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Paper 47
Entered: December 20, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

WIRTGEN AMERICA, INC and JOSEPH VÖGELE AG,
Petitioner,

v.

CATERPILLAR PAVING PRODUCTS INC.,
Patent Owner.

IPR2018-01200
Patent 9,045,871 B2

Before LYNNE H. BROWNE, JAMES J. MAYBERRY, and RICHARD H. MARSCHALL, *Administrative Patent Judges*.

BROWNE, *Administrative Patent Judge*.

JUDGMENT
Final Decision on Remand
35 U.S.C. § 144, 318(a)

I. INTRODUCTION

We address this case on remand after a decision by the U.S. Court of Appeals for the Federal Circuit in *Caterpillar Paving Products Inc. v. Wirtgen America, Inc.* 843 F.App'x 251 (Fed. Cir. 2020).

Wirtgen America, Inc. and Joseph Vögele AG ("Petitioner"), on June 7, 2018, filed a Petition requesting *inter partes* review of claims 1–6, 8, 9, and 12–17 of U.S. Patent No. 9,045,871 B2 ("the '871 patent"). Paper 3 ("Pet."). We issued a Decision to Institute an *inter partes* review (Paper 9, "Dec.") of all challenged claims (1–6, 8, 9, and 12–17) under all grounds, namely Grounds 1–5 discussed below.

After institution of trial, Caterpillar Paving Products Inc. ("Patent Owner") filed a Patent Owner Response (Paper 17, "PO Resp.") and a Patent Owner's Contingent Motion to Amend (Paper 19, "PO MTA"). Thereafter, Petitioner filed a Petitioner's Reply to Patent Owner's Response (Paper 23, "Pet. Reply") and Petitioner's Opposition to Patent Owner's Motion to Amend (Paper 24, "Pet. Opp. to MTA"). Patent Owner then filed a Patent Owner's Sur-reply (Paper 26, "PO Sur-reply) and Patent Owner's Reply in Support of Motion of Amend (Paper 27, "PO Reply in Support of MTA"). Petitioner subsequently filed a Petitioner's Sur-reply to Patent Owner's Reply to Opposition to Motion to Amend (Paper 34, "Pet. Sur-reply to Opp. to MTA").

Oral argument was conducted on July 30, 2019, for this proceeding and the transcript of the hearing has been entered as Paper 40. We issued a Final Written Decision, in accordance with 37 C.F.R. § 42.73, on November 13, 2019. Paper 41 ("FWD"). In the Final Written Decision, we determined that Petitioner had shown by a preponderance of the evidence that claims 1–

6, 8, 9, and 12–17 were unpatentable. We further denied Patent Owner's Motion to Amend. FWD 62.

Neither party requested a rehearing of any matter decided in the Final Written Decision. Patent Owner, however, appealed the Final Written Decision to the United States Court of Appeal for the Federal Circuit, challenging only our denial of the Motion to Amend.

On February 10, 2020, the Federal Circuit issued a decision in *Caterpillar* vacating and remanding the Final Written Decision for further proceedings. *Caterpillar*, 843 F.App'x at 256. The Court entered the Mandate on April 5, 2021. *Caterpillar Paving Products Inc. v. Wirtgen America, Inc.* Ex. 3002. The Court determined that we applied an incorrect claim construction when evaluating the patentability of the proposed substitute claims. *Caterpillar*, 843 F.App'x at 256. In particular the Court determined that

> Because it is the "recall command" that must "include[] the respective first or second unique identifier," the identifier must be included in a command entered by the operator. It is not enough that the unique identifier is included in an instruction given by the controller in response to the command entered by the operator. Still less is it enough that the controller, or the system as a whole, "uses" the identifier. The plain language of the claims thus requires more than mere use by the system to meet the limitation.

Id.

On September 17, 2021, we issued an Order authorizing the parties to file additional briefing on any issues deemed relevant in light of the Federal Circuit's decision in *Caterpillar*. Petitioner filed a Remand Reply (Paper 45) on October 1, 2021, and Patent Owner filed a Remand Response (Paper 46) on October 18, 2021.

As the Federal Circuit vacated the Final Written Decision only with respect to the proposed substitute claims, this Decision on Remand is limited to a discussion of those claims. We update the Related Proceedings Section to reflect the current status of the ITC Investigation referenced below, we update the Claim Construction Section to reflect the Federal Circuit's determination outlined above, and we revise our analysis of the proposed substitute claims in accordance with the Federal Circuit's instructions.

II. BACKGROUND

A. Related Proceedings

Petitioner indicates that the '871 patent is the subject of "ITC Investigation No. 337-TA-1088 ["ITC 337-TA-1088"] entitled 'Road Construction Machines and Components Thereof' filed on October 26, 2017." Pet. 78. A Final Initial Determination finding claims 1–5, 8, 9 and 12–17 of the '871 patent to be patent ineligible issued on February 14, 2019. Ex. 1069, 1; *see* Ex. 1059, 2 (for list of asserted claims). The ITC issued a Commission Opinion on July 19, 2019, in which the Commission "agrees with the ALJ's holding that the asserted claims of the '871 patent are directed to an abstract idea." Ex. 1069, 11.

Petitioner concurrently filed another petition requesting *inter partes* review challenging claims 1–6, 8, 9, and 12–17 of the '871 patent. IPR2018-01199, Paper 3.

B. The '871 Patent

The '871 patent is directed "to paving machines and, more particularly, to a system for automatically performing one or more set-up functions for a screed assembly of a paving machine." Ex. 1001, 1:7–10. In the system described in the '871 patent, the screed assembly is adjustable.

Id. at 1:45–46. The system includes actuators to adjust the screed assembly and sensors to sense configuration parameters. *Id.* at 1:46–51. The system includes a controller in communication with the sensors that controls operation of the actuators and a memory for storing at least two sets of parameters in response to save commands from the controller. *Id.* at 1:51–56. The controller is configured to recall one of the sets of parameters from memory in response to a recall command, whereupon the configuration of the screed assembly is automatically adjusted to the recalled configuration parameters. *Id.* at 1:57–62.

Operation of the controller is shown in Figure 4 of the '871 patent reproduced below:

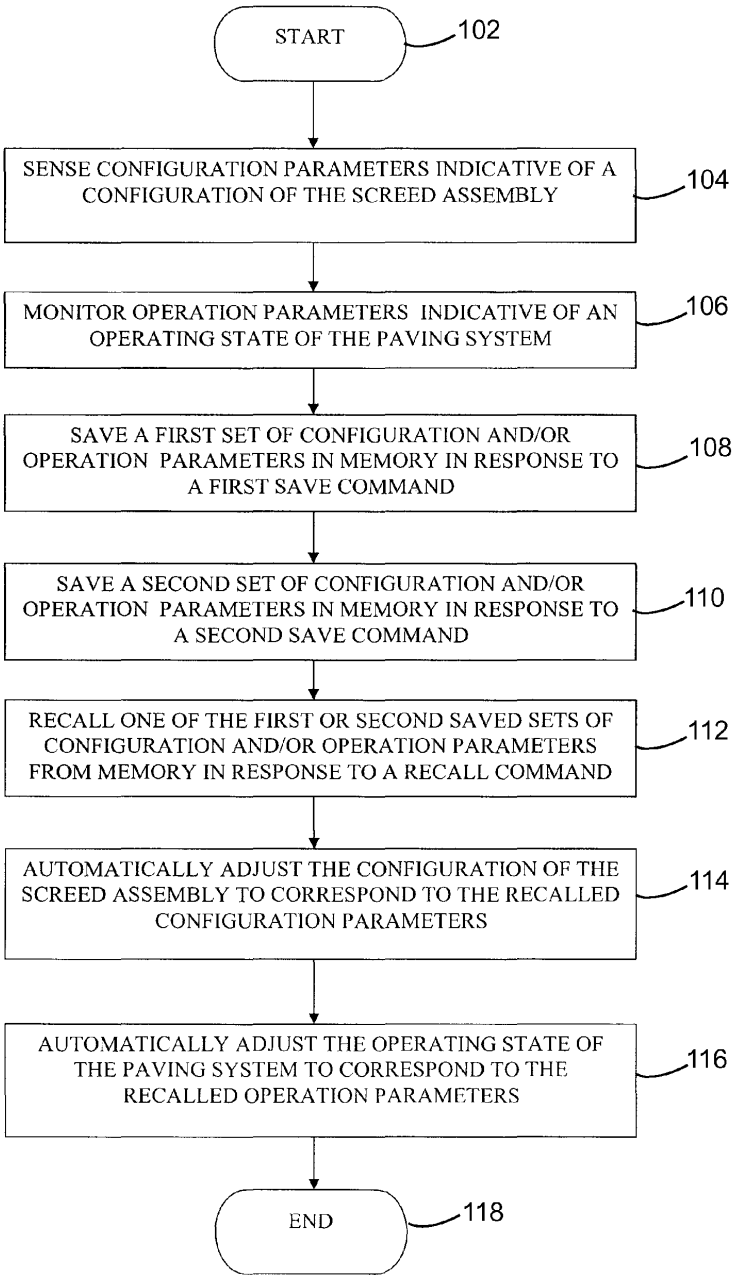

FIG. 4

Figure 4 "is a flow chart for a method of operating a paving machine in accordance with the disclosure." Ex. 1001, 2:35–36. The steps shown in the

flow chart are described in the '871 patent starting at column 8, line 42. For example, the '871 patent states, "[i]n step 112, one of the saved first or second saved sets of parameters may be recalled from memory in response to a recall command. If multiple sets of parameters are stored in memory, the operator can recall the desired set of parameters using the respective identifier." *Id.* at 9:12–16.

C. References Relied Upon

The Petitioner relies on the following references in support of its position regarding the proposed substitute claims:

Name	Reference	Ex. No.
Grembowicz	US 5,568,992, issued Oct. 29, 1996	1006
Panoushek	US 6,871,483 B1, issued Mar. 29, 2005	1008
Buschmann	US 2012/0010787 A1, published Jan. 12, 2012	1007
Sever	US 2009/0187979 A1, published July 23, 2009	1048

Pet. 2–8, 43.

III. CONTINGENT MOTION TO AMEND

Patent Owner requests that if "the Board finds any of original claims [1–6, 8, 9, or 12–17][1] unpatentable in this proceeding, . . . the Board grant this motion to amend with respect to each corresponding substitute claim presented herein, namely claims 21–36." PO MTA 1. Specifically, Patent Owner requests that claim 1 be replaced with claim 21, claims 4–6 be replaced with claims 22–24, claims 8 and 9 be replaced with claims 26 and 27, claims 12 and 13 be replaced with claims 30 and 31, and claims 16

[1] Patent Owner's Motion to Amend mistakenly refers to claims 1, 4–13, and 16–20. PO MTA 1. However, the claims challenged in this proceeding are 1–6, 8, 9, and 12–17.

and 17 be replaced with claims 32 and 33.[2] PO MTA App. A, i–xvi. We discuss the applicable law before turning to the proposed substitute claims.

In an *inter partes* review, amended claims are not added to a patent as of right, but rather must be proposed as a part of a motion to amend. 35 U.S.C. § 316(d) (2018). The Board must assess the patentability of proposed substitute claims "without placing the burden of persuasion on the patent owner." *Aqua Prods., Inc. v. Matal*, 872 F.3d 1290, 1328 (Fed. Cir. 2017) (en banc); *see also Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-001129, Paper 15 at 3–4 (PTAB Feb. 25, 2019) (precedential); 37 C.F.R. § 42.121(d) (setting forth the burdens of persuasion for motions to amend filed on or after January 21, 2021). Subsequent to the issuance of *Aqua Products*, the Federal Circuit issued a decision in *Bosch Automotive Service Solutions, LLC v. Matal*, 878 F.3d 1027 (Fed. Cir. 2017) ("*Bosch*"), as well as a follow-up Order amending that decision on rehearing. *See Bosch Auto.*

[2] Patent Owner does not propose substitute claims for original claims 2, 3, 14 and 15. *See* PO MTA App. A. Additionally, Patent Owner proposes substitute claims 25, 28, 29, and 34–36 for original claims 7, 10, 11, and 18–20 respectively, which are not challenged in this proceeding. *See* PO MTA 1, App. A, vi, xi, xvi–xvii. Because patent owners are authorized only to move to amend claims that are challenged in a proceeding, we dismiss the Motion to Amend in connection with substitute claims 25, 28, 29, and 34–36. *See* 35 U.S.C. § 316(d)(1)(B). Should Patent Owner wish to pursue amendment of any 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).

Serv. Sols., LLC v. Iancu, No. 2015-1928 (Fed. Cir. Mar. 15, 2018) (Order on Petition for Panel Rehearing). In accordance with *Aqua Products*, *Bosch*, and *Lectrosonics*, a patent owner does not bear the burden of persuasion to demonstrate the patentability of the substitute claims presented in the motion to amend. Rather, ordinarily, "the petitioner bears the burden of proving that the proposed amended claims are unpatentable by a preponderance of the evidence." *Bosch*, 878 F.3d at 1040 (as amended on rehearing); *see* 37 C.F.R. § 42.121(d); *Lectrosonics*, Paper 15 at 3–4. In determining whether a petitioner has proven unpatentability of the substitute claims, the Board focuses on "arguments and theories raised by the petitioner in its petition or opposition to the motion to amend." *Nike, Inc. v. Adidas AG*, 955 F.3d 45, 51 (Fed. Cir. 2020).

Notwithstanding the foregoing, a patent owner's proposed substitute claims must meet the statutory requirements of 35 U.S.C. § 316(d) and the procedural requirements of 37 C.F.R. § 42.121. *Lectrosonics*, Paper 15 at 4–8; *see* 37 C.F.R. § 42.121(d)(1). In particular, a patent owner must demonstrate: (1) the amendment proposes a reasonable number of substitute claims; (2) the proposed claims are supported in the original disclosure (and any earlier filed disclosure for which the benefit of a filing date is sought); (3) the amendment responds to a ground of unpatentability involved in the trial; and (4) the amendment does not seek to enlarge the scope of the claims of the patent or introduce new subject matter. *See* 35 U.S.C. § 316(d); 37 C.F.R. § 42.121.

The proposed substitute claims read as follows:

21. A paving machine comprising:
a hopper adapted for storing a paving material on the paving machine;

a screed assembly having a plurality of adjustable components including a main screed section with a left and a right screed section connected to one another along a longitudinal centerline and extending laterally from each other, and adjustable screed extensions provided adjacent to one or more of the screed sections, the plurality of adjustable components being configured to adjust the screed assembly into a plurality of different configurations associated with set-up of the screed assembly prior to a start of a new paving operation;

a conveyor system configured to move paving material from the hopper to the screed assembly;

a plurality of actuators, each actuator being associated with a respective adjustable component of the screed assembly and being supported and configured to adjust the respective adjustable component into different configurations;

a plurality of sensors each configured to sense a configuration parameter of a respective adjustable component of the screed assembly indicative of the configuration of the respective adjustable component; ~~and~~

an operator input device configured to allow an operator of the paving machine to enter a first save command, a second save command and a recall command; and

a controller in communication with the operator input device and the sensors and configured to control operation of the actuators, the controller being configured to:

save in memory in response to the first save command (1) a first set of the configuration parameters sensed by the plurality of sensors and corresponding to the configurations of the adjustable components of the screed assembly that exist at the time of entry of the first save command in association with a first paving operation during which the paving material delivered to the screed assembly by the conveyor system is spread and compacted into a layer, the first set of configuration parameters being determined by the operator to be applicable for a set-up of the screed assembly prior to a later paving operation, and (2) a first set of operation parameters indicative of an operating state of an electronically controlled system of the paving machine that requires adjustment during the first paving operation to enable

the spreading and compacting of the paving material by the screed assembly;

assign a first unique identifier to a first set of parameters comprising the first set of configuration parameters and the first set of operation parameters;

save in memory in response to the second save command (1) a second set of the configuration parameters sensed by the plurality of sensors and corresponding to the configurations of the adjustable components ~~component~~ of the screed assembly then being used that exist at the time of entry of the second save command in association with a second paving operation during which the paving material delivered to the screed assembly by the conveyor system is spread and compacted into a layer, the second set of configuration parameters being determined by the operator to be applicable for a set-up of the screed assembly prior to a later paving operation, and (2) a second set of operation parameters indicative of an operating state of an electronically controlled system of the paving machine that requires adjustment during the second paving operation to enable the spreading and compacting of the paving material by the screed assembly;

assign a second unique identifier to a second set of parameters comprising the second set of configuration parameters and the second set of operation parameters;

recall, using the first or second unique identifier, either one of the first set or second set of the configuration parameters and the corresponding respective first set or second set of the operation parameters from memory in response to the recall command in association with a third paving operation, wherein the recall command includes the respective first or second unique identifier; and

adjust automatically the adjustable components of the screed assembly applicable for a set-up of the screed assembly prior to ~~in associate with~~ the third paving operation to correspond to the configuration parameters included in the recalled first set or second set of the configuration parameters, and adjust automatically the operating state of the respective electronically controlled system requiring adjustment in accordance with the recalled corresponding first set or second set of the operation parameters during the third paving operation.

22. The paving machine of ~~claim 3~~ claim 21 wherein the operation parameters include parameters indicative of an operating state of a tamper bar drive mechanism.

23. The paving machine of ~~claim 1~~ claim 21 wherein the screed assembly is pivotally connected to a frame of the paving machine by a pair of tow arms and the plurality of adjustable components includes the tow arms, wherein the plurality of actuators includes a pair of tow arm actuators each configured and supported to pivot a respective tow arm; wherein the plurality of sensors includes a tow arm position sensor configured and arranged to sense a position of one or both of the tow arms and wherein the configuration parameters included in the recalled first set or second set of the configuration parameters include a position of one or both of the tow arms.

24. The paving machine of ~~claim 1~~ claim 21 wherein the screed extensions are ~~assembly includes~~ a pair of laterally movable screed extensions each extending from an opposing side of [[a]] the main screed section ~~and the plurality of adjustable components includes the screed extensions~~, wherein the plurality of actuators includes screed width actuators each configured and supported to laterally move a respective screed extension, wherein the plurality of sensors include screed width sensors each configured and arranged to sense a width of the screed assembly as defined by lateral positions of each of the screed extensions and wherein the configuration parameters included in the recalled first set or second set of the configuration parameters include the width of the screed assembly.

26. The paving machine of ~~claim 1~~ claim 21 wherein the screed assembly is pivotable about [[a]] the longitudinal centerline so as to provide an adjustable crown position and the plurality of adjustable components include the pivotable screed assembly, wherein the plurality of actuators include a crown position actuator for pivoting the screed assembly about the longitudinal centerline, wherein the plurality of sensors includes a crown position sensor configured and arranged to sense the crown position and wherein the configuration parameters included in the recalled first set or second set of the configuration parameters include the crown position.

27. A paving machine comprising:

an operator input device configured to allow an operator of the paving machine to enter a first save command, a second save command, and a recall command;

a hopper adapted for storing a paving material on the paving machine;

a screed assembly having a plurality of adjustable components including a main screed section with a left and a right screed section connected to one another along a longitudinal centerline and extending laterally from each other, and adjustable screed extensions provided adjacent to one or more of the screed sections, each of the plurality of adjustable components being configured to be adjustable into different configurations associated with set-up of the screed assembly prior to a start of a new paving operation;

a conveyor system configured to move paving material from the hopper to the screed assembly;

a plurality of actuators, each actuator being associated with a respective adjustable component of the screed assembly and being supported and configured to adjust the respective adjustable component into different configurations;

a plurality of sensors each configured to sense a configuration parameter of a respective adjustable component of the screed assembly indicative of the configuration of the respective adjustable component; and

a controller in communication with the operator input device and the sensors and configured to:

save in memory in response to the first save command (1) a first set of the configuration parameters sensed by the plurality of sensors and corresponding to the configurations of the adjustable components of the screed assembly that exist at the time of entry of the first save command in association with a first paving operation during which the paving material delivered to the screed assembly by the conveyor system is spread and compacted into a layer, the first set of configuration parameters being determined by the operator to be applicable for a set-up of the screed assembly prior to a later paving operation, and (2) a first set of operation parameters indicative of an operating state of an electronically controlled system of the paving machine that

requires adjustment during the first paving operation to enable the spreading and compacting of the paving material by the screed assembly,

assign a first unique identifier to a first set of parameters comprising the first set of configuration parameters and the first set of operation parameters,

save in memory in response to the second save command (1) a second set of the configuration parameters sensed by the plurality of sensors and corresponding to the configurations of the adjustable components of the screed assembly then being used that exist at the time of entry of the second save command in association with a second paving operation during which the paving material delivered to the screed assembly by the conveyor system is spread and compacted into a layer, the second set of configuration parameters being determined by the operator to be applicable for a set-up of the screed assembly prior to a later paving operation, and (2) a second set of operation parameters indicative of an operating state of an electronically controlled system of the paving machine that requires adjustment during the second paving operation to enable the spreading and compacting of the paving material by the screed assembly,

assign a second unique identifier to a second set of parameters comprising the second set of configuration parameters and the second set of operation parameters,

recall a first desired set of saved parameters, using the first unique identifier, the first desired set of saved parameters being the first set of the configuration parameters and the corresponding first set of the operation parameters, from memory in response to the recall command entered through the operator input device and automatically adjust the adjustable components of the screed assembly using the respective actuators into a configuration that corresponds to the configuration parameters in the recalled saved first set of the configuration parameters,

adjust automatically the operating state of the respective electronically controlled system of the paving machine that requires adjustment in accordance with the recalled corresponding first set of the operation parameters during a third paving operation,

recall a second desired set of saved parameters, using the second unique identifier, the second desired set of saved parameters being the second set of the configuration parameters and the corresponding second set of the operation parameters, from memory in response to a second recall command entered through the operator input device and automatically adjust the adjustable components of the screed assembly using the respective actuators into a configuration that corresponds to the configuration parameters in the recalled saved second set of the configuration parameters, and

adjust automatically the operating state of the respective electronically controlled system of the paving machine that requires adjustment in accordance with the recalled corresponding second set of the operation parameters during a fourth paving operation.

30. The paving machine of ~~claim 9~~ claim 27 wherein the screed assembly is pivotable about [[a]] the longitudinal centerline so as to provide an adjustable crown position and the plurality of adjustable components includes the pivotable screed assembly, wherein the plurality of actuators include a crown position actuator for pivoting the screed assembly about the longitudinal centerline, wherein the plurality of sensors includes a crown position sensor configured and arranged to sense the crown position and wherein the configuration parameters in the recalled saved first set or second set of the configuration parameters include the crown position.

31. A method of operating a paving machine including a screed assembly having a plurality of adjustable components including a main screed section with a left and a right screed section connected to one another along a longitudinal centerline and extending laterally from each other, and adjustable screed extensions provided adjacent to one or more of the screed sections, a hopper adapted for storing a paving material on the paving machine, and a conveyor system configured to move paving material from the hopper to the screed assembly, the method comprising the steps of:

sensing a plurality of configuration parameters each indicative of a respective configuration of one of the adjustable

components of the screed assembly of the paving machine during a paving operation;

saving in memory (1) a first set of the sensed configuration parameters corresponding to the configurations of the adjustable components of the screed assembly that exist at the time of entry of a first save command by an operator of the paving machine in association with a first paving operation, the first set of configuration parameters being determined by the operator to be applicable for a set-up of the screed assembly prior to a later paving operation, and (2) a first set of operation parameters indicative of an operating state of an electronically controlled system of the paving machine that requires adjustment during the first paving operation;

assigning a first unique identifier to a first set of parameters comprising the first set of configuration parameters and the first set of operation parameters;

saving in memory (1) a second set of the sensed configuration parameters corresponding to the configurations of the adjustable components of the screed assembly that exist at the time of entry of a second save command by an operator of the paving machine in association with a second paving operation in response to a second save command entered by an operator of the paving machine, the second set of configuration parameters being determined by the operator to be applicable for a set-up of the screed assembly prior to a later paving operation, and (2) a second set of operation parameters indicative of an operating state of an electronically controlled system of the paving machine that requires adjustment during the second paving operation;

assigning a second unique identifier to a second set of parameters comprising the second set of configuration parameters and the second set of operation parameters;

recalling, using the first or second unique identifier, either one of the first set or second set of the sensed configuration parameters and the corresponding respective first set or second set of the operation parameters from memory in response to a first recall command entered by an operator of the paving machine, wherein the first recall command includes the respective first or second unique identifier;

> adjusting automatically the adjustable components of the screed assembly using associated actuators to correspond to the configuration parameters included in the recalled first set or second set of the sensed configuration parameters, and adjusting automatically the operating state of the respective electronically controlled system requiring adjustment in accordance with the recalled corresponding first set or second set of the operation parameters during a third paving operation; and
>
> operating the paving machine in a third paving operation with the screed assembly having the recalled first or second set of the sensed configuration parameters.
>
> 32. The method of ~~claim 15~~ claim 31 wherein the operation parameters include parameters indicative of an operating state of a tamper bar drive mechanism.
>
> 33. The method of ~~claim 13~~ claim 31 wherein the screed assembly is pivotally connected to a frame of the paving machine by a pair of tow arms and the plurality of adjustable components includes the tow arms, and wherein the configuration parameters included in the recalled first set or second set of the configuration parameters include a position of the tow arms.

A. Procedural Requirements

"Before considering the patentability of any substitute claims, however, the Board first must determine whether the motion to amend meets the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121." *Lectrosonics*, Paper 15 at 4.

The first requirement is that the Motion to Amend propose a reasonable number of substitute claims. 35 U.S.C. § 316(d)(1)(B). "There is a rebuttable presumption that a reasonable number of substitute claims per challenged claim is one (1) substitute claim. 37 C.F.R. § 42.121(a)(3)." *Lectrosonics*, Paper 15 at 4. The Petition challenges fourteen (14) claims. The Motion to Amend proposes sixteen substitute claims. PO MTA 1, App. A, i–xvii. However, six of the proposed substitute claims correspond

to claims that are not challenged, and thus are not at issue in this proceeding; and none of the proposed substitute claims corresponds to four of the challenged claims (i.e., claims 2, 3, 14, and 15). *See supra* nn.1, 2. As a result, Patent Owner proposes ten substitute claims that each correspond to one challenged claim. Thus, Patent Owner does not propose more than one substitute claim per cancelled claim. As Patent Owner effectively proposes fewer substitute claims than challenged claims, we determine that Patent Owner has demonstrated that the number of proposed substitute claims is reasonable.

The second requirement is determining whether the proposed amended claims respond to a ground of unpatentability involved in this trial. *Lectrosonics*, Paper 15 at 5. Patent Owner asserts that "every proposed amendment is responsive to a ground of unpatentability in this trial." PO MTA 1. Petitioner does not contest Patent Owner's assertion. *See generally* Pet. Opp. to MTA.

We agree with Patent Owner that the Motion to Amend responds to the grounds of unpatentability by further limiting the recitations pertaining to the first and second sets of parameters. Specifically, for proposed substitute claims 21 and 31 (which correspond to original claims 1 and 13), the Motion to Amend adds limitations pertaining to first and second sets of operation parameters, then it adds limitations directed to first and second set of parameters, which include first and second sets of configuration parameters and first and second sets of operation parameters, respectively. PO MTA App. A, iii–iv, xiii–xiv. For proposed substitute claim 27 (which corresponds to original claim 9), the Motion to Amend adds similar limitations include adding a second set of configuration parameters. In

addition, the Motion to Amend also adds limitations requiring assigning first and second unique identifiers. *Id.* The Motion to Amend also adds the requirement of first and second unique identifiers to each of the independent proposed substitute claims (i.e., claims 21, 17, and 31). *Id.* As the question of whether the original independent claims require identifiers is clearly at issue in this proceeding, we determine that Patent Owner has demonstrated that the proposed substitute claims are responsive to the grounds of unpatentability involved in this trial.

The third requirement is that "[a] motion to amend may not present substitute claims that enlarge the scope of the claims of the challenged patent or introduce new subject matter. 35 U.S.C. § 316(d)(3); 37 C.F.R. § 41.121(a)(2)(ii)." *Lectrosonics,* Paper 15 at 6.

In its instructions on Remand, the Federal Circuit states "the Board may reevaluate its written description determination in light of the correct construction of 'recall command' in the proposed substitute claims." *Caterpillar*, 843 F.App'x at 256. We take this opportunity to do so.

The test for determining compliance with the written description requirement is whether the disclosure of the application as originally filed reasonably conveys to a person of ordinary skill in the art that the inventor had possession of the claimed subject matter at the time of filing, rather than the presence or absence of literal support in the specification for the claim language. *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991); *In re Kaslow*, 707 F.2d 1366, 1375 (Fed. Cir. 1983). "This inquiry . . . is a question of fact." *Ariad Pharms., Inc.*, 598 F.3d at 1351.

Petitioner argues that despite Patent Owner's assertion "that the

'871 patent has written description support for a recall command that 'includes' an identifier because the specification refers to a controller that 'uses' identifiers," "the Federal Circuit held that the mere use of identifiers is insufficient" to meet the limitation in proposed substitute claim 21 that requires a "recall command [that] includes the respective first and second unique identifier." Remand Reply 3–4 (citing PO MTA, 10) (quoting *Caterpillar*, 843 F.App'x at 255 ("[I]s mere 'use' by a system sufficient to establish that the 'recall command includes the respective first or second unique identifier?' We hold that it is not."); Ex. 3001, 9; PO MTA *iv*. Petitioner asserts further that "[i]f 'using' identifiers during recall is insufficient for obviousness, it is definitely insufficient for the written description requirement because the written description requirement is a *higher* bar." *Id.* at 4 (citing *Ariad Pharms.*, 598 F.3d at 1352.

In addition, Petitioner asserts that "[t]he '871 patent has only four sentences about identifiers—none of these sentences refer to identifiers included in a recall command. They refer to a controller assigning identifiers and a system that *uses* identifiers, precisely the kind of disclosure the Federal Circuit held was insufficient." Remand Reply 4. According to Petitioner, "[t]he '871 patent does *not* say that the recall command includes identifiers. Nor does the motion to amend explain how a system that 'uses' identifiers is insufficient under obviousness yet somehow sufficient under the written description requirement." *Id.* at 5.

Patent Owner responds that the Board correctly found written description support for the proposed substitute claims. Remand Resp. 1. According to Patent Owner, "[t]he Federal Circuit's decision does not call into question the sufficiency of Caterpillar's evidence," rather "the Federal

Circuit explains that '[t]he operator enters the recall command, and the controller receives it: the controller takes the 'recall' actions, i.e., summoning saved configuration and operation parameters, 'in response to' the recall command." *Id.* at 2 (citing Ex. 3002,[3] 10). Patent Owner responds further that

> the Federal Circuit concludes that, "[b]ecause it is the 'recall command' that must 'include[] the respective first or second unique identifier,' the identifier must be included in a command entered by the operator." As a result, "mere 'use' by a system" is insufficient "to establish that the 'recall command includes the respective first or second unique identifier.'"

Id. (quoting and citing Ex. 3002, 9) (internal citation omitted). According to Patent Owner, "this does not call into question the sufficiency of Caterpillar's evidence because neither Caterpillar nor Dr. Sorensen rely on 'mere 'use' by a system.'" *Id.*

Patent Owner responds that "[c]ontrary to Wirtgen's suggestion that the '871 patent must expressly 'say that the recall command includes identifiers,' Paper 45 at 5, 'it is not necessary that the application describe the claimed invention in ipsis verbis' to 'comply with the description requirement.'" Remand Resp. 3–4 (citing *In re Edwards*, 568 F.2d 1349, 1351–1352 (C.C.P.A. 1978)). According to Patent Owner, '"all that is required is that it reasonably convey to persons skilled in the art that, as of the filing date thereof, the inventor had possession of the subject matter later claimed by him.'" *Id.* at 4 (quoting *Edwards*, 568 F.2d at 1251–1352). Patent Owner responds further that "[a]pplying the correct test, Ex. 2007 at ¶33, Dr. Sorensen testified that the '871 patent's priority applications

[3] We note that Patent Owner cites Ex. 3001 (our Final Decision), but quotes Ex. 3002.

supported the claimed recall command that includes an identifier." *Id.* (citing Ex. 2007 ¶ 169) (internal citations omitted).

Patent Owner also responds by asserting that Petitioner's arguments regarding written description are untimely and that this issue is not properly before the Board. Remand Resp. 4–5.

We begin our analysis of the parties' positions by disposing of Patent Owner's argument that Petitioner's arguments regarding written description support for a recall command that includes the respective first or second unique identifiers are untimely and that this issue is not properly before us. In its Decision, the Federal Circuit states that we "applied an incorrect claim construction when evaluating the patentability of the proposed substitute claims." Ex. 3002, 11. The Court instructed us further that we "may reevaluate [our] written description determination in light of the correct construction of 'recall command' in the proposed substitute claims." *Id.* Petitioner's arguments are specifically authorized by us in view of the new claim construction applicable to this proceeding and are timely as Petitioner could not have reasonably been expected to anticipate this new claim construction. Thus, this issue is properly before us.

Next, we turn to the portions of the specification of the '871 patent that discuss the interplay between the claimed identifiers and the recall command. Relevant to our inquiry is the following paragraph:

> As with the saving of the parameters, the operator may recall and apply the saved set of parameters by entering the recall command, for example, via an input device provided at one of the user interfaces 68. To the extent more than one set of parameters has been saved, the operator may recall the desired set of parameters using the assigned identifier.

Ex. 1001, 8:23–28; *see id.* at 7:38–52. The '871 patent does not explicitly

state that the recall command includes the respective first or second unique identifier as required by proposed substitute claim 21. As noted by Patent Owner, however, such explicit disclosure is not required in order to demonstrate possession. *Edwards*, 568 F.2d at 1352. Further, a person of ordinary skill in the art would have read these two sentences in context together and would have understood that "recall . . . using the assigned identifier" meant that the operator inputs the identifier into the user interface such that the recall command entered into the user interface would include the assigned identifier. *See Caterpillar*, 843 F.App'x at 256; Ex. 2007 ¶ 169.

Further evidence in the record before us indicates that recall could have been accomplished in at least two different ways at the time of filing of the '871 patent. Panoushek describes a control system where recall of the operation parameters (set 1 or set 2) is accomplished by a control system that uses a toggle switch or a touch pad. Ex. 1008, 2:6–9. Panoushek's toggle switch based system illustrates one way in which recall can be accomplished without including the unique identifiers as part of the recall command. Specifically, Panoushek discloses actuating resume switch 52 to recall header 14 from one position to another position such as from a raised to a lowered position.[4] *Id.* at 6:33–36. Another way to achieve recall is described in Sever.[5] Ex. 1048, Fig. 1. In Sever, data (such as Panoushek's set 1 and set 2 data) in a database is recalled by a command that includes unique identifiers (e.g. passwords). Ex. 1048 ¶ 43 ("The entity may . . .

[4] Panoushek does not describe its touch pad based system in detail. *See, generally,* Ex. 1008.
[5] U.S. Patent App. No. 2009/0187979 A1, pub. July 23, 2009 (Ex. 1048).

access an ID database with an assigned or selected password.)"

We find that a person of ordinary skill in the art at the time of the invention would have been aware of both ways to achieve recall and would have read the relevant passages of the '871 patent specification with that knowledge in mind. *See* Ex. 1008; Ex. 1048; *see also* Ex. 1001, 7:38–52, 8:23–28. Thus, we find that a person of ordinary skill reading the specification of the '871 patent would have understood that Patent Owner had possession of the claimed subject matter at the time of filing. Dr. Sorenson's testimony confirms this finding. Ex. 2007 ¶ 169.

Noting that "[c]laims 21 and 27 each recite a controller configured to '*assign a first [/second] unique identifier to a first [/second] set of parameters*,' and claim 31 recites '*assigning a first [/second] unique identifier to a first [/second] set of parameters*,'" Petitioner asserts further that "[t]he substitute claims are unpatentable for lack of written description," because "the '871 patent does not have written description support for unique identifiers." Pet. Opp. to MTA 24–25. According to Petitioner, "[a] unique identifier is a specific type of identifier guaranteed to be unique among all identifiers; not all identifiers are unique," "but the specification does not disclose 'unique identifiers' as recited in [the substitute] claims." *Id.* at 25 (citing Ex. 1056 ¶ 62; Ex. 1054, 104:3–14). Acknowledging that "the specification states that the controller can assign an identifier to different sets of parameters and that an operator can later recall the parameters using the identifiers," Petitioner, nevertheless, contends that "the inventors never said that the identifiers are guaranteed to be unique—or even how the controller uses the identifiers." *Id.* (citing Ex. 1001, 7:39–42, 8:26–28, 9:1–4, 9:15–17; Ex. 1056 ¶¶ 64–65).

Patent Owner contends that "[t]he priority applications provide support for the 'assign' limitations with respect to both the 'first unique identifier' and the 'second unique identifier.'" PO MTA 9 (citing Ex. 2007 ¶ 168). According to Patent Owner, "[t]he priority applications disclose that 'the controller 66 may be configured to assign a *different* identifier to each saved set of parameters in order to simplify the recall of the data.'" *Id.* at 25–26 (citing Ex. 1005 ¶ 28; Ex. 2004, ¶ 28) (emphasis added).

In its Sur-reply, Petitioner reiterates its argument that "the '871 patent has no §112 support for guaranteeing that the identifiers are unique." Pet. Sur-reply to Opp. to MTA 1. During oral argument, Patent Owner argued that "the use of the word unique in the claims is just the way to refer to things that are different when you're only hinting to something in the singular. So the meaning is no different for unique identifier in the amended claims from the specification use of identifier." Tr. 32, ll. 4–8.

We find Patent Owner's assertion that in this case "unique" simply means "different" credible. Although, the term "unique identifier" may be considered to be a specific type of identifier in some contexts that is not the case in the context of the claims at issue in this proceeding. As noted by Petitioner, the specification of the '871 patent does not use the claim term "unique identifier," but does use the term "different identifier." Pet. Opp. to MTA 25. Thus, it appears that Patent Owner is simply using the terms "unique" and "different" interchangeably. Accordingly, we find that the Specification of the '871 patent provides written description support for the claim term "unique identifier."

Turning to the issue of written description support for the rest of the amendments (i.e., the uncontested limitations), we note that Patent Owner

identifies the paragraphs in the specification of the '871 patent that provide support for the features added to the proposed substitute claims. PO MTA 3–16. Having considered Patent Owner's assertions and evidence, Petitioner's contentions, and the full record developed during trial, we determine that Patent Owner has, by a preponderance of evidence, demonstrated that the proposed substitute claims do not enlarge the scope of the claims of the challenged patent or introduce new subject matter.

Finally, the Motion to Amend includes a claim listing, as required by 37 C.F.R. § 42.121(b). *Lectrosonics*, Paper 15 at 8; PO MTA App. A.

In view of the above, we determine that the Motion to Amend meets the statutory and regulatory requirements of 35 U.S.C. § 316(d) and 37 C.F.R. § 42.121. We turn now to whether Petitioner has met the burden of persuasion with respect to patentability.

B. Patentability of Proposed Substitute Claims 21–24, 26, 27, 30–33

1. Eligibility of Proposed Substitute Claims 21–24, 26, 27, 30–33 under 35 U.S.C. § 101

As we determine that proposed substitute claims 21–24, 26, 27, and 30–33 are unpatentable as obvious for the reasons discussed below, we need not determine if these claims are also patent eligible.

2. Obviousness of Proposed Substitute Claims 21–24, 26, 27, and 30–33 in view of the Combined teachings of Grembowicz, Panoushek, Buschmann, and Sever

a. Patent Owner's Motion to Amend

Patent Owner asserts that "the new proposed claims are not obvious over the IPR prior art cited by Petitioners in their proposed grounds of rejection." PO MTA (citing *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01587, Paper 93 at 64–65 (PTAB Dec. 12, 2018)

(Final Written Decision and Order on Motion to Amend); Paper 23 at 17–21 (PTAB Mar. 20, 2018) (Patent Owner's Contingent Motion to Amend)). Specifically, Patent Owner submits the following three contentions. First, Patent Owner contends that:

> None of the cited prior art references disclose "assign[ing] a first unique identifier to a first set of parameters comprising the first set of configuration parameters and the first set of operation parameters" and "assign[ing] a second unique identifier to a second set of parameters comprising the second set of configuration parameters and the second set of operation parameters," as required by claim 21.

PO MTA 19 (citing Ex. 2007 ¶ 193). According to Patent Owner, "[n]either Panoushek nor Buschmann discloses assigning a unique identifier to any saved parameters," because "[t]here is no description in either reference that discusses the assignment of a unique identifier or describes to a POSITA how to use a unique identifier." *Id.* at 20 (citing Ex. 2007 ¶ 195).

Second, Patent Owner contends that:

> None of the cited prior art references disclose "recall[ing], *using the first or second unique identifier*, either one of the first set or second set of the configuration parameters and the corresponding respective first set or second set of the operation parameters from memory in response to the recall command in association with a third paving operation, *wherein the recall command includes the respective first or second unique identifier*," as required by claim 21.

PO MTA 20 (citing Ex. 2007 ¶ 196). According to Patent Owner, claim 21 "include[s] additional recitations to further clarify that both sets of parameters must be available for selection at the same time. *Id.* (citing Ex. 2007 ¶ 197). Patent Owner asserts that "[t]he additional recitations are consistent with the specification's description that '[i]f multiple sets of parameters are stored in memory, the operator can recall the desired set of

parameters using the respective identifier'" and that "[t]hese respective identifiers allow the operator to distinguish between the multiple saved parameters that may be selected at a given time depending on the desired operations to be performed. *Id.* at 21 (citing Ex. 1001, 17:38–42, 8:26–29, 9:1–4, 12–16). With this understanding in mind, Patent Owner contends that "[n]either Panoushek nor Buschmann allow the operator to distinguish between multiple saved parameter sets using a unique identifier to select a given parameter set at a later time depending on the desired operations to be performed." *Id.* at 22 (citing Ex. 2007 ¶ 189).

Third, Patent Owner contends that:

> None of the cited prior art references discloses "sav[ing] in memory response to the first save command (1) a first set of the configuration parameters . . . , the first set of configuration parameters being *determined by the operator to be applicable for a set-up of the screed assembly prior to a later paving operation, and* (2) a first set of operation parameters indicative of an operating state of an electronically controlled system of the paving machine *that requires adjustment during the first paving operation to enable the spreading and compacting of the paving material by the screed assembly*" and the corresponding features of the second "save" limitation, as required by claim 21.

PO MTA 23–24 (citing Ex. 2007 ¶ 201). According to Patent Owner,

> Buschmann does not disclose saving both "a first set of operation parameters" and "a second set of operation parameters" that are both "indicative of an operating state of an electronically controlled system of the paving machine that requires adjustment during the [respective first and second paving operations] to enable the spreading and compacting of the paving material by the screed assembly." At best, Buschmann only discloses saving a single set of drive positions that relate to paving operations.

Id. at 24–25 (citing Ex. 2007 ¶ 203).

b. Petitioner's Opposition to Motion to Amend

Petitioner responds to each of Patent Owner's contentions. Pet. Opp. to MTA 1–14. Responding to Patent Owner's first contention that none of the prior art references discloses assigning first and second unique identifiers, Petitioner asserts that "Grembowicz in view of Panoushek, Buschmann, and Sever teaches a controller configured to assign '*a first unique identifier to a first set of parameters*' and '*a second unique identifier to a second set of parameters*.'" *Id.* at 5 (citing Ex. 1056 ¶¶ 29–38). In support of this contention, Petitioner explains that "Panoushek's controller assigns WORK SET 1 to identify values saved for set 1 and WORK SET 2 to identify the values saved for set 2." *Id.* (citing Panoushek, 9:31–46, Fig. 4; Ex. 1054, 97:20–22). According to Petitioner, "WORK SET 1 is a '*first unique identifier to a first set of parameters*' and WORK SET 2 is a '*second unique identifier to a second set of parameters*.'" *Id.* (citing Ex. 1056 ¶¶ 33–34).

Petitioner explains further that "[a] POSITA would have understood that the controller assigns other identifiers to set 1 and set 2 in the form of memory addresses or pointers. Pet. Opp. to MTA 5 (citing Ex. 1056 ¶¶ 35–37). In addition, Petitioner explains that "[a]s Dr. Sorensen explained during deposition, the values associated with WORK SET 1 and WORK SET 2 would be stored at a memory address. (Sorensen Depo., 97:18–22). These addresses are different identifiers because the controller assigns different addresses to identify the storage location of the values for WORK SET 1 and WORK SET 2." *Id.*

Turning to Patent Owner's second contention that none of the prior art references disclose recalling using the first and second unique identifiers,

Petitioner asserts that the proposed combination "teaches a controller configured to "*recall . . . one of the first set or second set of the configuration parameters . . . from memory in response to the recall command in association with a third paving operation*," as these elements are identical to the elements in claim 1. Pet. Opp. to MTA 6–7 (citing Pet. 39–40). According to Petitioner,

> The combination teaches "*recall . . . the corresponding respective first set or second set of the operation parameters*" because a POSITA would have been motivated to recall not only configuration parameters but also operation parameters to: (1) reduce the number of required operator interaction; (2) prevent operator errors; (3) improve laying quality; (4) improve operational safety; (5) reduce labor costs; (6) reduce fuel consumption; and (7) provide a uniform work result.

Id. at 7 (citing Ex. 1003 ¶¶ 122–131, 164–165; Pet. 62–63). Petitioner asserts further that "[t]he combination also teaches '*using the first or second unique identifier*' and '*wherein the recall command includes the respective first or second unique identifier*' because . . . , Panoushek uses the unique identifiers WORK SET 1 and WORK SET 2 (and corresponding pointers / memory addresses) during recall." *Id.* (citing Ex. 1003 ¶ 40).

Regarding Patent Owner's third contention that none of the prior art references discloses the saving in memory recitations, Petitioner replies that:

> Grembowicz in view of Panoushek, Buschmann, and Sever teaches a controller configured to save "*a first [/second] set of operation parameters indicative of an operating state of an electronically controlled system of the paving machine that requires adjustment during the first [/second] paving operation to enable the spreading and compacting of the paving material by the screed assembly*" because a POSITA would have been motivated to save/recall operation parameters for various drives (i.e., operating states of an electronically controlled system) of the tamper, leveling cylinder, screed, and spreading screw.

Pet. Opp. to MTA 4 (citing Buschmann ¶¶ 4, 19, 33; Ex. 1056 ¶ 28; Pet. 58–63).

As to motivation to combine the references, Petitioner argues that "a POSITA would have been motivated to combine Grembowicz and Panoushek to save/recall *configuration parameters*" and "to save/recall *operation parameters* as taught in Buschmann." Pet. Opp. to MTA 8–9 (citing Pet. 61; Ex. 1003 ¶ 124). Petitioner also argues that a POSITA would have been motivated to use Sever's unique identifiers for a number of reasons and that "Panoushek's controller can use these unique identifiers because Panoushek can use a touch-screen interface, which would allow an operator to input unique identifiers for each saved parameter set." *Id.* at 9 (citing Ex. 1008, 7:43–36, 5:11–22; Ex. 1047, 2:66–3:11; Ex. 1048 ¶¶ 2, 17, 40, 43–44; Ex. 1050 ¶ 85; Ex. 1056 ¶ 32).

c. Patent Owner's Reply in Support of Motion to Amend

With respect to Petitioner's arguments in answer to Patent Owner's first contention that none of the prior art discloses unique identifiers as claimed, Patent Owner does not directly challenge Petitioner's argument that both Panoushek and Sever disclose unique identifiers. Instead, Patent Owner asserts that "none of [Petitioner's] alleged identifiers are included in a recall command, as required by independent claims 21 and 31, or recall a 'desired' set of saved parameters, as required by independent claim 27." PO Reply in Support of MTA 2. We consider this argument to be applicable to Patent Owner's second contention discussed below.

Regarding its second contention that none of the prior art references discloses recall using the unique identifiers, Patent Owner asserts that "whether Panoushek uses any of these identifiers during recall has nothing to

do with whether the recall command includes such identifiers. The alleged recall command does not." PO Reply in Support of MTA 2 (citing Ex. 2010 ¶¶ 50–67). Patent Owner asserts further that "[t]he closest Petitioner or its expert come is implying that an operator could input unique identifiers from Sever for recall via second operator input 52," "[b]ut an operator can only input different types of signals or commands via third operator input 54, Panoushek at 5:16-22, which Petitioner and its expert say is for save commands, not recall commands." *Id.* at 3 (citing Pet. 31; Ex. 1003 ¶ 102). According to Patent Owner, "Panoushek teaches only 'successive input signals or commands' for second operator input 52, which Petitioner points to for the recall command, not different types of signals or commands." *Id.* (citing Panoushek, 5:11–15). "Although Petitioner cites its expert for the proposition that the instruction could be 'recall stored parameter set 1,' Paper 23 at 9, its expert correctly says only that the instruction could be 'recall stored parameters.'" *Id.* at 5–6 (citing Ex. 1055 ¶ 16). Thus, Patent Owner contends that "[Petitioner's expert] cannot agree with Petitioner because his position is that an operator's choice of WORK SET 1 or WORK SET 2 is enabled not by different types of input signals or commands, but by 'the number of times the operator successively actuates the resume switch 52.'" *Id.* at 4 (citing Ex. 1055 ¶ 31).

Turning to its third contention that none of the prior art references discloses the save recitations, Patent Owner contends that although "Petitioner alleges the prior art 'teaches a controller configured to save '*a first [/second] set of operation parameters indicative of an operating state of an electronically controlled system of the paving machine that requires adjustment during the first [/second] paving operation*,'" Petitioner does not

"allege these saves are 'in response to' the first and second save commands, as required by independent claims 21 and 27. PO Reply in Support of MTA 5. Patent Owner asserts further that "Buschmann does not disclose the save command limitations in the original claims, IPR2018-01199, Paper 10 (Nov. 14, 2018) at 18-21, much less the substitute independent claims." *Id.* Based on this assertion, Patent Owner contends that Petitioner's proposed combination cannot teach any operation-parameter-save "in response to" a save command, as required by the proposed substitute claims. *Id.* at 5–6.

d. Petitioner's Sur-reply to Patent Owner's Reply in Support of Motion to Amend

Regarding Patent Owner's second contention that none of the prior art references disclose recalling using the unique identifiers, Petitioner replies that "initiating a recall command that uses an identifier is precisely what the '871 patent discloses." Pet. Sur-reply to Opp. to MTA 5 (citing Ex. 1001, 8:27–28, 9:14–16). In support, Petitioner quotes the '871 patent, as stating "the operator may recall the desired set of parameters using the assigned identifier." *Id.* (quoting Ex. 1001, 8:27–28). According to Petitioner, "Panoushek, like the '871 patent, enables an operator to recall a parameter set using assigned identifiers," because Panoushek's recall command includes an identifier because the controller uses an identifier when executing the recall command . . . The identifier is therefore part of the recall command." *Id.* at 6 (citing Pet. Opp. to MTA 7).

Petitioner replies further that

> The combination with Sever also teaches this limitation. Panoushek can use "a numerical touch screen on display device 62." (*See* Panoushek, 7:34–36, 5:11–22; [Ex. 1056] ¶ 32[])[.] When Panoushek uses a touchscreen to input save and recall commands, it would have been obvious to include an identifier

> in the recall command to directly move the machine to the desired parameters . . . . [T]he signal sent between Panoushek's touchscreen would include both (1) an indication that the operator pressed the resume switch and (2) a unique identifier as taught in Sever.

Id. According to Petitioner, "Dr. Sorensen's own work as a graduate student . . . shows that using a touchscreen interface to input save and recall commands was well known and within the knowledge of a POSITA." *Id.* at 7. Responding to "Dr. Sorensen['s] alleg[ation] that '[i]t would be cumbersome, overly burdensome, and impractical for an operator of a paving machine to use Sever's identifiers,'" Petitioner contends that "unique identifiers would not be cumbersome, burdensome or impractical." *Id.* at 8 (citing Ex. 1054 ¶ 44). Petitioner asserts that "a POSITA would have been motivated to use unique identifiers in paving machines because unique identifiers enable settings to be saved not only internally but also externally." *Id.* (citing Pet. Opp. to MTA 9) (internal citation omitted). According to Petitioner, "[s]aving the settings externally is quite beneficial because, as Rutz explains, '[i]t can furthermore be expedient in the case of a road paver if an implemented parameter set . . . is transmitted to at least one additional road paver, of the same type or at least similar, at the construction site." *Id.* at 8–9 (citing Rutz, 2:66–3:3.)

In addition, Petitioner reiterates its explanation of "how an operator successively actuates Panoushek's resume button to recall desired parameter sets." Pet. Sur-reply to Opp. to MTA 9 (citing Pet. Reply 8–16; Ex. 1056 ¶¶ 27–32). Petitioner asserts that "[i]f the operator wants to recall WORK SET 1, the operator can do so" and "if desired, the operator can recall WORK SET 2." *Id.* (citing Pet. Reply 23; Ex. 1024, 74:17–75:2). Then, Petitioner clarifies that its opposition "relies on Buschmann only to show

that a paver can save 'operation parameters' with 'configuration parameters.'" *Id.* at 10 (citing Pet. Opp. to MTA 4–6).

e. Petitioner's Remand Reply

Petitioner asserts that "[t]he Federal Circuit did not vacate the Board's finding that 'Sever teaches the use of unique identifiers.'" Pet. Remand Reply 5 (citing Paper 41, p. 56). Thus, according to Petitioner, "[t]he only issue on remand with respect to the obviousness analysis is whether Grounds 1–4 disclose a recall command that includes an identifier" which "[t]hey undoubtedly do." *Id.* In support of its argument that the combination teaches a recall command that includes an identifier, Petitioner contends that all of its grounds rely on the combination of "Panoushek's touchscreen and Sever's unique identifiers to save/recall parameters." *Id.* at 5–6 (citing Pet. Opp. to MTA 8–9). Petitioner also notes that Patent Owner did not dispute Petitioner's "motivations to combine Panousheck and Sever" on appeal and contends that "Dr. Sorensen's own work as a graduate student . . . underscores that the operator interface claimed in the substitute claims was known in the art." *Id.* at 7.

f. Patent Owner's Remand Response

Patent Owner responds that Petitioner's obviousness arguments are too late and contrary to the testimony of its expert. PO Remand Resp. 5. Patent Owner responds further that "[t]he Board should also reject [Petitioner's] remand obviousness arguments as naked attorney argument" because Dr. Ehsani "never articulated a combination in which 'Panoushek's touchscreen sends a recall signal to the controller that includes both (1) an indication that the operator pressed the resume switch and (2) an identifier.'"

Id. at 6 (citing Paper 45, 6). According to Patent Owner, "[t]hat comes solely from [Petitioner's] sur-reply. *Id.* (internal citation omitted).

Patent Owner contends that Dr. Ehsani's testimony contradicts Petitioner's position with respect to a recall command that includes an identifier. PO Remand Resp. 6–7. Patent Owner contends further that "[t]he reasons for the combination articulated in paragraph 32 and in Paper 24 at 9 are irrelevant because the combination does not result in a recall command that includes an identifier" and "[f]or the same reason, Dr. Sorensen's work is also irrelevant." *Id.* at 7. In addition, Patent Owner argues that "[i]t does not matter if a POSITA could have modified Panoushek to include a unique identifier in the recall command because that is insufficient to establish obviousness." *Id.*

g. Analysis

1. Proposed Substitute Claims 21–24, 26, and 31–33

Having considered Patent Owner's assertions, Petitioner's arguments, and the full record developed during trial, as well as the parties' arguments in response to the Remand from the Federal Circuit, we determine Petitioner has shown claims 21–24, 26, and 31–33 to be unpatentable for the reasons discussed below. Our analysis focuses on proposed substitute claim 21.

Before turning to the contested limitations, we note that Petitioner maps each element of proposed substitute claims 21–24, 26, and 31–33 to corresponding disclosures in Grembowicz, Panoushek, Buschmann, or Sever and provides reasoning in support of the proposed combinations. Pet. Opp. to MTA 1–9. We further note that Patent Owner does not present separate arguments for the patentability of proposed substitute claims 22–24, 26 and 31–33.

Turning to Patent Owner's first contention that none of the prior art references teach assigning first and second unique identifiers, we do not agree. As discussed above in Part III.A, we adopted Patent Owner's definition of "unique" as simply meaning "different." Applying this definition, it is clear that Panoushek's "WORK SET 1" and "WORK SET 2" are unique identifiers. Further, we agree with Petitioner that Sever teaches the use of unique identifiers. *See* Pet. Opp. to MTA 6, 9.

We also do not agree with Patent Owner's second contention that none of the prior art references teach use of the unique identifiers in the recall command. Although we agree with Patent Owner that Panoushek's method requires successive actuation of resume switch 52, we do not see this requirement as nullifying the fact that Panoushek's method uses the unique identifiers "WORK SET 1" and "WORK SET 2" to recall the saved parameters. *See* Panoushek, Fig. 4. We address whether the recall command itself includes identifiers below.

Regarding Patent Owner's third contention that none of the prior art references teaches the "save" recitations, we disagree because Patent Owner's argument addresses only the Buschmann reference. *See* PO MTA 24–25; PO Reply in Support of MTA 5–6. We, however, understand Petitioner's position with respect to these limitations to be that Panoushek teaches the saving of first and second sets of parameters (including configuration parameters) that require adjustment during operation of the machine as explained, for example on pages 53–54 of the Petition. We further understand Petitioner's position to be that Buschmann discloses saving of operation parameters with configuration parameters as discussed on pages 59–62 of the Petition. We do not understand Petitioner to be

relying on Buschmann's disclosure alone to meet this limitation in proposed substitute claim 21.

We also disagree with Patent Owner's arguments after Remand. We explicitly authorized additional briefing on the issue of obviousness in view of the new claim construction. Thus, Petitioner's arguments are timely. Petitioner's arguments regarding inclusion of an identifier in the recall command are supported by the Sever reference itself, which teaches accessing "an ID database with an assigned or selected password to create a data record or data sheet 110" or "provide or update any type of information desired."[6] Ex. 1048 ¶ 43, *see id.* at ¶¶ 42–44, Fig. 1. Further, Petitioner provided sufficient reasoning, with rational underpinnings, in support of the proposed combination in its Opposition to Patent Owner's Motion to Amend. Pet. Opp. to MTA, 7 (listing seven motivating reasons and supporting the reasons with citations to Dr. Ehsani's declaration). Although we find that Petitioner persuasively supports its contentions as to Sever and its combination with declarant testimony, the teachings of Sever and the proposed combination are so straightforward that no further expert testimony was required, as Patent Owner suggests. *See id.*; Pet. Remand Reply 6–7;

[6] We note that to the extent that Patent Owner is arguing that Sever does not disclose identifiers in the recall command, this position undercuts the evidence in support of its contentions that the '871 patent has written description support for this subject matter. Specifically, Sever provides support for Patent Owner's position that it possessed written description support for a recall command that includes an identifier at the time of the invention. Patent Owner cannot reasonably simultaneously contend that Sever does not teach a recall command that includes an identifier while arguing that the less specific disclosure in the '871 patent shows possession of an invention including a recall command that includes an identifier.

Ex. 1056 ¶¶ 31 (discussing Sever's disclosure of unique identifiers), 32 (discussing combination of Panoushek with Sever that allows "an operator to input unique identifiers corresponding to each saved parameter set") Ex. 1048 ¶¶ 17, 40, 43–44, Figs. 1–2.

Petitioner's contentions with respect to the remaining limitations of proposed substitute claim 21 are not contested by Patent Owner. *See* PO Reply in Support of MTA 1–6. We have reviewed Petitioner's arguments and evidence in support of these findings. We are persuaded that Petitioner has sufficiently shown that these limitations are met by the combined teachings of Grembowicz, Panoushek, Buschmann, and Sever. Patent Owner also does not contest Petitioner's contentions regarding the similar limitations in proposed substitute claim 31 and the additional limitations in proposed substitute dependent claims 24 and 33. *See id.* We have reviewed Petitioner's arguments and evidence in support of these findings. We are persuaded that Petitioner has sufficiently shown that these limtations are met by the combined teachings of Grembowicz, Panushek, Buschmann, and Sever.

For these reasons, we determine that Petitioner has demonstrated, by a preponderance of evidence, that proposed substitute claim 21 would have been obvious in view of the combined teachings of Grembowicz, Panoushek, Buschmann, and Sever. As noted above, Patent Owner does not provide separate arguments for the patentability of proposed substitute claims 22–24, 26, and 31–33. *See* PO Reply in Support of MTA 1–9. Accordingly, based on the entire record in this proceeding, we find that Petitioner has demonstrated by a preponderance of evidence that proposed substitute claims 24, 31, and 33 would have been obvious in view of the

combined teachings of Grembowicz, Panoushek, Buschmann, and Sever. For the same reasons, we find that Petitioner has demonstrated that proposed substitute claims 22 and 32 would have been obvious in view of the combined teachings of Grembowicz, Panoushek, Buschmann, Sever, and Emerson, proposed substitute claim 23 is obvious in view of the combined teachings of Grembowicz, Panoushek, Buschmann, Sever, and Lossow, and proposed substitute claim 26 would have been obvious in view of the combined teachings of Grembowicz, Panoushek, Buschmann, Sever, and Davin.

2. Proposed Substitute Claims 27 and 30

Proposed substitute claim 27 is an independent claim and proposed substitute claim 30 depends from claim 27. Petitioner maps elements for each limitation of claims 27 and 30 to corresponding disclosures in Grembowicz, Panoushek, Buschmann, Sever, or Davin. Pet. Opp. to MTA 11, 14–15. Patent Owner asserts that "[n]either Petitioner nor its expert articulate how the alleged WORK SET or pointer / memory address identifiers are used to recall any 'desired set of saved parameters.' Indeed, neither even mentions this claim language." PO Reply in Support of MTA 4. Patent Owner argues that "it cannot be obvious to use the alleged identifiers to recall any desired set of saved parameters because the alleged recall command, the only way that an operator could express any desire at all, does not enable an operator to express desire or choose between available sets of saved parameters. *Id.* (citing Ex. 2010 ¶¶ 69–77).

In its Sur-reply, Petitioner contends that "[w]hen Panoushek uses a touchscreen to input save and recall commands, it would have been obvious

to include an identifier in the recall command to directly move the machine to the desired parameters." Pet. Sur-reply to Opp. to MTA 6 (citing Ex. 1056 ¶ 32). According to Petitioner, "the signal sent between Panoushek's touchscreen would include both (1) an indication that the operator pressed the resume switch and (2) a unique identifier as taught in Sever." *Id*; *see also id.* at 9 (arguing that successive actuation of Panoushek's resume button recalls desired sets of parameters, including WORK SET 1 or WORK SET 2).

We do not agree with Patent Owner's argument because we do not understand recall of "desired" sets of parameters to require immediate or direct recall. In other words, recall of the desired sets of parameters via successive actuation of Panoushek's resume button discloses the required "recall" of a desired set of saved parameters, using the identifiers, as required by proposed substitute claim 27. The '871 patent states that "[t]o the extent more than one set of parameters has been saved, the operator may recall the *desired* set of parameters using the assigned identifier." Ex. 1001, 8:26–28 (emphasis added). Thus, we understand that in the context of the '871 patent, the mere assignment of an identifier provides the user with the ability to recall the desired parameter. As discussed above, both Panoushek and Sever teach assigning identifiers to sets of parameters, and thus, meet this limitation of proposed substitute claim 27.

Patent Owner contests the limitations in proposed substitute claim 27 that are similar to the limitations contested for proposed substitute claim 21. PO MTA 19–25; PO Reply in Support of MTA 2–6. For the reasons discussed above, we do not agree. Petitioner's contentions with respect to the remaining limitations of proposed substitute claim 27 are not contested

by Patent Owner. *See id.* We have reviewed Petitioner's arguments and evidence in support of these arguments. We are persuaded that Petitioner has sufficiently shown that these limitations are met by the combined teachings of Grembowicz, Panoushek, Buschmann, and Sever.

Turning to proposed substitute claim 30, we note that Patent Owner does not contest Petitioner's showing as to the additional limitations in that claim. *See* PO Reply in Support of MTA 4. We have reviewed Petitioner's arguments and evidence in support of its arguments pertaining to proposed substitute claim 30. We are persuaded that Petitioner has sufficiently shown that these limitations are met by the combined limitations of Grembowicz, Panoushek, Buschmann, Sever, and Davin. Accordingly, based on the entire record in this proceeding, we find that Petitioner has demonstrated by a preponderance of evidence that claim 27 would have been obvious in view of the combined teachings of Grembowicz, Panoushek, Bushmann, and Sever and claim 30 would have been obvious over the combined teachings of Grembowicz, Panoushek, Bushmann, Sever, and Davin.

3. Summary

We find that Petitioner has demonstrated, by a preponderance of the evidence, that proposed substitute claims 21–24, 26, 27, and 30–33 are unpatentable in accordance with the following summary table.

Motion to Amend Outcome	**Claim(s)**
Original Claims Cancelled by Amendment	
Substitute Claims Proposed in the Amendment	21–36
Substitute Claims: Motion to Amend Granted	
Substitute Claims: Motion to Amend Denied	21–24, 26, 27, 30–33
Substitute Claims: Not Reached	25, 28, 29, 34–36

IV. ORDER

After due consideration of the record before us, and for the foregoing reasons, it is:

ORDERED that claims 1–6, 8, 9, and 12–17 of the '871 patent are held unpatentable;

FURTHER ORDERED that Patent Owner's Motion to Amend is denied with respect to proposed substitute claims 21–24, 26, 27, and 30–33, and dismissed with respect to proposed substitute claims 25, 28, 29, and 34–36; 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 requirements of 37 C.F.R. § 90.2.

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