

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

PATENT OWNER'S RESPONSE

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LISTING OF EXHIBITS

Ex. No.	Description
2009	Cover page and one page of Army Training Circular

I. INTRODUCTION

The Parking Status System of the Patent Owner's patent has software upon a portable electronic device that integrates position, direction, view ahead, and parking meter status into a common visual image updated in real time. The system utilizes images of street scenes and adjacent buildings to establish a position of the device usually held by a parking control officer. The system then overlays real time images of vehicles in relation to the position. The system near that position then displays a flag above each vehicle in a parking area near the position as shown in the image. The flag indicates if a vehicle has or has not paid for parking or if the meter has a maintenance issue. The system also supports a submodule where motorists subscribe and deposit funds for parking. The system then tracks a subscriber and then debits the subscriber's account for the time the subscriber parks a vehicle in a parking area utilizing this invention. The system updates its image and flag in real time as a parking officer patrols an assigned beat. The present invention collects information from a subscriber's portable electronic device and routes it to a parking authority server via the Internet and communication networks. The system utilizes GPS technology to match the street scene, parking officer position, and vehicle positions upon a visual image, Oracle Ex. 1002 p. 16.

The Patent Owner argues against the Grounds of the Petition because the printed publications to Ivey '037, the Slemmer '566, Tillotson '278, Ward '675 and patent to Haynes '166, and the Matsumoto '835 foreign reference, appeared as non-analogous art, described unrelated concepts from the Patent Owner's patent, and the references and the foreign reference do not describe their combined efficiencies as better than the Patent Owner's patent '421. Thus, the Board's confirmation of the patentability of all of the challenged claims of the Patent Owner's U.S. Pat. No. 10,438,421 and denial of the Grounds of the Petition for Inter Partes Review of the Patent Owner's U.S. Pat. No. 10,438,421 patent is requested.

II. BACKGROUND TO THE '421 CLAIMED INVENTION

A. The Bashani '421 Claimed Invention is the Subject of this IPR proceeding.

Patent Owner's '421 patent resulted from the inventor's research and development related to management of parking systems.

B. The Bashani '421 Patent Claims.

The Bashani '421 patent has seven claims including two independent claims and five depending claims.

Independent Claim 1 is directed to overlaying the parking status of a plurality of parking spaces upon a screen of a user's portable electronic device over

a real time camera view provided by that electronic device. Claim 1 utilizes these steps: 1) assembling a database upon a computer of said plurality of parking spaces; 2) updating a database upon a computer of subscribers; 3) calculating a location of the user of the electronic device; 4) determining upon a computer a location of one parking space; 5) comparing upon a computer the location of that parking space with the database of subscribers; 6) upon detecting a match between that location and a list of parking spaces paid for by a subscriber, comparing the matched parking space to a list of expiration times; and 7) upon finding a vehicle in that parking spot after the expiration time, placing an indicia of UNPAID upon an image of the parking space upon the real time camera view on the screen of a user's electronic device, Oracle Ex. 1001 at claim 1. Claim 2 has a step of opening an account for a subscriber, claim 3 has a list of items to indicate UNPAID status, and claim 4 includes an audible form for UNPAID status. Claims 2-4 depend from claim 1.

Independent Claim 5 is directed to overlaying the parking status of a plurality of parking spaces upon a screen of a user's portable electronic device over a real time camera view provided by that electronic device, show the status of a parking space as PAID for current payment or UNPAID upon exhaustion of payment, allow a subscriber to reserve a parking space, and then to pay for leasing that parking space. Claim 5 utilizes these steps: 1) assembling a database upon a

computer server of the parking spaces; 2) updating a database upon a computer server of subscribers and a membership plan to pay for parking; 3) calculating a location of the user of the electronic device; 4) determining upon a computer server a location of one parking space; 5) comparing upon a computer server the location of that parking space with the database of subscribers for possible enforcement action upon detection of UNPAID status and 6) upon finding a vehicle in that parking spot after the expiration time, placing an indicia of UNPAID upon an image of the parking space upon the real time camera view on the screen of a user's electronic device, Oracle Ex. 1001 at claim 5. Claim 6 lists items to indicate UNPAID status, and claim 7 includes an audible signal for UNPAID status. Claims 6-7 depend from claim 5.

C. Summary of the Prosecution History

The Petitioner provided a history of the claims of the Patent Owner's '421 patent, Petition p. 14 [IV. E.]. The Patent Owner asserts that that is a truncated history as this patent claims priority to earlier applications, as shown in the Application Data Sheet, Oracle Ex. 1002 p. 67.

The Patent Owner's '421 patent began as a provisional application for patent with application serial number 61/386,645 filed on 09/27/2010, Id., see PWW Ex. 2001. The Patent Owner notes that the text of the provisional application for patent mentioned Ivey '037, Id at p. 4.

As the provisional application neared its end the inventor commissioned a non-provisional application for patent with application serial 13/245,385 and filing date of 09/26/2011, Application Data Sheet, Oracle Ex. 1002 p. 67, see PWW Ex. 2002. The Patent Owner notes that the text of the non-provisional application for patent mentioned Ivey '037, Id at p. 5. After two amendments to that application and facing the prior patent documents of Fraier, Belani, Brown, and Huckle, attorney for Patent Owner filed a Request for Continued Examination as an amendment. That application then had a fourth amendment filed without success.

As the non-provisional application encountered a tough Examiner, the Inventor commissioned a continuation in part application for patent with application serial 14/562149 and filing date of 12/05/2014, Official Filing Receipt, Oracle Ex. 1002 p. 60. The Patent Owner notes that the text of the continuation in part application for patent mentioned Ivey '037, Id at p. 14. The continuation in part application included a Cross Reference to Related Application section and a Declaration with a priority claim. On behalf of the Applicant, attorney for Patent Owner received a Filing Receipt, noting a new Application Data Sheet, or "2015 ADS." The Office acknowledged receipt of the Response and the 2015 ADS but sent no further communication until the Publication Notice of 06/2016. Attorney for Patent Owner filed a Petition to Accept an Unintentionally Delayed Claim to Priority to maintain the priority back to the provisional application of Patent

Owner's Ex. 2002. The petition was eventually granted. This application

14/562149 became the Inventor's U.S. Pat. No. 10,438,421 that was subsequently assigned to the Patent Owner in this Proceeding, see assignment abstract, Patent Owner's Ex. 2003.

III. PERSON OF ORDINARY SKILL IN THE ART "POSITA"

Patent Owner concurs with the Board in adopting Petitioner's definition of a POSITA for this proceeding, Institution Decision, 9.

IV. CLAIM CONSTRUCTION

Patent Owner also concurs with the Board in using the claim construction of a civil action, Institution Decision, 9, 37 C.F.R. §42.100(b). The Patent Owner reserves the right to use the Specification of the '421 Patent to define claim terms, see *In re Paulsen*, 30 F. 3d 1475, 1480 (Fed. Cir. 1994).

V. PETITIONER'S PRIOR ART REFERENCES

A. Ivey '037

Ivey et al appeared as inventors upon U.S. Patent Publication No. 2006/0059037 dated 3/16/2006. This publication, hereinafter Ivey '037, had the title of Local Enforcement of Remotely Managed Parking Payment Systems. Ivey '037 utilized a map 100 Oracle Ex. 1005, p.10, 13, para. [20][45]. Ivey '037 then superimposed rectangular shapes 602, Id. p. 12 para. [38], and shown in Fig. 6, Id. at p. 6.

B. Matsumoto '835

Matsumoto then showed as the inventor upon Japanese Unexamined Patent Application Publication No. 2008/217835 dated 9/18/2008. This publication,

hereinafter Matsumoto '835, had the title of Parking Lot Guidance System.

Matsumoto '835 had a camera 8 with a bird's eye view of a parking lot 4, Oracle Ex. 1007, p. 3 para. [6]. 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]. The camera took an image of an entire lot 4, Id. p. 5 para. [23][27], p.10 para. [72]. Matsumoto '835 utilizes the image from the camera to populate a parking guidance system, Id. p. 6 para. [41]. Then Matsumoto '835 takes the lot's image further with picture compression, Id. p. 8 para. [58].

C. Tillotson '278

Tillotson et al also appeared as inventors upon U.S. Patent Publication No. 2006/0250278 dated 11/9/2006. This publication, hereinafter Tillotson '278, had the title of System and Method for assessing Parking Spaced Occupancy and for Reserving Same. Tillotson '278 deploys an input device or sensor 258 at each parking space in a lot, Oracle Ex. 1011, p. 10 para. [34]. Tillotson '278 then continues and uses logic algorithms to find empty parking spaces, Id. para. [35]. As a fallback or reserve method during a lack of sensors, Tillotson '278 counted vehicles entering a parking lot, Id. p. 11. Tillotson '278 utilized an entry counter 310 and an exit counter 312, Id., to operate a counting system, Id. p. 13 para. [64], the determined occupancy level of a parking lot. Tillotson '278 also defined its parking space information and reservation system 200, Id. p. 9 para. [23] that identified parking lots 250, Id.

D. Slemmer '566

Slemmer et al then appeared as inventors upon U.S. Patent Publication No. 2006/0170566 dated 8/3/2006. This publication, hereinafter Slemmer '566, had the title of Automated Parking Director Systems and Methods. Slemmer '566 in its Systems used detectors to find objects, that is, cars, Oracle Ex. 1010, p. 12, and

shown in Fig. 2, Id at p. 3. Slemmer '566 stated a list of suitable detectors, Id at p. 13 para. [49].

E. Ward '675

Ward then appeared as the inventor upon U.S. Patent Publication No. 2008/0114675 dated 5/15/2008. Ward '675, had the title of Parking Payment System Using a Cell Phone or Other Mobile Device. Ward '675 had its System connect with parking meters 20, Oracle Ex. 1008, p. 9 para. [20][22]. More particularly, Ward '675 had a customer or use transmit a meter number to a cell phone company for billing. Id. p. 9 para. [20]. Ward '675 also mentioned that a customer had to call his cell phone company when exiting a parking space. Id. p. 10 para. [36], p. 11 para. [38]. Ward '675's description relies upon parking meters cooperating with the invention, Id. p. 12 para. [47] [56].

F. Haynes '166

Haynes et al showed as inventors upon U.S. Patent No. 7123166 issued on 10/17/2006. This patent, Haynes '166, had the title of Method for Managing a Parking Lot. Haynes '166 had in its method a camera 1420 mounted upon a pole 122, Oracle Ex. 1009, p. 7 c. 2 l. 28.

VI. PETITIONER'S GROUNDS FOR UNPATENTABILITY

Petitioner has asserted four grounds of unpatentability, summarized in the below table. In the Board's Institution Decision, the Board found that the Petitioner showed a reasonable likelihood of success in proving that at least claim 1 of the '421 patent is unpatentable through Ground 1, and therefore, instituted review as to all of the challenged claims and all of the Grounds contained in Oracle's Petition. Institution Decision, 7, 21.

Ground	References	Basis 35 U.S.C.	Claims Challenged
1	Ivey, Matsumoto, Tillotson	§103(a)	1, 2, 3, 5, 6
2	Ivey, Matsumoto, Tillotson, Slemmer	§103(a)	4, 7
3	Ward, Haynes, Tillotson	§103(a)	1, 2, 3, 5, 6
4	Ward, Haynes, Tillotson, Slemmer	§103(a)	4, 7

VII. PETITIONER HAS FAILED TO CARRY ITS BURDEN OF PROVING BY A PREPONDERANCE OF THE EVIDENCE THAT THE ‘421 PATENT CLAIMS WOULD HAVE BEEN OBVIOUS

A. Ground 1

Ground 1 should be denied because the prior art is non-analogous, prior art does not motivated a POSITA to combine them, Petitioner relies upon conclusory assertions and hindsight regarding the ‘421 patent, and the references do not describe their combined efficiencies as better than the Patent Owner’s patent. First, a patent is presumed valid, 35 U.S.C. §282, MPEP §716.07. Second, the Petitioner has not met its burden of demonstrating “with particularity...the evidence supports the grounds for the challenge to each claim[.]” 35 U.S.C. § 312(a)(3).

i. Prior art is non-analogous art

For Ground 1, the Patent Owner asserts that Ivey ‘037, Matsumoto ‘835, Tillotson ‘278 are not analogous art. Analogous prior art must pass two separate tests: (1) whether the art is from the same field of endeavor and (2) for art outside the same field of endeavor is the art reasonably pertinent to the particular problem of an inventor’s patent, see *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004).

Turning to Ivey '037, the Patent Owner asserts Ivey's usage of a map 100, Oracle Ex. 1005, p.10, 13, para. [20][45], differs markedly from the Patent Owner's usage of a real time image, Oracle Ex. 1001, p. 10, c. 8 l. 39. As a real time image differs from a map, the Patent Owner asserts that Ivey '037 is not from the same field of endeavor. A map calls for its user to orient it to north so that the user may infer from it, see generally Patent Owner's Ex. 2009 [U.S. Army three norths in land navigation]. A real time image shows what a user sees often with little if any orientation, especially to north. The Patent Owner asserts that Ivey '037 is not reasonably pertinent to a real time image without a map.

As before, patent '421 has an extensive history, *supra* part II. C. At least as early as 12/5/2014, the Inventor disclosed Ivey '037 in his patent application, Oracle Ex. 1002, p. 13. At least as early as 1/27/2015, the Applicant formally presented Ivey '037 to the Examiner on an Information Disclosure Statement, *Id.* at p. 78. The Examiner elected not to use Ivey '037 against the patent application that became the Patent Owner's patent '421. Because of Ivey '037's presentation to the Examiner during prosecution of the application that became patent '421, the Patent Owner asserts that an obviousness rejection ought not include information gleaned only from the Applicant's disclosure, *In re McLaughlin* 443 F.2d 1392, 1395, 170 U.S.P.Q. 209, 212 (CCPA 1971).

Looking at Matsumoto '835, the Patent Owner asserts 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. 39, 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. A parking lot has perimeter boundaries that restrict access into the lot. A real time image of parking along a street shows a few cars within a user's view while moving traffic passes by. The Patent Owner asserts that Matsumoto '835 is not reasonably pertinent to a movable real time image of parking spaces along a street with traffic.

Moving to Tillotson '278, the Patent Owner asserts Tillotson's usage of an input device or sensor in a parking space within a parking lot, Oracle Ex. 1011, p. 10 para. [34] differs markedly from the Patent Owner's usage of a real time image, Oracle Ex. 1001, p. 10, c. 8 l. 39, along streetside parking, Id. p. 8, c. 4 l. 54. As an input device calls for installation in a parking space while the '421 Patent does not claim sensors, the Patent Owner asserts that Tillotson '278 is not from the same field of endeavor. 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. Once more, the Patent Owner asserts that Tillotson '278 is not from the same field of endeavor.

Input devices, sensors, 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.

Ivey '037 teaches of a map, Matsumoto '835 teaches of a camera view of an entire parking lot, and Tillotson '278 teaches of input devices and counting cars. The Patent Owner asserts that a map, view of a parking lot, input device, and counting cars are non-analogous art that does not suggest usage of the a real time image with overlaid parking space status in the street side parking management field, see *In re Vaeck*, 20 U.S.P.Q.2d 1438, 1442 (Fed. Cir. 1991). Further, the Patent Owner asserts that maps, whole lot view, input devices, and counting cars are non-analogous art to the subject matter of the amended claims, *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d 1331 (Fed. Cir. 2015)[a reference is only reasonably pertinent when it logically would have commended itself to an inventor's attention in considering his problem]. Patent publications showing maps, entire parking lots, input devices, and counting cars without devices do not commend themselves to an Inventor merging real time imagery with parking space status along the curbs of a city street.

ii. Prior art would not have motivated a POSITA to combine the references

Ivey'037 uses rectangular shapes or blocks imposed upon a map, Oracle Ex. 1005, p. 10, 13, para. [20][45]. Meanwhile the '421 Patent does not use a map. Matsumoto '835 uses a camera to photograph an entire parking lot, Oracle Ex. 1007, p. 5 para. [23][27], with picture compression, Id. p. 8 para. [58]. Matsumoto '835 also seeks to guide a motorist to a vacant parking spot, Id. p. 6 para. [41]. The '421 Patent though operates through a parking officer's portable electronic device, Oracle Ex. 1010, p. 10 c. 7 l. 30, and views linear parking spaces along a street, Id. p. 8, c. 4 l. 54. The Patent Owner notes that camera as explained in text, Id. p. 14 c. 15 l. 5, before the claims, defines the camera in the claims, see *In re Paulsen*, 30 F. 3d at 1480. Tillotson '278 then has sensors in each parking space under management and software logic to find the empty spaces. Without sensors,

Tillotson defaults to counting vehicles in and out of a lot under management. The '421 Patent though had foreseen use in downtown areas where plenty of vehicles just pass by parking spaces, makes counting vehicles related to parking spaces more difficult to count. The '421 patent claims an inference of non-obviousness having great strength where the map of Ivey '037, lot photography of Matsumoto '835, and counting cars of Tillotson '278 as prior art teachings undermine the very reason why one of ordinary skill would have combined the known elements, *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 90 U.S.P.Q. 2d 1865, 1873 (Fed. Cir. 2009). The prior art above mentions lots, maps, counting systems, meters, and sensors while the '421 patent does not use those additional devices. By 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. Also, the prior art focuses on parking lots or compact, contiguous, defined polygonal areas. The '421 patent focuses on strips of spaces along active traffic and dispersed around a city, far from compact, contiguous areas. The '421 patent also 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.

iii. Petitioner relies upon conclusory assertions and hindsight regarding the same concept as the references

The Patent Owner asserts that Ivey '037, Matsumoto '835, and Tillotson '278 described unrelated concepts from the '421 Patent. The Patent Owner asserts that Ivey '037 provided a map 100, see Oracle Ex. 1005 p. 1 para. [20][22]. The map showed a schematic layout of a street, see Fig. 1, Id at p. 2. In contrast, the Patent Owner's invention overlays parking status upon a real time picture of a parking place, see II. B.

The Patent Owner asserts that Matsumoto '835 had an antenna 6 located at the lot's gate, Oracle Ex. 1007, p. 4. The antenna complimented a camera 8 with a bird's eye view of a lot 4, Oracle Ex. 1007, p. 5. In contrast, the Patent Owner's invention does not have a fixed antenna at a parking lot gate and does not have a fixed camera, see II. B.

The Patent Owner asserts that Tillotson '278 counted vehicles entering a parking lot, Oracle Ex. 1011, p. 11. Tillotson '278 utilized an entry counter 310 and an exit counter 312, Id. In contrast, the Patent Owner's invention does not have counters at an entry and an exit and does not count vehicles, see II. B.

The Patent Owner asserts that the map of Ivey '037, the fixed camera of Matsumoto '835, and the counters of Tillotson '278 through their usage is not obvious from the present invention's parking status overlay upon a real time video image. Thus the '421 patent and its challenged claims have support from an inference of non-obviousness of great strength where the prior art teachings undermine the very reason why one of ordinary skill would have combined the known elements, *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 90 U.S.P.Q. 2d 1865, 1873 (Fed. Cir. 2009); *In re Khan*, 78 U.S.P.Q. 2d 1329 (Fed. Cir. 2006). The technologies shown by Ivey '037, Matsumoto '835, and Tillotson '278 do not recognize parking status overlay upon a real time video image, *Leo Pharmaceutical Products, Ltd. v. Rea*, 726 F.3d 1346 (Fed. Cir. 2013). In overlooking the parking status overlay upon a real time video image, the obviousness rejection using three combined references slips into hindsight, Id.

iv. Petitioner relies upon insufficient motivation to combine the references

Ground 1 should be denied because Ivey '037, Matsumoto '835, and Tillotson '278 do not describe their combined efficiencies as better than the Patent Owner's patent '421. The Petitioner asserts that Ivey '037, Matsumoto '835, and

Tillotson '278 "efficiently streamline parking enforcement" and "make parking management more efficient to use," Petition, p. 48. The Patent Owner asserts that Petitioner's mention of efficiency does not provide a design incentive for an inefficient invention, see generally *expressio unius est exclusio alterius*, Black's Law Dictionary 1717 (8th Ed. 2004)(expression of one thing is to exclude another). The Patent Owner then asserts that efficiency is an implied goal of nearly every invention, 35 U.S.C. §103, as who would seek to patent an inefficient invention. The Patent Owner asks what is efficiency? It appears as the ratio of useful output to the total input to a system, *Webster's New College Dictionary*, 3rd Ed. p. 367 (2008)[efficiency -definition 2a] or as acting effectively with a minimum of unnecessary effort *Id.* [efficient -definition 2a].

The Patent Owner asserts that Ivey '037 provided a map 100, see Oracle Ex. 1005 p. 1 para. [20][22]. Then the Patent Owner notes that Matsumoto '835 had an antenna 6 located at the lot's gate, Oracle Ex. 1007, p. 4, and a camera 8 with a bird's eye view of a lot 4, *Id.*, p. 5. The Patent Owner identifies that Tillotson '278 counted vehicles entering a parking lot, Oracle Ex. 1011, p. 11, with an entry counter 310 and an exit counter 312, *Id.* The Patent Owner asserts that the map of Ivey '037, the fixed camera of Matsumoto '835, and the counters of Tillotson '278 as older technology do not show the hallmarks of efficiency, that is, more production from less work than the present invention. The Petitioner's assertion of Ivey '037, Matsumoto '835, and Tillotson '278 as being efficient lacks explanation of that, *Plantronics, Inc. v. Aliph Inc.*, 724 F. 3d 1343 (Fed. Cir. 2013)[Court reversed in part for lack of factual bases to show one of ordinary skill would have been motivated to combine references]. To a degree, the Petitioner asserts efficiency as intuitive. However, merely stating it as intuitive to combine references calls for explanation as to the why of intuitive or to identify motive to combine, *In re Van Os*, 844 F. 3d. 1359, 121 U.S.P.Q.2d 1209 (Fed. Cir. 2017).

The lack of efficiency explanation supports denying Ground 1 and confirming claims 1, 2, 3, 5, 6 of the '421 patent.

B. Ground 2

Ground 2 should be denied because the prior art is non-analogous, prior art does not motivate a POSITA to combine them, Petitioner relies upon conclusory assertions and hindsight regarding the '421 patent, and the references do not describe their combined efficiencies as better than the Patent Owner's patent.

i. Prior art is non-analogous art

For Ground 2, the Patent Owner asserts that Ivey '037, Matsumoto '835, Tillotson '278, and Slemmer '556 are not analogous art. Analogous prior art must pass two separate tests: (1) whether the art is from the same field of endeavor and (2) for art outside the same field of endeavor is the art reasonably pertinent to the particular problem of an inventor's patent, see *In re Bigio*, 381 F.3d at 1325.

Turning to Ivey '037, the Patent Owner asserts Ivey's usage of a map 100, Oracle Ex. 1005, p. 10, 13, para. [20][45], differs markedly from the Patent Owner's usage of a real time image, Oracle Ex. 1001, p. 10 c. 8 l. 39. As a real time image differs from a map, the Patent Owner asserts that Ivey '037 is not from the same field of endeavor. As before, a map calls for its user to orient it to north so that the user may infer from it, see generally, Patent Owner's Ex. 2009. A real time image shows what a user sees often with little if any orientation, especially to north. The Patent Owner asserts that Ivey '037 is not reasonably pertinent to a real time image without a map.

As before, patent '421 has an extensive history, *supra* part II. C. At least as early as 12/5/2014, the Inventor disclosed Ivey '037 in his patent application, Oracle Ex. 1002, p. 13. At least as early as 1/27/2015, the Applicant formally presented Ivey '037 to the Examiner on an Information Disclosure Statement, *Id.* at p. 78. The Examiner elected not to use Ivey '037 against the patent application that

became the Patent Owner's patent '421. Because of Ivey '037's presentation to the Examiner during prosecution of the application that became patent '421, the Patent Owner asserts that an obviousness rejection ought not include information gleaned only from the Applicant's disclosure, *In re McLaughlin* 443 F.2d at 1395.

Looking at Matsumoto '835, the Patent Owner asserts 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. 39, along streetside parking, Id. p. 8, c. 4 l. 54. As above, fixing of the Matsumoto video device 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. A parking lot has perimeter boundaries that restrict access into the lot. A real time image of parking along a street shows a few cars within a user's view while moving traffic passes by. The Patent Owner asserts that Matsumoto '835 is not reasonably pertinent to a movable, real time image of parking spaces along a street with traffic.

Moving to Tillotson '278, the Patent Owner asserts Tillotson's usage of an input device or sensor in a parking space within a parking lot, Oracle Ex. 1011, p. 10 para. [34], differs markedly from the Patent Owner's usage of a real time image, Oracle Ex. 1001, p. 10 c. 8 l. 39, along streetside parking Id. p. 8, c. 4 l. 54. As an input device calls for installation in a parking space while the '421 Patent does not claim sensors, the Patent Owner asserts that Tillotson '278 is not from the same field of endeavor. 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. Once more, the Patent Owner asserts that Tillotson '278 is not from the same field of endeavor.

Input devices, sensors, 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.

Then let us turn to Slemmer '556. Slemmer '556 describes a system that uses detectors to find objects, such as cars, Oracle Ex. 1010, p. 12 [para. 33], and shown in Fig. 2, Id at p. 3. Slemmer '566 identified suitable detectors, Id at p. 13 [para. 0049]. Slemmer then deploys a detector 120 in each parking space, Id. at p. 13 [para. 46]. Slemmer '566 mentions a parking grid shown in Fig. 6, Id. at p. 7, a parking lot 15, Id. at p. 12 [para. 34], and a map of vacant spaces, Id. at p. 12 [para. 39]. Slemmer '566 describes an alternate embodiment with tags 500 upon vehicles, Id. at p. 14 [para. 59]. Claim 1 of Slemmer'556 then tied the components together as means for electronically detecting vehicles, Id. at p. 15, [claim 1 top left].

Ivey '037 teaches of a map, Matsumoto '835 teaches of a camera view of an entire parking lot, Tillotson '278 teaches of input devices and counting cars, Slemmer '556 teaches of detectors in spaces of a parking lot displayed on a grid. The Patent Owner asserts that a map, view of a parking lot, input device and detectors, and counting cars 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, see *In re Vaeck*, 20 U.S.P.Q.2d at 1442. Further, the Patent Owner asserts that maps, whole lot view, input devices, and counting cars are non-analogous art to the subject matter of the amended claims, *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d at 1331[a reference is only reasonably pertinent when it logically would have commended itself to an inventor's attention in considering his problem]. Patent publications showing maps, entire parking lots, input devices and detectors, and counting cars without devices do not commend themselves to an Inventor merging real time imagery with parking space status along the curbs of a city street.

ii. Prior art would not have motivated a POSITA to combine the references

Ivey '037 uses rectangular shapes or blocks imposed upon a map, Oracle Ex. 1005, p. 10, 13, para. [20][45]. Meanwhile the '421 Patent does not use a map. Matsumoto '835 uses a camera to photograph an entire parking lot, Oracle Ex. 1007, p. 5, para. [23][27], with picture compression, *Id.* p. 8, para. [58]. Matsumoto '8335 also seeks to guide a motorist to a vacant parking spot, *Id.* p. 6 para. [41]. The '421 Patent though operates through a parking officer's portable electronic device, Oracle Ex. 1010, p. 10 c. 7, l. 30, and views linear parking spaces along a street. The Patent Owner notes that camera as explained in text, *Id.* p. 14 c. 15 l. 5, before the claims, defines the camera in the claims, see *In re Paulsen*, 30 F. 3d at 1480. Tillotson '278 then has sensors in each parking space under management and software logic to find the empty spaces. Without sensors, Tillotson defaults to counting vehicles in and out of a lot under management. Slemmer '566 then provides suitable detectors, Petitioner Ex. 1010 at p. 13 [para. 0049] and puts them 120 into each parking space, *Id.* at p. 13 [para. 46], akin to being upon a parking grid shown in Fig. 6, *Id.* at p. 7, or a map of vacant spaces,

Id. at p. 12 [para. 39], all neatly connected by means for electronically detecting vehicles, Id. at p. 15, [claim 1 top left]. The '421 Patent though had foreseen use in downtown areas where plenty of vehicles just pass by parking spaces, makes counting vehicles related to parking spaces more difficult to count. The '421 patent claims an inference of non-obviousness having great strength where the map of Ivey '037, lot photography of Matsumoto '835, counting cars of Tillotson '278, and detectors of Slemmer '556 as prior art teachings undermine the very reason why one of ordinary skill would have combined the known elements, *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 90 U.S.P.Q. 2d at 1873. The prior art above mentions lots, maps, counting systems, meters, and sensors while the '421 patent does not use those additional devices. By 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. Also, the prior art focuses on parking lots or compact, contiguous, defined polygonal areas. The '421 patent focuses on strips of spaces along active traffic and dispersed around a city, far from compact, contiguous areas. The '421 patent also 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.

iii. Petitioner relies upon conclusory assertions and hindsight regarding the same concept as the references

The Patent Owner asserts that Ivey '037, Matsumoto '835, Tillotson '278, and Slemmer '556 described unrelated concepts from the '421 Patent. The Patent Owner asserts that Ivey '037 provided a map 100, see Oracle Ex. 1005 p. 1, para. [20][22]. The map showed a schematic layout of a street, Id at p. 2 [Fig. 1]. In contrast, the Patent Owner's invention overlays parking status upon a real time picture of a parking place, see II. B.

The Patent Owner asserts that Matsumoto '835 had an antenna 6 located at the lot's gate, Oracle Ex. 1007, p. 4. The antenna complimented a camera 8 with a bird's eye view of a lot 4, Oracle Ex. 1007, p. 5. In contrast, the Patent Owner's invention does not have a fixed antenna at a parking lot gate and does not have a fixed camera, see II. B.

The Patent Owner asserts that Tillotson '278 counted vehicles entering a parking lot, Oracle Ex. 1011, p. 11. Tillotson '278 utilized an entry counter 310 and an exit counter 312, Id. In contrast, the Patent Owner's invention does not have counters at an entry and an exit and does not count vehicles see II. B.

The Patent Owner asserts that Slemmer '566 operates with suitable detectors, Petitioner Ex. 1010 at p. 13, para. [49] placed into each parking space 120, Id. at p. 13, para. [46], and all connected by means for electronically detecting vehicles, Id. at p. 15, [claim 1 top left]. In contrast, the Patent Owner's invention as shown in the claims does not use detectors, let alone electronically connected, see II. B.

The Patent Owner asserts that the map of Ivey '037, the fixed camera of Matsumoto '835, the counters of Tillotson '278, and the detectors of Slemmer '556 through their usage is not obvious from the present invention's parking status overlay upon a real time video image. Thus the '421 patent and its challenged claims have support from an inference of non-obviousness of great strength where the prior art teachings undermine the very reason why one of ordinary skill would have combined the known elements, *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 90 U.S.P.Q. 2d at 1873; *In re Khan*, 78 U.S.P.Q. 2d at 1329. The technologies shown by Ivey '037, Matsumoto '835, Tillotson '278, and Slemmer '556 do not recognize parking status overlay upon a real time video image, *Leo Pharmaceutical Products, Ltd. v. Rea*, 726 F.3d at 1346. In overlooking the

parking status overlay upon a real time video image, the obviousness rejection using two combined references slips into hindsight, Id.

iv. Petitioner relies upon insufficient motivation to combine the cited references

Ground 2 should be denied because Ivey '037, Matsumoto '835, Tillotson '278 and Slemmer '556 do not describe their combined efficiencies as better than the Patent Owner's patent '421. The Petitioner asserts that Ivey '037, Matsumoto '835, Tillotson '278, and Slemmer '556 "efficiently streamline parking enforcement" and "make parking management more efficient to use," Petition, p. 51. The Patent Owner asserts that Petitioner's mention of efficiency does not provide a design incentive for an inefficient invention, see generally *expressio unius est exclusio alterius*, Black's Law Dictionary 1717 (8th Ed. 2004)(expression of one thing is to exclude another). The Patent Owner then asserts that efficiency is an implied goal of nearly every invention, 35 U.S.C. §103, as who would seek to patent an inefficient invention. The Patent Owner asks what is efficiency? It appears as the ratio of useful output to the total input to a system, *Webster's New College Dictionary*, 3rd Ed. p. 367 (2008)[efficiency -definition 2a] or as acting effectively with a minimum of unnecessary effort Id. [efficient -definition 2a].

The Patent Owner asserts that Ivey '037 provided a map 100, see Oracle Ex. 1005 p. 1, para. [20][22]. Then the Patent Owner notes that Matsumoto '835 had an antenna 6 located at the lot's gate, Oracle Ex. 1007, p. 4, and a camera 8 with a bird's eye view of a lot 4, Id., p. 5. The Patent Owner identifies that Tillotson '278 counted vehicles entering a parking lot, Oracle Ex. 1011, p. 11, with an entry counter 310 and an exit counter 312, Id. The Patent Owner identifies that Slemmer '566 in its Systems used detectors to find objects, that is, cars, Oracle Ex. 1010, p. 12. The Patent Owner asserts that the map of Ivey '037, the fixed camera of Matsumoto '835, the counters of Tillotson '278, and the detectors of Slemmer

'566 as older technology do not show the hallmarks of efficiency, that is, more production from less work than the present invention. Slemmer '566 calls for the skilled labor of installing detectors in each parking space of a lot, Oracle Ex. 1010, p. 14, para. [54][58]. The Petitioner's assertion of Ivey '037, Matsumoto '835, Tillotson '278, and Slemmer '566 as being efficient lacks explanation of that, *Plantronics, Inc. v. Aliph Inc.*, 724 F. 3d at 1343 [Court reversed in part for lack of factual bases to show one of ordinary skill would have been motivated to combine references]. To a degree, the Petitioner asserts efficiency as intuitive. However, merely stating it as intuitive to combine references calls for explanation as to the why of intuitive or to identify motive to combine, *In re Van Os*, 844 F. 3d. at 1359. The lack of efficiency explanation supports denying Ground 2 and confirming claims 4, 7 of the '421 patent.

C. Ground 3

Ground 3 should be denied because the prior art is non-analogous, prior art does not motivate a POSITA to combine them, Petitioner relies upon conclusory assertions and hindsight regarding the '421 patent, and the references do not describe their combined efficiencies as better than the Patent Owner's patent.

i. Prior art is non-analogous art

The Petitioner asserts in Ground 3 the combination of Ward '675, Haynes '166, Tillotson '278, and knowledge of a POSITA. Analogous prior art must pass two separate tests: (1) whether the art is from the same field of endeavor and (2) for art outside the same field of endeavor is the art reasonably pertinent to the particular problem of an inventor's patent, see *In re Bigio*, 381 F.3d at 1325.

The Patent Owner asserts that Ward '675 had its System connect with parking meters 20, Oracle Ex. 1008, p. 9 para. [20][22], p. 12 para. [47][56]. More particularly, Ward '675 had its customer transmit a meter number to a cell phone company for billing, *Id.* at p. 9 para. [20]. Also, the customer in Ward '675 must

call his cell phone company when leaving a parking space, *Id.* at p. 10 para. [36].

In contrast, the Patent Owner's invention does not utilize parking meters, see II. B, and does not have its customer's transmit meter numbers.

The Patent Owner asserts that Haynes '166 had in its method a camera, or video device, 1420, mounted -fixed- upon a pole 122, Oracle Ex. 1009, p. 7 c. 2 l. 28. The camera surveys an entire lot 1320 *Id.* at p. 6, c. 2 l. 21 in Haynes '166. Mounting of a camera upon a pole implies a camera in a fixed position at a fixed elevation. Haynes' 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. Further Haynes' 166 seeks to determine optimal parking spaces where a motorist walks on foot, *Id.* at p. 8 -c. 4 l. 33-49. And Haynes '166 claims overlapping "moving" lot objects in the claims 1, 45, 46, 47, *Id.* at p. 16, 17. In contrast, the Patent Owner's invention does not utilize a camera mounted upon a pole, see II. B, does not survey an entire lot, typically rectangular, in its streetside use, but does use imagery from a camera itself on the move.

Moving to Tillotson '278, the Patent Owner asserts Tillotson's usage of an input device or sensor in a parking space within a parking lot, Oracle Ex. 1011, p. 10 para. [34], differs markedly from the Patent Owner's usage of a real time image, Oracle Ex. 1001, p. 10, c. 8 l. 39, along streetside parking, *Id.* p. 8, c. 4 l. 54. As an input device calls for installation in a parking space while the '421 Patent does not claim sensors, the Patent Owner asserts that Tillotson '278 is not from the same field of endeavor. 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.

Once more, the Patent Owner asserts that Tillotson '278 is not from the same field of endeavor.

Input devices, sensors, 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.

And turning to Slemmer '556, the reference describes a system that uses detectors to find objects, such as cars, Oracle Ex. 1010, p. 12 para. [33], and shown in Fig. 2, Id at p. 3. Slemmer '566 identified suitable detectors, Id at p. 13 para. [49]. Slemmer then deploys a detector 120 in each parking space, Id. at p. 13 para. [46]. Slemmer '566 mentions a parking grid shown in Fig. 6, Id. at p. 7, a parking lot 15, Id. at p. 12 para. [34], and a map of vacant spaces, Id. at p. 12 para. [39]. Slemmer '566 describes an alternate embodiment with tags 500 upon vehicles, Id. at p. 14 para. [59]. Claim 1 of Slemmer'556 then tied the components together as means for electronically detecting vehicles, Id. at p. 15, [claim 1 top left].

Ward '675 relies upon parking meters, Haynes '166 teaches of overlapping "moving" objects upon a lot, Tillotson '278 teaches of input devices and counting cars, and Slemmer '556 teaches of detectors in spaces of a parking lot displayed on a grid.. The Patent Owner asserts that parking meter reliance, objects of a lot, input devices, counting cars, and detectors 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, see *In re Vaeck*, 20 U.S.P.Q.2d at 1442. Further, the Patent Owner asserts that parking meters, overlapping objects on a map, input devices, counting cars, and detectors are non-analogous art to the subject matter of

the amended claims, *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d at 1331[a reference is only reasonably pertinent when it logically would have commended itself to an inventor's attention in considering his problem]. Patent publications showing parking meters, overlapping objects on a map, input devices, counting cars, and detectors do not commend themselves to an Inventor merging real time imagery with parking space status along the curbs of a city street.

ii. Prior art would not have motivated a POSITA to combine the references

Ward '675 had its customer transmit a meter number to a cell phone company for billing, *Id.* at p. 9 para. [20], and call the cell phone company upon exiting a parking space, *Id.* at p. 10 para. [36]. Meanwhile the '421 Patent does not have its user contact a cell phone company. The camera of Haynes 166 surveys an entire lot 1320 *Id.* at p. 6, c. 2 l. 21 while determining optimal parking spaces for a motorist afoot, *Id.* at p. 8 -c. 4 l. 33-49. The '421 Patent though operates through a parking officer's portable electronic device, Oracle Ex. 1010, p. 10 c. 7, l. 30 and views linear parking spaces along a street. The Patent Owner notes that camera as explained in text, *Id.* p. 14 c. 15 l. 5, before the claims, defines the camera in the claims, see *In re Paulsen*, 30 F. 3d at 1480. Tillotson '278 then has sensors in each parking space under management and software logic to find the empty spaces. Without sensors, Tillotson defaults to counting vehicles in and out of a lot under management. The '421 Patent though has foreseen use in downtown areas where plenty of vehicles just pass by parking spaces, makes counting vehicles related to parking spaces more difficult to count. Slemmer '566 then provides suitable detectors 120, Petitioner Ex. 1010 at p. 13 para.[49], into each parking space, *Id.* at p. 13 para. [46], akin to being upon a parking grid shown in Fig. 6, *Id.* at p. 7, or a map of vacant spaces, *Id.* at p. 12 para. [39], all neatly connected by means for electronically detecting vehicles, *Id.* at p. 15, [claim 1 top left]. The '421 Patent

though had foreseen use in downtown areas where plenty of vehicles just pass by parking spaces, makes counting vehicles related to parking spaces more difficult to count. The '421 patent claims an inference of non-obviousness having great strength where the meter information of Ward '675, camera surveying a lot of Haynes '166, counting cars of Tillotson '278, and detectors of Slemmer '556 as prior art teachings undermine the very reason why one of ordinary skill would have combined the known elements, *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 90 U.S.P.Q. 2d at 1873. The prior art above mentions lots, maps, counting systems, meters, and sensors while the '421 patent does not use those additional devices. By 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. Also, the prior art focuses on parking lots or compact, contiguous, defined polygonal areas. The '421 patent focuses on strips of spaces along active traffic and dispersed around a city, far from compact, contiguous areas. The '421 patent also 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.

iii. Petitioner relies upon conclusory assertions and hindsight regarding the same concept as the references

Ground 3 should be denied because Ward '675, Haynes '166, Tillotson '278, and Slemmer '556 described unrelated concepts from the Patent Owner's patent '421. The Patent Owner asserts that Ward '675 had its System connect with parking meters 20, Oracle Ex. 1008, p. 9 para. [20][22] and a customer transmitting meter data to a cell phone company for billing, Id. p. 9 para. [20]. In contrast, the Patent Owner's invention does not rely upon a user communicating to a phone company but does overlay parking status upon a real time picture of a parking place, see II. B. Then, the Patent Owner asserts that Haynes '166 has its

camera 1420 mounted upon a fixed pole 122, Oracle Ex. 1009, p. 7 [col. 2 lin. 28] that surveys an entire lot 1320 Id. at p. 6 [c. 2 l. 21]. The '421 Patent though operates through a portable electronic device, Oracle Ex. 1010, p. 10 c. 7 l. 30, held by a parking control officer near ground level and views linear parking spaces along a street, Id. p. 8, c. 4 l. 54. Next, the Patent Owner asserts that Tillotson '278 counted vehicles entering a parking lot, Oracle Ex. 1011, p. 11, with an entry counter 310 and an exit counter 312, Id. In contrast, the Patent Owner's invention does not have counters at an entry and an exit and does not count vehicles see II. B. And, the Patent Owner asserts that Slemmer '566 operates with suitable detectors, Petitioner Ex. 1010 at p. 13 para. [49] placed into each parking space 120, Id. at p. 13 para. [46], and all connected by means for electronically detecting vehicles, Id. at p. 15, [claim 1 top left]. In contrast, the Patent Owner's invention as shown in the claims does not use detectors, let alone electronically connected, see II. B.

The Patent Owner asserts that the parking meters and their information relayed by a user of Ward '675, the overlapping "moving" objects upon a lot of Haynes '166, the input devices and counting cars of Tillotson '278, and through their usage is not obvious from the present invention's parking status overlay upon a real time video image, thus a decision to deny Ground 4 has support from a strong inference of non-obviousness where the prior art teachings undermine the very reason why one of ordinary skill would have combined the known elements, *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 90 U.S.P.Q. 2d at 1873; *In re Khan*, 78 U.S.P.Q. 2d at 1329. The technologies shown by Ward '675, Haynes '166, and Tillotson '278 do not recognize parking status overlay upon a real time video image, *Leo Pharmaceutical Products, Ltd. v. Rea*, 726 F.3d at 1346. In overlooking the parking status overlay upon a real time video image, the obviousness rejection using three combined references slips into hindsight, Id.

iv. The Petitioner relies upon insufficient motivation to combine the cited references

Ground 3 should be denied because Ward ‘675, Haynes ‘166, and Tillotson ‘278 do not describe their combined efficiencies as better than the Patent Owner’s patent ‘421. The Petitioner asserts that Ward ‘675, Haynes ‘166, and Tillotson ‘278 promote efficiency and ease of use,” Petition, p. 71-72. The Patent Owner asserts that Petitioner’s mention of efficiency does not provide a design incentive for an inefficient invention, see generally *expressio unius est exclusio alterius*, Black’s Law Dictionary 1717 (8th Ed. 2004)(expression of one thing is to exclude another). The Patent Owner then asserts that efficiency is an implied goal of nearly every invention, 35 U.S.C. §103, as who would seek to patent an inefficient invention. The Patent Owner asks what is efficiency? It appears as the ratio of useful output to the total input to a system, *Webster’s New College Dictionary*, 3rd Ed. p. 367 (2008)[efficiency -definition 2a] or as acting effectively with a minimum of unnecessary effort Id. [efficient -definition 2a].

The Patent Owner asserts that Ward ‘675 had its System connecting to parking meters 20, Oracle Ex. 1008, p. 9 para. [20, 22], that provide data to a customer to transmit, Id. p. 9 para. [20]. Then, the Patent Owner asserts that Haynes ‘166 has its camera 1420 mounted upon a fixed pole 122, Oracle Ex. 1009, p. 7, c. 2 l. 28, that surveys an entire lot 1320 Id. at p. 6, c. 2 l. 21. The Patent Owner identifies that Tillotson ‘278 counted vehicles entering a parking lot, Oracle Ex. 1011, p. 11, with an entry counter 310 and an exit counter 312, Id. The Patent Owner asserts that the parking meter connection of Ward ‘675, the fixed pole of Haynes ‘166, and the counters of Tillotson ‘278 as older technology do not show the hallmarks of efficiency, that is, more production from less work than the present invention. The Petitioner’s assertion of Ward ‘675, Haynes ‘166, and Tillotson ‘278 as being efficient lacks explanation of that, *Plantronics, Inc. v.*

Aliph Inc., 724 F. 3d at 1343 [Court reversed in part for lack of factual bases to show one of ordinary skill would have been motivated to combine references]. To a degree, the Petitioner asserts efficiency as intuitive. However, Merely stating intuitive to combine reference calls for explanation why intuitive or identify motive to combine, *In re Van Os*, 844 F. 3d. at 1359. The lack of efficiency explanation provides support to deny Ground 3 and to confirm claims 1, 2, 3, 5, 6 of the '421 patent.

D. Ground 4

Ground 4 should be denied because the prior art is non-analogous, prior art does not motivate a POSITA to combine them, Petitioner relies upon conclusory assertions and hindsight regarding the '421 patent, and the references do not describe their combined efficiencies as better than the Patent Owner's patent.

i. Prior art is non-analogous art

The Petitioner asserts in Ground 4 the combination of Ward '675, Haynes '166, Tillotson '278, Slemmer '566, and knowledge of a POSITA. Analogous prior art must pass two separate tests: (1) whether the art is from the same field of endeavor and (2) for art outside the same field of endeavor is the art reasonably pertinent to the particular problem of an inventor's patent, see *In re Bigio*, 381 F.3d at 1325.

The Patent Owner asserts that Ward '675 had its System connect with parking meters 20, Oracle Ex. 1008, p. 9 para. [20][22], p. 12 para. [47][56]. More particularly, Ward '675 had its customer transmit a meter number to a cell phone company for billing, *Id.* at p. 9 para. [20]. Also, the customer in Ward '675 must call his cell phone company when leaving a parking space, *Id.* at p. 10 para. [36]. In contrast, the Patent Owner's invention does not utilize parking meters, see II. B and does not use a customer transmitting a meter number.

The Patent Owner asserts that Haynes '166 had in its method a camera, or video device, 1420, mounted -fixed- upon a pole 122, Oracle Ex. 1009, p. 7 c. 2 l. 28. The camera surveys an entire lot 1320 Id. at p. 6, c. 2 l. 21 in Haynes '166. Mounting of a camera upon a pole implies a camera in a fixed position at a fixed elevation. Haynes' 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. Further Haynes' 166 seeks to determine optimal parking spaces where a motorist walks on foot, Id. at p. 8 -c. 4 l. 33-49. And Haynes '166 claims overlapping "moving" lot objects in the claims 1, 45, 46, 47, Id. at p. 16, 17. In contrast, the Patent Owner's invention does not utilize a camera mounted upon a pole, see II. B, does not survey an entire lot, typically rectangular, in its streetside use, but does use imagery from a camera itself on the move.

Moving to Tillotson '278, the Patent Owner asserts Tillotson's usage of an input device or sensor in a parking space within a parking lot, Oracle Ex. 1011, p. 10 para. [34], differs markedly from the Patent Owner's usage of a real time image, Oracle Ex. 1001, p. 10, c. 8 l. 39, along streetside parking, Id. p. 8, c. 4 l. 54. As an input device calls for installation in a parking space while the '421 Patent does not claim sensors, the Patent Owner asserts that Tillotson '278 is not from the same field of endeavor. 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. Once more, the Patent Owner asserts that Tillotson '278 is not from the same field of endeavor.

Input devices, sensors, 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.

The Patent Owner asserts that Slemmer '566 operates with suitable detectors, Petitioner Ex. 1010 at p. 13 para. [49] placed into each parking space 120, Id. at p. 13 para. [46], and connected by means for electronically detecting vehicles, Id. at p. 15, [claim 1 top left]. The Patent Owner asserts that Slemmer '556 is not reasonably pertinent to real time imagery of a city street unblemished by detectors installed therein.

Ward '675 relies upon parking meters, Haynes '166 teaches of overlapping "moving" objects upon a lot, Tillotson '278 teaches of input devices and counting cars, and Slemmer '556 teaches of detectors electronically connected. The Patent Owner asserts that parking meter reliance, objects of a lot, detectors, and counting cars 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, see *In re Vaeck*, 20 U.S.P.Q.2d at 1442. Further, the Patent Owner asserts that parking meters, whole lot views, input devices, and counting cars are non-analogous art to the subject matter of the amended claims, *Circuit Check Inc. v. QXQ Inc.*, 795 F.3d at 1331 [a reference is only reasonably pertinent when it logically would have commended itself to an inventor's attention in considering his problem]. Patent publications showing maps, entire parking lots, input devices and detectors, and counting cars without devices do not commend themselves to an Inventor merging real time imagery with parking space status along the curbs of a city street.

ii. Prior art would not have motivated a POSITA to combine the references

Ward '675 had its customer transmit a meter number to a cell phone company for billing, *Id.* at p. 9 para. [20], and call the cell phone company upon exiting a parking space, *Id.* at p. 10 para. [36]. Meanwhile the '421 Patent does not have its user contact a cell phone company. The camera of Haynes 166 surveys an entire lot 1320 *Id.* at p. 6, c. 2 l. 21, while determining optimal parking spaces for a motorist afoot, *Id.* at p. 8 -c. 4 l. 33-49. The '421 Patent though operates through a parking officer's portable electronic device, Oracle Ex. 1010, p. 10 c. 7 l. 30, and views linear parking spaces along a street, *Id.* p. 8, c. 4 l. 54. The Patent Owner asserts that camera as explained in text, *Id.* p. 14 c. 15 l. 5, before the claims, defines the camera in the claims, see *In re Paulsen*, 30 F. 3d at 1480. Tillotson '278 then has sensors in each parking space under management and software logic to find the empty spaces. Without sensors, Tillotson defaults to counting vehicles in and out of a lot under management. The '421 Patent though has foreseen use in downtown areas where plenty of vehicles just pass by parking spaces, makes counting vehicles related to parking spaces more difficult to count. Slemmer '566 then provides suitable detectors 120, Petitioner Ex. 1010 at p. 13 para. [49], into each parking space, *Id.* at p. 13 para. [46], akin to being upon a parking grid shown in Fig. 6, *Id.* at p. 7, or a map of vacant spaces, *Id.* at p. 12 para. [39], all neatly connected by means for electronically detecting vehicles, *Id.* at p. 15, [claim 1 top left]. The '421 Patent though had foreseen use in downtown areas without installation of detectors. The '421 patent claims an inference of non-obviousness having great strength where the meter numbers of Ward '675, camera surveying a lot of Haynes '166, counting cars of Tillotson '278, and detectors of Slemmer '556 as prior art teachings undermine the very reason why one of ordinary skill would have combined the known elements, *DePuy Spine, Inc. v. Medtronic Sofamor*

Danek, Inc., 90 U.S.P.Q. 2d at 1873. The prior art above mentions lots, maps, counting systems, meters, and sensors while the '421 patent does not use those additional devices. By 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. Also, the prior art focuses on parking lots or compact, contiguous, defined polygonal areas. The '421 patent focuses on strips of spaces along active traffic and dispersed around a city, far from compact, contiguous areas. The '421 patent also 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.

iii. Petitioner relies upon conclusory assertions and hindsight regarding the same concept as the references

Ground 4 should be denied because Ward '675, Haynes '166, and Tillotson '278 described unrelated concepts from the Patent Owner's patent '421. The Patent Owner asserts that Ward '675 had its System connect with parking meters 20, Oracle Ex. 1008, p. 9 para. [20, 22] and a customer transmitting meter data to a cell phone company for billing, *Id.* p. 9 para. [20]. In contrast, the Patent Owner's invention does not rely upon a user communicating to a phone company but does overlay parking status upon a real time picture of a parking place, see II. B. Then, the Patent Owner asserts that Haynes '166 has its camera 1420 mounted upon a fixed pole 122, Oracle Ex. 1009, p. 7 [col. 2 lin. 28] that surveys an entire lot 1320 *Id.* at p. 6 [c. 2 l. 21]. The '421 Patent though operates through a portable electronic device, Oracle Ex. 1010, p. 10 c. 7 l. 30, held by a parking control officer near ground level and views linear parking spaces along a street *Id.* p. 8, c. 4 l. 54. And the Patent Owner asserts that Tillotson '278 counted vehicles entering a parking lot, Oracle Ex. 1011, p. 11, with an entry counter 310 and an exit counter

312, Id. In contrast, the Patent Owner's invention does not have counters at an entry and an exit and does not count vehicles see II. B.

The Patent Owner asserts that the parking meters and their information relayed by a user of Ward '675, the overlapping "moving" objects upon a lot of Haynes '166, the input devices and counting cars of Tillotson '278, and the detectors of Slemmer '556 do not recognize parking status overlay upon a real time video image through their usage is not obvious from the present invention's parking status overlay upon a real time video image, thus a decision to deny Ground 4 has support from a strong inference of non-obviousness where the prior art teachings undermine the very reason why one of ordinary skill would have combined the known elements, *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 90 U.S.P.Q. 2d at 1873; *In re Khan*, 78 U.S.P.Q. 2d at 1329. The technologies shown by Ward '675, Haynes '166, Tillotson '278, and Slemmer '556 do not recognize parking status overlay upon a real time video image, *Leo Pharmaceutical Products, Ltd. v. Rea*, 726 F.3d at 1346. In overlooking the parking status overlay upon a real time video image, the obviousness rejection using three combined references slips into hindsight, Id.

iv. The Petitioner relies upon insufficient motivation to combine the cited references

Ground 4 should be denied because The Petitioner asserts that Ward '675, Haynes '166, Tillotson '278 and Slemmer '566 "efficiently streamline parking enforcement" and "make parking management more efficient to use," Petition, p. 74-75. The Patent Owner asserts that Petitioner's mention of efficiency does not provide a design incentive for an inefficient invention, see generally *expressio unius est exclusio alterius*, Black's Law Dictionary 1717 (8th Ed. 2004)(expression of one thing is to exclude another). The Patent Owner then asserts that efficiency is an implied goal of nearly every invention, 35 U.S.C. §103, as who would seek to

patent an inefficient invention. The Patent Owner asks what is efficiency? It appears as the ratio of useful output to the total input to a system, *Webster's New College Dictionary*, 3rd Ed. p. 367 (2008)[efficiency -definition 2a] or as acting effectively with a minimum of unnecessary effort Id. [efficient -definition 2a].

The Patent Owner asserts that Ward '675 had its System connect with parking meters 20, Oracle Ex. 1008, p. 9, that Haynes '166 had in its method a camera 1420 mounted upon a pole 122, Oracle Ex. 1009, p. 7 [col. 2 lin. 28], that Tillotson '278 counted vehicles entering a parking lot, Oracle Ex. 1011, p. 11 with its entry counter 310 and exit counter 312, and that Slemmer '566 in its Systems used detectors to find objects, that is, cars, Oracle Ex. 1010, p. 12.

The Patent Owner asserts that the meters of Ward '675, the pole mounted camera of Haynes '166, the counters of Tillotson '278, and the detectors of Slemmer '566 as older technology do not show the hallmarks of efficiency, that is, more production from less work than the present invention. The Petitioner's assertion of Ward '675, Haynes '166, Tillotson '278, and Slemmer '566 as being efficient lacks explanation of that, *Plantronics, Inc. v. Aliph Inc.*, 724 F. 3d. To a degree, the Petitioner asserts efficiency as intuitive. However, Merely stating intuitive to combine reference calls for explanation why intuitive or identify motive to combine, *In re Van Os*, 844 F. 3d. The lack of efficiency explanation provides support to deny Ground 4 and to confirm claims 4, 7 of the '421 patent.

XI. CONCLUSION

The Patent Owner asserts that Ivey '037, Slemmer '566, Tillotson '278, Haynes '166, Ward '675, and the Matsumoto '835 reference are non-analogous art. The Patent Owner asserts that Ivey '037, Slemmer '566, Tillotson '278, Haynes '166, Ward '675, and Matsumoto '835 in their above combinations described unrelated concepts from the Patent Owner's patent. And the Patent Owner asserts that Ivey '037, Slemmer '566, Tillotson '278, Haynes '166, Ward '675, and

Matsumoto '835 do not describe their combined efficiencies particularly as better than the Patent Owner's patent '421.

For the foregoing reasons, the Board should confirm the patentability of all of the challenged claims, claims 1-7, of the Patent Owner's U.S. Pat. No. 10,438,421.

Dated: October 11, 2023

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CERTIFICATION PURSUANT TO 37 C.F.R. §42.11

Pursuant to 37 C.F.R. §42.11, the undersigned hereby certifies that this Patent Owner's Response is not being presented for an improper purpose and that all legal contentions, allegations, and denials are warranted and have evidentiary support.

Dated: October 11, 2023

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CERTIFICATION OF COMPLIANCE

Pursuant to 37 C.F.R. §42.24(a)(1)(i), the undersigned hereby certifies that the foregoing Patent Owner's Response complies with the type volume limitation. According to the utilized word-processing system's word count, -the Response- excluding the caption, table of contents, table of exhibits, certification pursuant to 37 C.F.R. §42.11, certificate of word count, and certificate of service- contains 11,770 words.

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CERTIFICATE OF SERVICE

The undersigned hereby confirms that the foregoing Patent Owner's Response was caused to be served on October 11, 2023 to the Board via the P-TACTS system and by electronic mail upon the following counsel of record for Petitioner whose consent is of record:

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