is occupying the fourth parking space 210d without having paid a sufficient fee.” *Id.*

Ward also teaches a system in which a customer may prepay for a parking space for a certain period of time, the system “updat[ing] its records to indicate that a fee for the parking space has been paid.” Ex. 1008 ¶ 39. The records may also be used “in parking fee enforcement efforts.” *Id.* The system may notify the customer, via the customer’s mobile phone, “when the meter expires or is about to expire and allow the user to pay for additional parking time.” *Id.* ¶ 38.

2. Haynes (Ex. 1009)

Haynes teaches a method “for managing a parking lot” that “includes receiving parking lot data[,] . . . transforming the parking lot data into

parking lot information and transmitting the parking lot information to an interaction device.” Ex. 1009, 2:6–10. Figure 1 depicts a parking lot implementing Haynes’ method, and is reproduced below:

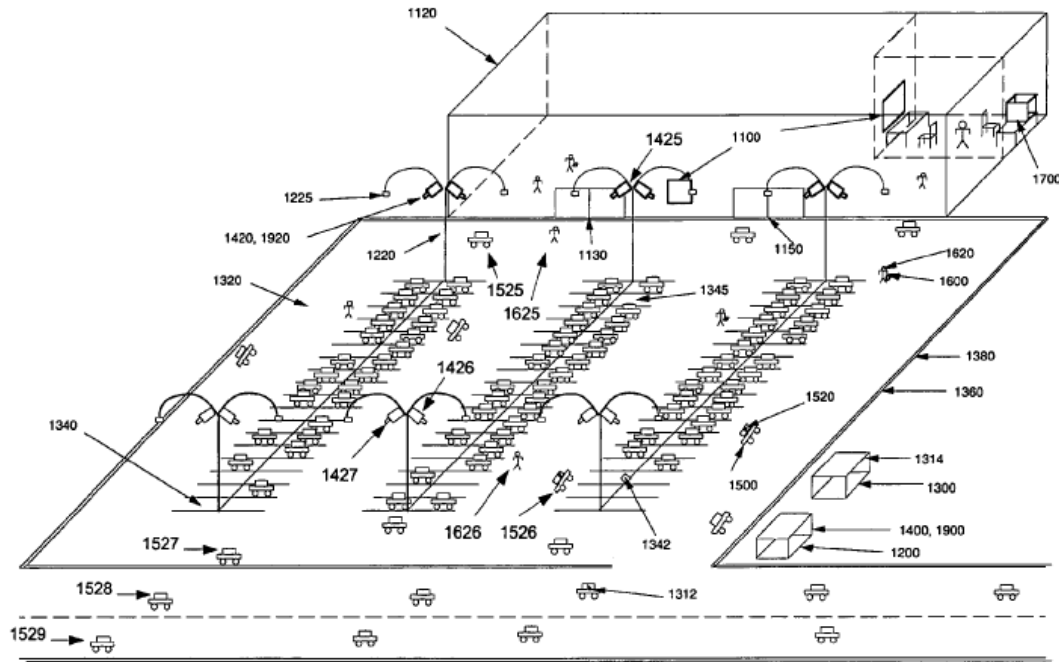


Fig. 1

Figure 1 of Haynes depicts parking lot 1320 comprising parking spaces 1340, some of which are empty and some of which are occupied by vehicles 1520. *Id.* at 3:66–4:8, 4:33–34. Video input devices 1420 (e.g., video cameras) are placed at various places throughout the parking lot. *Id.* at 2:21–23. Vehicles 1520 can subscribe to the system to receive parking lot data based on the video images to determine if spaces are available. *Id.* at 4:50–58. Subscribers can also reserve an available space. *Id.* Haynes’ system can enforce reservations and charge vehicle 1520 a parking fee. *Id.* at 5:12–24.

Video data obtaining from video cameras 1420 is processed to identify objects such as vehicles and empty parking spaces, and symbols

representing these objects are placed “on a symbolic or actual representation of the parking lot.” Ex. 1009, 11:49–56; *see id.* at 13:33–43 (“system interaction device 1700 can transmit the location of optimal parking space 1345 to vehicle 1520 via vehicle interaction device 1500 and/or personal interaction device 1600,” and can display the space “on a representation of parking lot 1320, which can be actual, symbolic, or a combination thereof. . . . If actual, the representation can be enhanced.”).

3. *Ward and Haynes are Analogous Prior-Art References*

Patent Owner argues that Ward and Haynes are not analogous art. PO Resp. 23–26. Patent Owner characterizes Ward as “connect[ing] with parking meters,” and “ha[ving] its customer transmit a meter number to a cell phone company for billing,” whereas the ’421 patent “does not utilize parking meters,” and “does not have its customer[s] transmit meter numbers.” *Id.* at 23–24. Patent Owner describes Haynes as “ha[ving] in its method a camera, or video device” that is “mounted . . . upon a pole” such that it “surveys an entire lot” and is in “a fixed position at a fixed elevation.” *Id.* at 24. In contrast, according to Patent Owner, “the ’421 patent receives imagery from a mobile device camera held by an officer at his height,” and thus is “far from fixed.” *Id.* Patent Owner also characterizes Haynes as “claim[ing] overlapping ‘moving’ lot objects.” *Id.* (citing, e.g., Ex. 1009, claim 1). According to Patent Owner, “parking meter reliance [and] objects of a lot . . . are non-analogous art that does not suggest usage of a real time image with overlaid parking space status in the street side parking management field.” *Id.* at 25.

Petitioner responds that Ward is in the same field of endeavor as the ’421 patent because “Ward relates to a parking information system that

includes an enforcement device.” Pet. Reply 7 (citing Ex. 1003 ¶ 98). Petitioner further contends that Haynes is in the same field of endeavor because “Haynes relates to a system for displaying dynamic parking space information in real-time.” *Id.* (citing Ex. 1003 ¶ 104).

We determined above that the field of endeavor of the ’421 patent is the field of parking-management systems, which encompasses, e.g., electronic display of parking status, parking-space payment systems and methods, systems and methods for enforcing parking payment and time-limit requirements, capturing and using camera images, motorist subscription services, and the display of available parking spaces to motorists. *See* section II.D.4.b, *supra*. Both Ward and Haynes are in this field of endeavor. Ward teaches a parking management system that provides a way for customers to pay for parking spaces remotely (e.g., by mobile phone), as well as providing a way for parking enforcement officers to enforce payment requirements. Ex. 1008 ¶¶ 20, 38, 43–49, Figs. 3a–b. Haynes teaches a method “for managing a parking lot” that comprises displaying symbols representing empty parking spaces in a parking lot on, e.g., an actual image of the lot taken by a video camera. Ex. 1009, 2:6–10, 11:49–56. As for the differences between Ward and Haynes that Patent Owner identifies,¹⁶ for reasons discussed above in connection with Ground 1, they are insufficient to establish that Ward and Haynes are outside of the ’421 patent’s field of endeavor.

¹⁶ We assume without deciding that Patent Owner’s characterizations of Ward and Haynes are accurate.

4. *Independent Claim 1*

- a. Petitioner has Shown by a Preponderance of the Evidence that Ward, Haynes, and Tillotson, Individually or in Combination, Teach or Suggest all of the Limitations of Claim 1

Petitioner contends that Ward, Haynes, and Tillotson, either individually or combined, teach or suggest all of the limitations of independent claim 1. Pet. 52–63. Petitioner specifically asserts that:

(1) “[t]o the extent that the preamble is limiting, Ward in view of Haynes teaches the preamble, as does Ward in view of Haynes and Tillotson.” Pet. 53–54 (citing Ex. 1008 ¶¶ 20, 34, 35, 39, 44, 46, 47, 49, 57; Ex. 1011 ¶¶ 23, 65; Ex. 1003 ¶¶ 322–327);

(2) Ward teaches limitations [1.A], [1.B.],¹⁷ [1.C], [1.E], [1.F], and [1.G]. Pet. 54–62 (citing Ex. 1008 ¶¶ 31, 32–34, 38, 42, 44–47, 49, 51, 57, 59, 60, Figs. 2c–d, 3b; Ex. 1003 ¶¶ 329–344);

(3) Ward teaches or suggests limitation [1.D]. Pet. 57–58 (citing Ex. 1008 ¶¶ 49, 59; Ex. 1003 ¶¶ 334–337); and

(4) the combination of Ward and Haynes teaches limitation [1.H]. Pet. 62–63 (citing Ex. 1008 ¶¶ 32, 44, 47, 49, 57; Ex. 1009 2:6–10, 12:62–13:8, 13:32–43; Ex. 1003 ¶¶ 351–352).

As with Ground 1, Patent Owner does not expressly dispute any of the above contentions regarding the prior-art references teaching or suggesting, individually or combined, all of the limitations of claim 1. Further, we have reviewed the record, including Dr. Paradiso’s testimony, and determine that

¹⁷ Petitioner also contends that Ward in view of Tillotson teaches limitation [1.B]. Pet. 56–57 (citing Ex. 1011 Abstr., ¶¶ 23, 59, 65).

Petitioner's contentions are supported by a preponderance of the evidence. Accordingly, we adopt Petitioner's undisputed contentions as our findings of fact.

- b. Petitioner has Established by a Preponderance of the Evidence that One of Ordinary Skill in the Art Would have had a Reason to Combine Ivey, Matsumoto, and Tillotson, and that the Skilled Artisan Would have had a Reasonable Expectation of Success

Petitioner contends that one of ordinary skill in the art would have “adapt[ed] Ward to include payment status information on a real-time camera view in light of Haynes’ teachings” because doing so “would more efficiently streamline parking enforcement” and “would make the parking management system more efficient.” Pet. 71–72 (citing Ex. 1003 ¶¶ 374–375). Petitioner further contends that one of ordinary skill in the art “would have [] had a high expectation of success in adapting Ward in view of Haynes’ real-time camera view and Tillotson’s reservation and subscription systems.” *Id.* at 72.

Patent Owner does not expressly dispute these contentions. Patent Owner does, however, raise arguments similar to those raised in connection with Ground 1; i.e., that the prior art teaches away from the proposed combination (PO Resp. 26–27); that the proposed combination is based on hindsight (*id.* at 27–28); and that Petitioner’s reason to combine the references is deficient (*id.* at 29–30).

Patent Owner argues that Ward and Haynes teach away from the proposed combination because Ward “ha[s] its customer transmit a meter number to a cell phone company for billing” and “call the cell phone

company upon exiting a parking space,” and Haynes “surveys an entire lot . . . while determining optimal parking spaces for a motorist afoot.” PO Resp. 26. Thus, according to Patent Owner, “[t]he prior art . . . mentions lots [and] meters, . . . while the ’421 patent does not use those additional devices.” *Id.* at 27. Patent Owner asserts that “[b]y referring to those additional devices, the prior art teaches away from the invention of the ’421 patent and thus a coder reading these patents would deduce additional devices are part of parking systems.” *Id.* Patent Owner also contends that “the prior art focuses on parking lots or compact, contiguous defined polygonal areas,” whereas “[t]he ’421 patent focuses on strips of spaces along active traffic and dispersed around a city, far from compact contiguous areas,” and “has application in time dependent uses, such as for example ‘no parking on street 3rd Tuesday for sweeping’ as such streets usually have no meters.” *Id.*

We are not persuaded that Ward and Haynes teach away from the claimed invention. As an initial matter, and as discussed above, the claims of the ’421 patent are not limited to parking spaces located along a street. More importantly, Patent Owner has not identified, and we are not aware of, any teachings in Ward or Haynes that criticizes or discourages the proposed combination. *See Fulton*, 391 F.3d at 1201 (holding that a reference does not teach away from the claimed subject matter unless the reference also criticizes, discredits, or otherwise discourages the solution claimed). Patent Owner identifies certain differences between the references and the ’421 patent, but the identified differences fail to show teaching away from the combination. *See In re Beattie*, 974 F.2d 1309, 1312–13 (Fed. Cir. 1992).

Patent Owner also relies on the differences it identifies between the Ward and Haynes references (i.e., Ward’s parking meters and Haynes’ “overlapping ‘moving’ objects upon a lot”) and the ’421 patent to argue that Petitioner’s reason to combine is based on hindsight. PO Resp. 27–28. For reasons discussed above in connection with Ground 1, we find this argument unpersuasive. We also find unpersuasive, for reasons discussed above, Patent Owner’s argument that “efficiency” is an insufficient reason to combine the references.

c. Summary as to Claim 1

For the above reasons we determine that claim 1 would have been obvious over Ward, Haynes, and Tillotson.

5. *Independent Claim 5*

Petitioner refers to its contentions regarding claim 1 and additionally contends that: (1) each of Ward and Tillotson teaches the “storing” requirement of step [5.A] (Pet. 67 (citing Ex. 1008 ¶ 67, claim 24; Ex. 1011 ¶ 23; Ex. 1003 ¶ 363)); (2) each of Ward and Tillotson teaches the “storing” and “enrolling” requirements of step [5.B] (Pet. 68 (citing Ex. 1008 ¶ 67; Ex. 1003 ¶ 364)); and (3) Ward teaches or suggests performing the “determining” step of [5.D] and the “comparing” step of [5.E] on a computer server (Pet. 68–69 (citing Ex. 1003 ¶¶ 366–367)).

Patent Owner does not dispute any of these contentions, or otherwise separately argue the patentability of claim 5. Accordingly, we adopt Petitioner’s undisputed contentions as our findings of fact. As we have determined that one of ordinary skill in the art would have had reason to combine the references and would have had a reasonable expectation of

success in making the combination, we determine that claim 5 would have been obvious over Ward, Haynes, and Tillotson.

6. *Claims 2, 3, and 6*

Petitioner contends that: (1) the combination of Ward and Tillotson teaches the additional limitation of claim 2 (Pet. 63–65 (citing Ex. 1008 ¶¶ 8–9, 19–21, 30; Ex. 1011 ¶¶ 23, 29, 65; Ex. 1003 ¶¶ 356–357)); and (2) Ward teaches the additional limitations of claims 3 and 6 (Pet. 65–66 (citing Ex. 1008 ¶ 46; Ex. 1003 ¶¶ 359–360)). Patent Owner does not dispute any of these contentions, or otherwise separately argue the patentability of these claims. We accept the above undisputed contentions as our findings. In light of these findings and our determination above that one of ordinary skill in the art would have had reason to combine Ward, Haynes, and Tillotson and would have had a reasonable expectation of success in combining the references, we determine that claims 2, 3, and 6 would have been obvious over Ward, Haynes, and Tillotson.

G. *Ground 4: Claims 4 and 7—Ward, Haynes, Tillotson, and Slemmer*

Petitioner contends that Ward, Haynes, and Tillotson teach or suggest all of the limitations of independent claims 1 and 5, and, as with Ground 2, that Slemmer teaches the additional limitations of claims 4 and 7. Pet. 73–74. Also as with Ground 2, Petitioner contends that one of ordinary skill in the art would have converted Ward’s visual “unpaid” indicia into a verbal message, as taught by Slemmer. *Id.* at 74 (citing Ex. 1003 ¶¶ 381–382). In response, Patent Owner makes the same arguments made in connection with Grounds 2 and 3, which we found unpersuasive. PO Resp. 30–36.

Therefore, for the reasons discussed above, we determine that claims 4 and 7 would have been obvious over Ward, Haynes, Tillotson, and Slemmer.

III. CONCLUSION¹⁸

For the foregoing reasons, we determine that Petitioner has established by a preponderance of the evidence that claims 1–7 of the '421 patent are unpatentable.

Claim(s)	35 U.S.C. §	Reference(s)/Basis	Claim(s) Shown Unpatentable	Claim(s) Not shown Unpatentable
1–3, 5, 6	103	Ivey, Matsumoto, Tillotson	1–3, 5, 6	
4, 7	103	Ivey, Matsumoto, Tillotson, Slemmer	4, 7	
1–3, 5, 6	103	Ward, Haynes, Tillotson	1–3, 5, 6	
4, 7	103	Ward, Haynes, Tillotson, Slemmer	4, 7	
Overall Outcome			1–7	

¹⁸ 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).

IV. ORDER

For the reasons given, it is

ORDERED that Petitioner has proven by a preponderance of the evidence that claims 1–7 of the '421 patent are unpatentable; and

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

IPR2023-00385
Patent 10,438,421 B2

PETITIONER:

K Patrick Herman
Gerald Porter
ORRICK, HERRINGTON & SUTCLIFFE LLP
PTABDocketG1P6@orrick.com
Oracle_Parking_WW_OHS@orrick.com

PATENT OWNER:

Charles McCloskey
CHARLES C. MCCLOSKEY, LLC
chuck@mccloskeypatentlaw.com