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Paper 9
Entered: April 10, 2024

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

TOPP & SCREED S.A.,
Petitioner,

v.

SOMERO ENTERPRISES, INC.,
Patent Owner.

IPR2024-00051
Patent 8,038,366 B2

Before JEREMY M. PLENZLER, RICHARD H. MARSCHALL, and SEAN P. O'HANLON, *Administrative Patent Judges*.

O'HANLON, *Administrative Patent Judge*.

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

I. INTRODUCTION

A. Background

Topp & Screed S.A. ("Petitioner") filed a Petition for *inter partes* review of claims 1–15 ("the challenged claims") of U.S. Patent No. 8,038,366 B2 (Ex. 1001, "the '366 patent"). Paper 2 ("Pet."), 1. Somero Enterprises, Inc. ("Patent Owner") filed a Preliminary Response. Paper 8 ("Prelim. Resp.").

Institution of an *inter partes* review is authorized by statute only when "the information presented in the petition . . . and any response . . . shows that there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." 35 U.S.C. § 314(a). A decision to institute may not institute on fewer than all claims challenged in the petition. *SAS Inst. Inc. v. Iancu*, 138 S. Ct. 1348, 1354, 1359–60 (2018). If the Board institutes a trial, the Board will institute on all challenges raised in the petition. *See* 37 C.F.R. § 42.108(a) ("When instituting . . . review, the Board will authorize the review to proceed on all of the challenged claims and on all grounds of unpatentability asserted for each claim.").

We have authority, acting on the designation of the Director, to determine whether to institute an *inter partes* review under 35 U.S.C. § 314 and 37 C.F.R. § 42.4(a). For the reasons set forth below, upon considering the Petition, Preliminary Response, and evidence of record, we conclude that the information presented shows that there is a reasonable likelihood that Petitioner would prevail in establishing the unpatentability of at least one of the challenged claims. Thus, we institute *inter partes* review of all challenged claims based on all asserted grounds.

B. Real Parties in Interest

Petitioner identifies itself (Topp & Screed S.A.), Topp & Screed USA Inc., Industrial Floor Consulting, Inc., Twintec USA, Inc., and Kalman Floor Company as the real parties in interest. Pet. 1.

Patent Owner identifies itself as the sole real party in interest. Paper 6, 1.

The parties are reminded of their continuing obligation to update their mandatory notice information "within 21 days of a change of the information." 37 C.F.R. § 42.8(a)(3).

C. Related Matters

The parties indicate that the '366 patent is the subject of the following district court proceeding, in which Petitioner is a defendant:

> *Somero Enterprises, Inc. v. Twintec USA, Inc.*, No. 3-23-cv-00245 (W.D.N.C. filed April 26, 2023).

Pet. 1; Paper 6, 1. Petitioner notes that the '366 patent was the subject of the following proceedings:

> *Somero Enterprises, Inc. v. Ligchine International Corp.*, No. 4-21-cv-00028 (S.D. Ind. filed February 10, 2021),
>
> *Somero Enterprises, Inc. v. Ligchine International Corp.*, No. 1-20-cv-02356 (S.D. Ind. filed September 10, 2020), and
>
> *Ligchine International Corp. v. Somero Enterprises, Inc.*, IPR2021-00490 (PTAB filed January 31, 2021).

Pet. 1. Petitioner asserts that each of these proceedings was dismissed or terminated based on settlement. *Id.* We note that the '366 patent is also subject to the following proceeding:

> *Somero Enterprises, Inc. v. Masterscreed Ltd.*, No. 1-23-cv-15889 (N.D. Ill. filed November 13, 2023).

D. The Challenged Patent

The '366 patent discloses "raking or striking-off devices for striking-off uncured concrete at floors and surfaces." Ex. 1001, 1:22–24. The '366 patent recognizes that, when concrete is poured to form a slab during construction, "considerable manual labor is required to spread the concrete to a reasonably uniform depth for subsequent strike-off or screeding." *Id.* at 1:28–37. Although known automated laser responsive screeding machines reduce this manual labor, they cannot be used in many instances and the concrete must be spread out or struck-off by manual effort, which is labor intensive and costly. *Id.* at 1:37–48.

The '366 patent purports to provide an improved screeding device that includes "a power rake or plow apparatus for striking-off uncured concrete that is moved and/or controlled by an operator walking behind the apparatus as the apparatus is moved over and along and through the uncured concrete." Ex. 1001, 1:56–60. Figure 4 illustrates a powered screeding device and is reproduced below. *Id.* at 5:35–36.

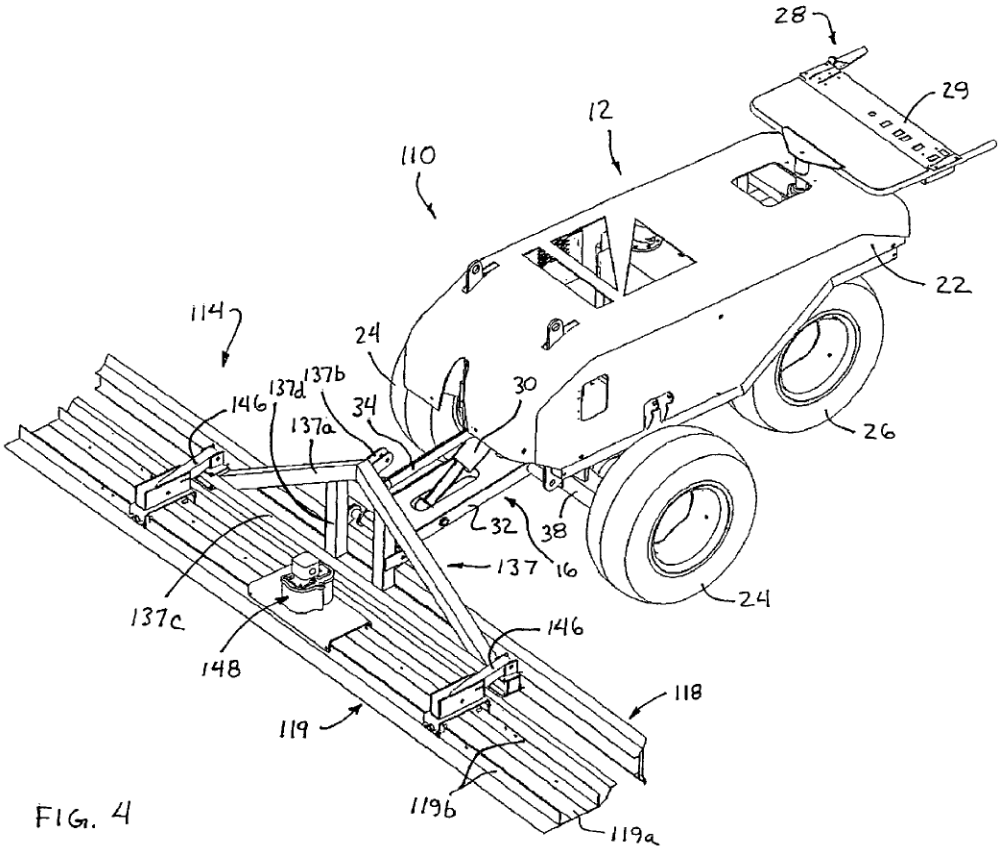

FIG. 4

Figure 4 illustrates screeding machine 110, including wheeled base unit 12 and screeding attachment 114. *Id.* at 9:45–50. The base unit may be articulated, which facilitates accommodation of bumps and other obstacles. *See id.* at 17:14–24, 19:1–20:33. The screeding attachment includes strike-off member 118 and vibrating element 119. *Id.* at 9:50–52. The plow moves excess concrete as the screeding device is moved. *Id.* at 9:66–10:3. The vibrating member is positioned behind the plow and has a smooth lower surface for engaging and working the uncured concrete surface to flatten and smooth the concrete surface as the screeding device is moved over and along the uncured concrete. *Id.* at 10:24–27, 10:34–37, 10:42–49; *see also id.* at 13:21–24 ("The vibrating member is moved over the uncured concrete behind the plow and vibrates and compacts and screeds and finishes the

uncured concrete to its desired finish level . . . ."). The height of the screeding attachment can be controlled via a laser control system. *See id.* at 7:11–40.

E. The Challenged Claims

Petitioner challenges claims 1–15 of the '366 patent. Pet. 1, 3. Claims 1 and 13 are independent. Claim 1 is illustrative of the challenged claims and is reproduced below with bracketing used by Petitioner (*see* Pet. 89):

1. [preamble] A wheeled concrete screeding device for screeding uncured concrete, said wheeled concrete screeding device comprising:

[1.1] a wheeled unit having at least two wheels for movably supporting a frame portion of said wheeled unit, [1.2] said frame portion having a forward end and a rearward end, [1.3] wherein said wheeled unit is movable through uncured concrete in a screeding direction;

[1.4] a screed head supported at said rearward end of said frame portion and following behind said wheeled unit when said wheeled unit is moved in said screeding direction, [1.5] said screed head comprising a grade establishing element and a vibratable member;

[1.6] wherein said grade establishing element is generally vertically adjustable responsive to a signal from a laser receiver disposed at said screed head to establish a struck-off surface of the uncured concrete at a desired grade when said wheeled unit is moved in said screeding direction; and

[1.7] wherein said vibratable member is adjustably attached at a rearward end of said grade establishing element and [1.8] wherein said vibratable member at least partially floats behind said grade establishing element on the struck-off surface of the uncured concrete and is at least partially supported at the struck-off surface of the uncured concrete as said wheeled unit is moved in said screeding direction.

Ex. 1001, 25:9–35.

F. Asserted Grounds of Unpatentability

The Petition relies on the following prior art references:

Name	Reference	Exhibit
Quenzi	US 2003/0068200 A1, published April 10, 2003	1003
Jochems	EP 0 743 408 B1, issued October 7, 1998	1004

Petitioner asserts the following grounds of unpatentability:

Claim(s) Challenged	35 U.S.C. §	Reference(s)/Basis
1–9	102(b)[1]	Quenzi
1–9	103(a)	Quenzi
1–15	103(a)	Jochems, Quenzi

Pet. 3. Petitioner submits a declaration of Thomas S. Breidenbach, P.E. (Ex. 1006, "Breidenbach Declaration") in support of its contentions. Patent Owner does not submit any witness testimony with its Preliminary Response.

II. DISCRETIONARY DENIAL

Patent Owner argues that we should discretionarily deny institution of *inter partes* review under 35 U.S.C. § 325(d) because substantially the same prior art and arguments advanced by Petitioner were presented during prosecution of the application resulting in the '366 patent. Prelim.

[1] The application resulting in the '366 patent was filed prior to the date when the Leahy-Smith America Invents Act ("AIA"), Pub. L. No. 112–29, 125 Stat. 284 (2011), took effect. Thus, we refer to the pre-AIA version of sections 102 and 103.

Resp. 1–8. Petitioner provides opposing arguments. Pet. 12–14. For the reasons discussed below, we decline to exercise our discretion to deny institution.

A. Legal Framework

Institution of *inter partes* review is discretionary. *See Harmonic Inc. v. Avid Tech., Inc.*, 815 F.3d 1356, 1367 (Fed. Cir. 2016) ("[T]he PTO is permitted, but never compelled, to institute an IPR proceeding."); 35 U.S.C. § 314(a). Pursuant to 35 U.S.C. § 325(d), in determining whether to institute an *inter partes* review, "the Director may take into account whether, and reject the petition or request because, the same or substantially the same prior art or arguments previously were presented to the Office."[2] In evaluating whether to exercise our discretion to deny institution under § 325(d), we weigh the following non-exclusive factors:

> (a) the similarities and material differences between the asserted art and the prior art involved during examination;
>
> (b) the cumulative nature of the asserted art and the prior art evaluated during examination;
>
> (c) the extent to which the asserted art was evaluated during examination, including whether the prior art was the basis for rejection;
>
> (d) the extent of the overlap between the arguments made during examination and the manner in which Petitioner relies on the prior art or Patent Owner distinguishes the prior art;
>
> (e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art; and

[2] The Board institutes trial on behalf of the Director. 37 C.F.R. § 42.4(a).

> (f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments.

Becton, Dickinson & Co. v. B. Braun Melsungen AG, IPR2017-01586, Paper 8 at 17–18 (PTAB Dec. 15, 2017) (designated precedential in relevant part). The enumerated factors "should be read broadly . . . to apply to any situation in which a petition relies on the same or substantially the same art or arguments previously presented to the Office during a proceeding pertaining to the challenged patent." *Advanced Bionics, LLC v. Med-El Electromedizinishe Geräte GMBH*, IPR2019-01469, Paper 6 at 10 (PTAB Feb. 13, 2020) (designated precedential). Factors (a), (b), and (d) relate to whether the art and arguments presented in the petition are the same or substantially the same as those previously presented to the Office. *Id.* Factors (c), (e), and (f) "relate to whether the petitioner has demonstrated a material error by the Office" in its prior consideration of that art or arguments. *Id.*

> Thus, under § 325(d), the Board uses the following two-part framework: (1) whether the same or substantially the same art previously was presented to the Office or whether the same or substantially the same arguments previously were presented to the Office; and (2) if either condition of [the] first part of the framework is satisfied, whether the petitioner has demonstrated that the Office erred in a manner material to the patentability of challenged claims.

Id. at 8.

B. Background

The '366 patent was filed on November 22, 2010, as Application No. 12/951,532 ("the '532 application") and had twenty claims. Ex. 1002,

47–51, 89. The Applicant also filed an Information Disclosure Statement ("IDS") disclosing Jochems and the patented version of Quenzi.[3] *Id.* at 73–79.

On January 25, 2011, the Examiner issued a non-final Office action rejecting claims 1–9 as being anticipated by Nomura,[4] claims 10–15 as being obvious in view of Nomura and Munoz,[5] and claims 16–20 as being obvious in view of Nomura and Burdick.[6] Ex. 1002, 92–97. The Examiner also indicated that the IDS, including the Quenzi and Jochems references, had been considered. *Id.* at 106–12.

The Applicant responded on April 25, 2011, arguing that "the tamper of Nomura does not at least partially float behind a grade establishing element and is not at least partially supported at a struck-off surface of the uncured concrete." Ex. 1002, 118 (emphases omitted). The Applicant also argued that Munoz failed to disclose "an articulatable wheeled unit." *Id.* at 119 (emphasis omitted).

On June 23, 2011, the Examiner issued a Notice of Allowance for claims 1–20, but did not provide reasons for allowability. Ex. 1002, 127–31.

C. Analysis

1. Advanced Bionics *Part One*

Applying the *Advanced Bionics* framework, we first determine whether the same or substantially the same art or arguments were presented

[3] U.S. Patent No. 6,976,805 B2.
[4] U.S. Patent No. 5,129,803 (Ex. 1007).
[5] U.S. Patent No. 6,022,171 (Ex. 1005).
[6] U.S. Patent No. 5,607,205.

previously to the Office. Petitioner asserts two references in challenging the claims of the '366 patent here: Quenzi and Jochems. Patent Owner argues that each of these references was disclosed to the Office during prosecution of the '532 application. Prelim. Resp. 3–5.

Petitioner concedes that "Jochems and the patent that ultimately issued from Quenzi were cited on an IDS" during prosecution of the '532 application, but argues that "they were never substantively raised by the Examiner or addressed by the Applicant during prosecution." Pet. 12.

As both parties acknowledge, Jochems and the patented version of Quenzi were cited on an Information Disclosure Statement during prosecution of the '532 application and the Examiner indicated that each was considered. Ex. 1002, 73–79, 106–12. Our precedent establishes that "[p]reviously presented art includes . . . art provided to the Office by an applicant, such as on an Information Disclosure Statement (IDS), in the prosecution history of the challenged patent." *Advanced Bionics*, Paper 6 at 7–8. Although Patent Owner does not make the patented version Quenzi of record, Patent Owner asserts that "Quenzi and the Quenzi Patent share a common specification." Prelim. Resp. 4 n.1. Given that the Quenzi reference asserted in the Petition is the pre-issuance publication of the Quenzi patent cited in the IDS, we are inclined to agree. Petitioner also appears to concur. *See* Pet. 12–13 (acknowledging that "the patent that ultimately issued from Quenzi w[as] cited on an IDS," but failing to assert any difference in the disclosures). Thus, we agree that Petitioner's use of Quenzi and Jochems satisfies the first prong of the *Advanced Bionics* test.

2. Advanced Bionics *Part Two*

Having determined that the first part of the *Advanced Bionics* framework is satisfied, we turn to the second part of the framework in which we consider whether Petitioner has demonstrated that the Office erred in a manner material to the patentability of the challenged claims. Patent Owner notes that the '366 patent incorporates Quenzi's disclosure by reference and argues, therefore, that the Examiner is presumed to have reviewed Quenzi. Prelim. Resp. 5–6. Patent Owner argues that Petitioner's treatment of recitation [1.7] relies on an improper claim construction, so Petitioner has not identified any Examiner error material to patentability. *Id.* at 6–8.

Petitioner notes that, during prosecution of the '532 application, the Applicant overcame rejections based on Nomura "by arguing that its vibratable member does not 'at least partially float' and is not 'at least partially supported' at a struck-off surface." Pet. 13. Petitioner argues that the Examiner erred because "those arguments are inapplicable to Quenzi (and the Jochems-Quenzi combination)." *Id.* According to Petitioner, "Quenzi uses nearly identical wording as claimed by the '366 [p]atent when it discloses a vibratable member" and the Examiner erred by failing to appreciate "that the '366 [p]atent expressly acknowledges that those same features are disclosed by other prior art (Quenzi)." *Id.* at 13–14 (citing Ex. 1003 ¶ 112); *see also id.* at 7 ("[T]he Examiner clearly erred by failing to consider Quenzi's anticipatory disclosures as they relate to claims 1-9, and that Quenzi could readily be combined with Jochems to teach claims 10-15.").

During prosecution of the '532 application, the Examiner mapped Nomura's tamper 34 to the recited vibratable member. Ex. 1002, 94. As

correctly noted by Petitioner, the Examiner allowed the claims of the '532 application in response to the Applicant's argument that Nomura's tamper does not at least partially float behind a grade establishing element and is not at least partially supported at a struck-off surface of uncured concrete as recited in independent claims 1 and 13. *Id.* at 117–19, 127–31.

Quenzi repeatedly discloses the subject matter found allowable by the Examiner during prosecution. Indeed, Quenzi explicitly states that the vibrator beams of its various embodiments at least partially float behind a grade establishing element and are at least partially supported at a struck-off surface of the uncured concrete. *See, e.g.*, Ex. 1003 ¶¶ 68 ("Screeding device 10 is at least partially supported on an uncured concrete surface and moved along and over the concrete surface to screed and smooth the surface via vibration of the vibrator beam 20 as the vibrator beam 20 floats on or is at least partially supported on the uncured surface."), 70 ("vibrator beam 20, along with the screeding device 10, floats on or is at least partially supported on the uncured concrete surface"), 112 ("vibrating beam 320 is at least partially supported by, or essentially 'floating' upon, the uncured concrete surface"), 141 ("Similar to the embodiments discussed above, screeding device 810 is at least partially supported on an uncured concrete surface and moved along and over the concrete surface to screed and smooth the surface via vibration of the vibrator beam 820 as the vibrator beam 820 floats on or is at least partially supported on the uncured surface."). Accordingly, we are persuaded that the Examiner erred in a manner material to patentability by overlooking this disclosure of Quenzi. Patent Owner's arguments regarding Petitioner's interpretation of recitation [1.7] are unavailing for the reasons provided in section III.E.1.e below.

D. Conclusion

After considering the framework set forth in *Advanced Bionics* and the underlying *Becton, Dickinson* factors, we find that § 325(d) is not sufficiently implicated under the circumstances here, and we determine that denying institution under § 325(d) is unwarranted.

III. PATENTABILITY ANALYSIS

A. Principles of Law

1. Anticipation

"Under 35 U.S.C. § 102 a claim is anticipated 'if each and every limitation is found either expressly or inherently in a single prior art reference.'" *King Pharm., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1274 (Fed. Cir. 2010) (quoting *Celeritas Techs. Ltd. v. Rockwell Int'l Corp.*, 150 F.3d 1354, 1360 (Fed. Cir. 1998)). "Anticipation requires the presence in a single prior art disclosure of all elements of a claimed invention arranged as in the claim." *Therasense, Inc. v. Becton, Dickinson & Co.*, 593 F.3d 1325, 1332 (Fed. Cir. 2010) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)).

A reference inherently discloses an element of a claim "if that missing characteristic is necessarily present, or inherent, in the single anticipating reference." *Schering Corp. v. Geneva Pharm.*, 339 F.3d 1373, 1377 (Fed. Cir. 2003) (citing *Cont'l Can Co. USA, Inc. v. Monsanto Co.*, 948 F.2d 1264, 1268 (Fed. Cir. 1991)). "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing *may* result from a given set of circumstances is not sufficient." *Therasense*, 593 F.3d at 1332 (quoting *Cont'l Can*, 948 F.2d at 1269).

2. Obviousness

A patent claim is unpatentable under 35 U.S.C. § 103(a) if the differences between the claimed subject matter and the prior art are such that the subject matter, as a whole, would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). The question of obviousness is resolved on the basis of underlying factual determinations including (1) the scope and content of the prior art, (2) any differences between the claimed subject matter and the prior art, (3) the level of skill in the art, and (4) when in evidence, any objective evidence of nonobviousness.[7] *Graham v. John Deere Co.*, 383 U.S. 1, 17–18 (1966).

B. Level of Ordinary Skill in the Art

The level of ordinary skill in the art is "a prism or lens" through which we view the prior art and the claimed invention. *Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001). The person of ordinary skill in the art is a hypothetical person presumed to have known the relevant art at the time of the invention. *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995). In determining the level of ordinary skill in the art, we may consider certain factors, including: "(1) the educational level of the inventor; (2) type of problems encountered in the art; (3) prior art solutions to those problems; (4) rapidity with which innovations are made; (5) sophistication of the technology; and (6) educational level of active workers in the field." *Best*

[7] At this stage of the proceeding, the parties have not directed us to any such objective evidence.

Med. Int'l, Inc. v. Elekta Inc., 46 F.4th 1346, 1353 (Fed. Cir. 2022) (quoting *Daiichi Sankyo Co. v. Apotex, Inc.*, 501 F.3d 1254, 1256 (Fed. Cir. 2007)). "The patent's purpose can also be informative." *Id.*

Petitioner contends that a person having ordinary skill in the art at the time of the invention ("POSITA") would have had "an undergraduate education in mechanical, civil, construction, or industrial engineering, or a related field and at least two years of experience in research, design, development, testing, or use of mechanical or industrial equipment." Pet. 14 (citing Ex. 1006 ¶ 42). Petitioner further contends that "[a]dditional education may substitute for experience and vice-versa." *Id.* (citing Ex. 1006 ¶ 42).

Patent Owner does not contest Petitioner's proposed definition or proffer a definition of its own. *See generally* Prelim. Resp.

Based on the arguments presented and the cited references, we find Petitioner's definition of the level of ordinary skill reasonable and for purposes of this Decision, adopt it as our own.

C. Claim Construction

In an *inter partes* review, claims are construed using the same claim construction standard that would be used to construe the claims in a civil action under 35 U.S.C. § 282(b), including construing the claims in accordance with the ordinary and customary meaning of such claims as understood by one of ordinary skill in the art and the prosecution history pertaining to the patent. 37 C.F.R. § 42.100(b). "[T]he ordinary and customary meaning of a claim term is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the

invention" and "after reading the entire patent." *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313, 1321 (Fed. Cir. 2005) (en banc). In addition to the specification and prosecution history, we also consider use of the terms in other claims and extrinsic evidence including expert and inventor testimony, dictionaries, and learned treatises, although extrinsic evidence is less significant than the intrinsic record. *Id.* at 1312–17. Usually, the specification is dispositive, and it is the single best guide to the meaning of a disputed term. *Id.* at 1315.

"The Board is required to construe 'only those terms . . . that are in controversy, and only to the extent necessary to resolve the controversy.'" *Realtime Data, LLC v. Iancu*, 912 F.3d 1368, 1375 (Fed. Cir. 2019) (alteration in original) (quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

Petitioner notes that a petitioner in a prior *inter partes* review proceeding challenging the '366 patent identified three terms for construction, but argues that no term requires explicit construction here. Pet. 14–17. However, Petitioner interprets recitation [1.7] as "reflect[ing] two requirements," as discussed further in section III.E.1.e below. *Id.* at 31. Additionally, in asserting that claim 1 would have been obvious in view of Jochems and Quenzi, Petitioner argues that an ordinarily skilled artisan would understand that, as used in the '366 patent, "'striking off concrete' means 'screeding uncured concrete.'" *Id.* at 65 (citing Ex. 1006 ¶ 196).

Patent Owner does not proffer any terms for construction. *See generally* Prelim. Resp. However, as discussed further in section III.E.1.e below, Patent Owner argues that Petitioner's interpretation of recitation [1.7]

is improper. *Id.* at 6–7. For the reasons provided below, we do not agree with Patent Owner's contentions.

On this preliminary record, we disagree with Petitioner's assertion that the '366 patent uses the terms "strike-off concrete" and "screed" synonymously. *See* Pet. 65. Rather, the '366 patent appears to use "strike-off concrete" to refer to the function of the plow and "screed" to refer to the function of the vibratable member. For example, the '366 patent discloses that strike-off machine 10, which does not include a vibratable member, comprises "[p]low head assembly 14 [that] includes a strike-off member or plow, such as a forward facing plow 18a and a rearward facing plow 18b, for engaging and striking-off the uncured concrete or subgrade materials at the desired grade." Ex. 1001, 6:18–21. The '366 patent further explains that "the plow head assembly may be removed from the wheeled base unit 12 and a screeding attachment or screeding device 114 may be attached to the wheeled base unit *to adapt the machine to be a screeding machine 110* for grading and screeding uncured concrete." *Id.* at 9:45–50 (emphasis added). In addition to a plow, the screeding attachment includes "a vibrating member 119 mounted to and positioned rearwardly from the plow 118." *Id.* at 9:50–52. The '366 patent explains that, in use, first "the plow may remove some of the excess uncured concrete so that the uncured concrete is at a *pre-screeding level B* after the plow has passed over and through the uncured concrete," and then the "vibrating member is moved over the uncured concrete behind the plow and *vibrates and compacts and screeds and finishes the uncured concrete to its desired finished level C*, which is generally . . . below the pre-screeding level B established by the plow." *Id.* at 13:17–26, Fig. 8 (emphases added).

Other than as discussed below, we determine that no express construction of any term is necessary. We note that this determination does not preclude the parties from arguing their proposed constructions of the claims during trial. Indeed, the parties are hereby given notice that claim construction, in general, is an issue to be addressed at trial. A final determination as to claim construction will be made at the close of the proceeding, after any hearing, based on all the evidence of record. The parties are expected to assert all of their claim construction arguments and evidence during the trial, as permitted by our rules.

D. Overview of the Asserted Prior Art

1. Quenzi

Quenzi discloses screeding devices for uncured concrete floors and surfaces. Ex. 1003 ¶ 2. Specifically, Quenzi purports to disclose a small and maneuverable screeding device that reduces manual labor and is operable in areas that are inaccessible to larger machines and equipment. *Id.* ¶¶ 7–8. Figure 16 illustrates a screeding device and is reproduced below. *Id.* ¶ 47.

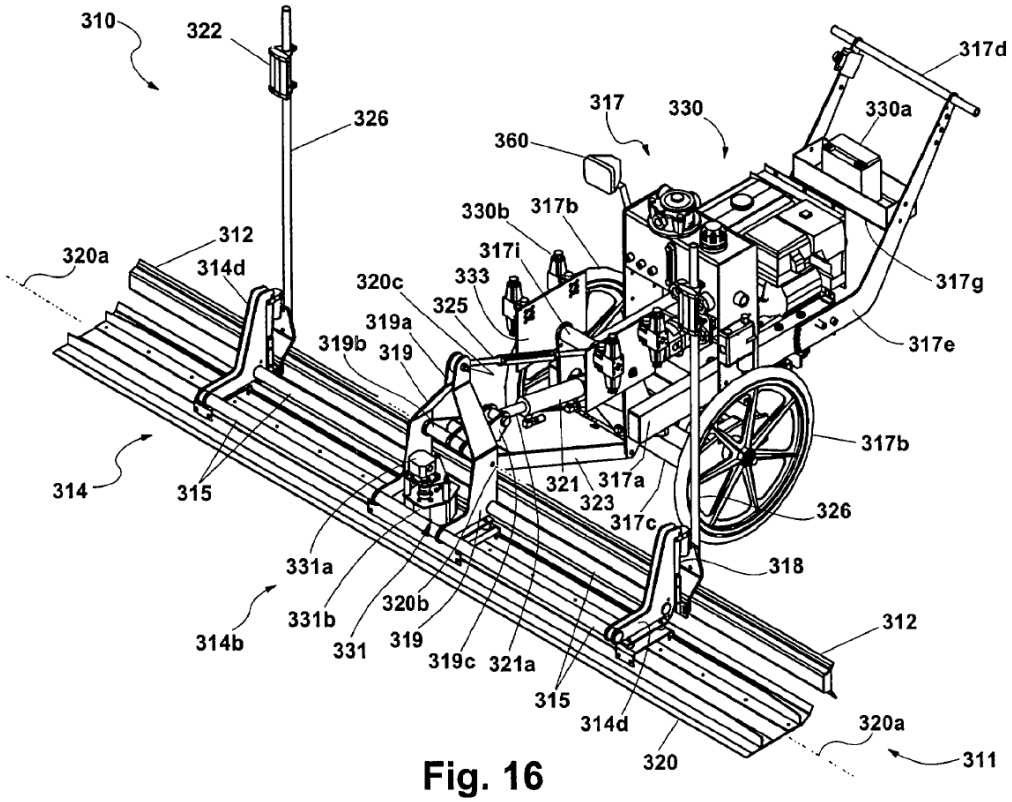

Fig. 16

Figure 16 illustrates screeding device 310. *Id.* ¶ 98. The screeding device includes screeding head 311 comprising plow 312 and vibrating beam 320. *Id.* The screeding head is connected to wheeled support 317 via adjustable framework 314. *Id.* The plow is positioned along a forward edge of the vibrating beam to establish or cut the grade of the uncured concrete to a desired grade or level. *Id.* ¶¶ 68, 103, 159. The vibrating beam "is at least partially supported by, or essentially 'floating' upon, the uncured concrete surface, and applies a sufficient and desired amount of down-pressure to work the surface." *Id.* ¶ 112.

2. Jochems

Jochems discloses "a machine for striking off poured concrete." Ex. 1004, 1:3–4. Figure 1 illustrates such a machine and is reproduced below. *Id.* at 2:10–11.

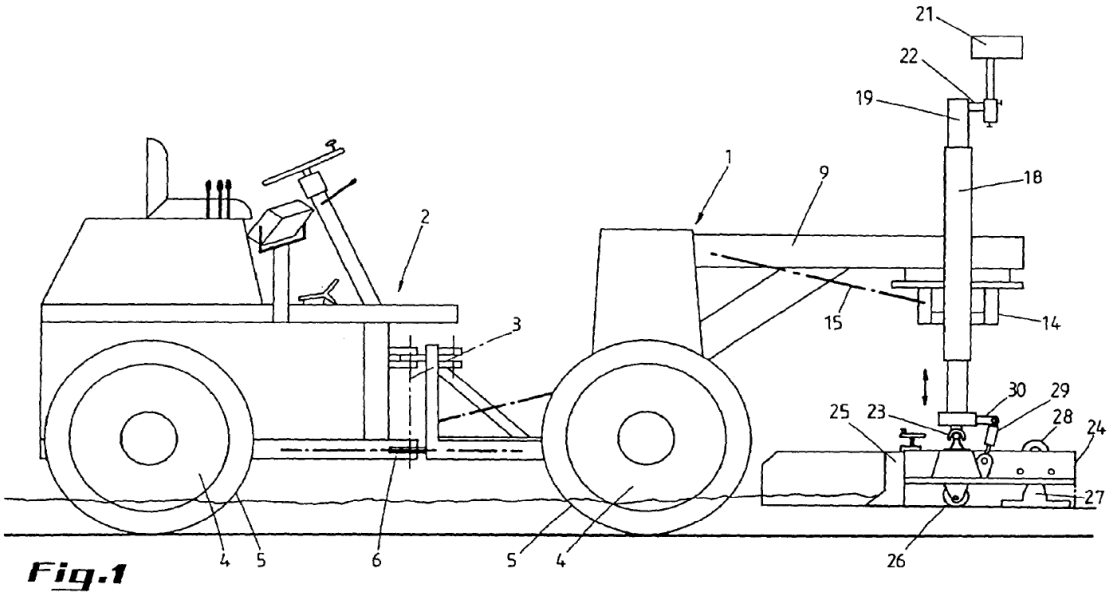

Fig.1

Figure 1 illustrates a machine for striking off poured concrete comprising first frame part 1 and second frame part 2 connected at hinge axis 3. *Id.* at 2:30–34. Hydraulic cylinder 6 extends between the first and second frame parts and controls relative movement therebetween. *Id.* at 3:9–19, Figs. 3–4. Arm 9 is rotatably mounted to the first frame part and is actuated by hydraulic cylinder 11. *Id.* at 3:20–29, Figs. 2–4. Scraper 25, roller 26, and vibration beam 27 are coupled to the arm via support beam 24 and column 18. *Id.* at 4:2–16.

E. Asserted Anticipation by Quenzi

Petitioner argues that claims 1–9 are anticipated by Quenzi. Pet. 20–54. Specifically, Petitioner argues that the three "embodiments

discussed in connection with: (i) [Figures] 12-15; (ii) [Figures] 16-20; and (iii) [Figure] 23" "each separately anticipate claims 1-9." *Id.* at 20. We refer to these embodiments relied upon by Petitioner as "the asserted embodiments." In support of its showing, Petitioner relies upon the Breidenbach Declaration. *Id.* at 20–54 (citing Ex. 1006). Patent Owner does not challenge Petitioner's contentions. *See generally* Prelim. Resp. We have reviewed Petitioner's assertions and supporting evidence. For the reasons discussed below, and based on the preliminary record before us, we determine that Petitioner demonstrates a reasonable likelihood of prevailing in showing that at least one challenged claim is anticipated by Quenzi.

1. Independent Claim 1

a. The Preamble

Claim 1 recites "[a] wheeled concrete screeding device for screeding uncured concrete." Ex. 1001, 25:9–10. Petitioner argues that each of the asserted embodiments discloses "concrete screeding devices for screeding uncured concrete having 'wheeled supports,'" reproducing and annotating Quenzi Figures 12, 16, and 23 to highlight screeding devices 210, 310, and 410, respectively. Pet. 20–21.

Quenzi discloses screeding devices for uncured concrete floors and surfaces. Ex. 1003 ¶ 2. These include screeding device 210 comprising wheeled support 217 having wheels 217b (*id.* ¶¶ 88–89), screeding device 310 comprising wheeled support 317 having wheels 317b (*id.* ¶ 98), and screeding device 410 comprising a wheeled support having wheels (*id.* ¶ 121, Fig. 23).

Accordingly, for the foregoing reasons and on this preliminary record, to the extent the preamble is limiting, Quenzi supports Petitioner's contentions.

b. The Wheeled Unit Recitation

Claim 1 recites "a wheeled unit having at least two wheels for movably supporting a frame portion of said wheeled unit, said frame portion having a forward end and a rearward end, wherein said wheeled unit is movable through uncured concrete in a screeding direction." Ex. 1001, 25:12–16. Petitioner argues that each of the asserted embodiments includes a wheeled unit having wheels supporting a frame, reproducing and annotating Quenzi Figures 12, 16, and 23 to highlight wheeled supports 217, 317, wheels 217b, 317b, and corresponding components in Figure 23. Pet. 21–22. Petitioner maps forward ends 217e, 317e of the wheeled supports to the recited forward end and rear ends 217a, 317a of the wheeled supports to the recited rearward end. *Id.* at 23–24. Petitioner argues that each of the asserted embodiments is movable through uncured concrete in a screeding direction, reproducing and annotating Quenzi Figures 13 and 18 to highlight arrows A. *Id.* at 24–25.

Quenzi discloses that screeding devices 210, 310, 410 include wheeled supports 217, 317 with wheels 217b, 317b that are movable over and through uncured concrete in the direction of arrow A as illustrated in Figure 13. Ex. 1003 ¶¶ 89, 98, 121–122, Fig. 23.

Accordingly, for the foregoing reasons and on this preliminary record, Quenzi supports Petitioner's contentions.

c. The Screed Head Recitation

Claim 1 recites "a screed head supported at said rearward end of said frame portion and following behind said wheeled unit when said wheeled unit is moved in said screeding direction, said screed head comprising a grade establishing element and a vibratable member." Ex. 1001, 25:17–21. Petitioner maps Quenzi's screeding heads 211, 311, 411 to the recited screed head, plows 312, 412 to the recited grade establishing element, and vibrating beams 220, 320, 420 to the recited vibratable member. Pet. 25–28.

Quenzi discloses that each of the asserted embodiments includes a strike-off plow at the rearward end of the wheeled support that adjusts a level or grade of the uncured concrete to a desired grade as the screeding device is moved along and over the uncured concrete. Ex. 1003 ¶¶ 68, 91, 103, 121, Figs. 16, 23. Each of the asserted embodiments includes a vibration beam that engages and works the uncured concrete surface to flatten and smooth the uncured surface as the screeding device is moved along and over the uncured concrete. *Id.* ¶¶ 70, 90, 102, 121.

Accordingly, for the foregoing reasons and on this preliminary record, Quenzi supports Petitioner's contentions.

d. The First Wherein Recitation

Claim 1 recites "wherein said grade establishing element is generally vertically adjustable responsive to a signal from a laser receiver disposed at said screed head to establish a struck-off surface of the uncured concrete at a desired grade when said wheeled unit is moved in said screeding direction." Ex. 1001, 25:22–27. Petitioner maps Quenzi's laser receivers 322, 422 to

the recited laser receiver and argues that Quenzi's plows are vertically adjustable responsive to a laser plane sensed by the receivers. Pet. 29–31.

Quenzi discloses that, in each of the asserted embodiments, the elevation of the plow is adjustable in response to a laser plane sensed by laser receivers mounted on the plow to set the grade of the uncured concrete surface. Ex. 1003 ¶¶ 79, 96, 103, 126.

Accordingly, for the foregoing reasons and on this preliminary record, Quenzi supports Petitioner's contentions.

e. The Second Wherein Recitation

Claim 1 recites "wherein said vibratable member is adjustably attached at a rearward end of said grade establishing element." Ex. 1001, 25:28–29. Petitioner interprets this recitation to express two requirements, "namely that the vibratable member is (1) adjustable (i.e., adjustably attached) and (2) attached at a location rearward of the grade establishing member (i.e., attached at said rearward end)." Pet. 31 (citing Ex. 1006 ¶ 86). According to Petitioner, "[t]he claim's use of 'at' to reference the general location of the vibratable member is confirmed by numerous uses of similar phrasing throughout the '366 [p]atent claims and specification, as well as its illustrating of embodiments." *Id.* (citing Ex. 1006 ¶¶ 87–92). Petitioner argues that Quenzi's vibrating beams are attached at a rearward end of the plows and are adjustable in both height and pitch. *Id.* at 32–34. Petitioner asserts that "the '366 [p]atent expressly relies on and incorporates by reference Quenzi's prior art disclosure as written description support for how the screed head is attached and adjusted." *Id.* at 34 (emphasis omitted) (citing Ex. 1001, 20:44–60; Ex. 1006 ¶ 104).

Patent Owner characterizes Petitioner's interpretation as improperly re-writing the recitation. Prelim. Resp. 6–7. Patent Owner notes that claim 16 recites, in part, "detecting a surface irregularity of the subgrade upon which the wheels travel and at a location forward of either of said wheels" and argues that this use of "location" belies Petitioner's interpretation. *Id.* at 7.

On this preliminary record, we agree with Petitioner's interpretation of the Second Wherein Recitation. Of particular note, the '366 patent states that, "[i]n the illustrated embodiment [of Figure 19], *screed head assembly 314' is attached at the front frame portion 312a*." Ex. 1001, 20:45–47 (emphasis added). Figure 19 is reproduced below.

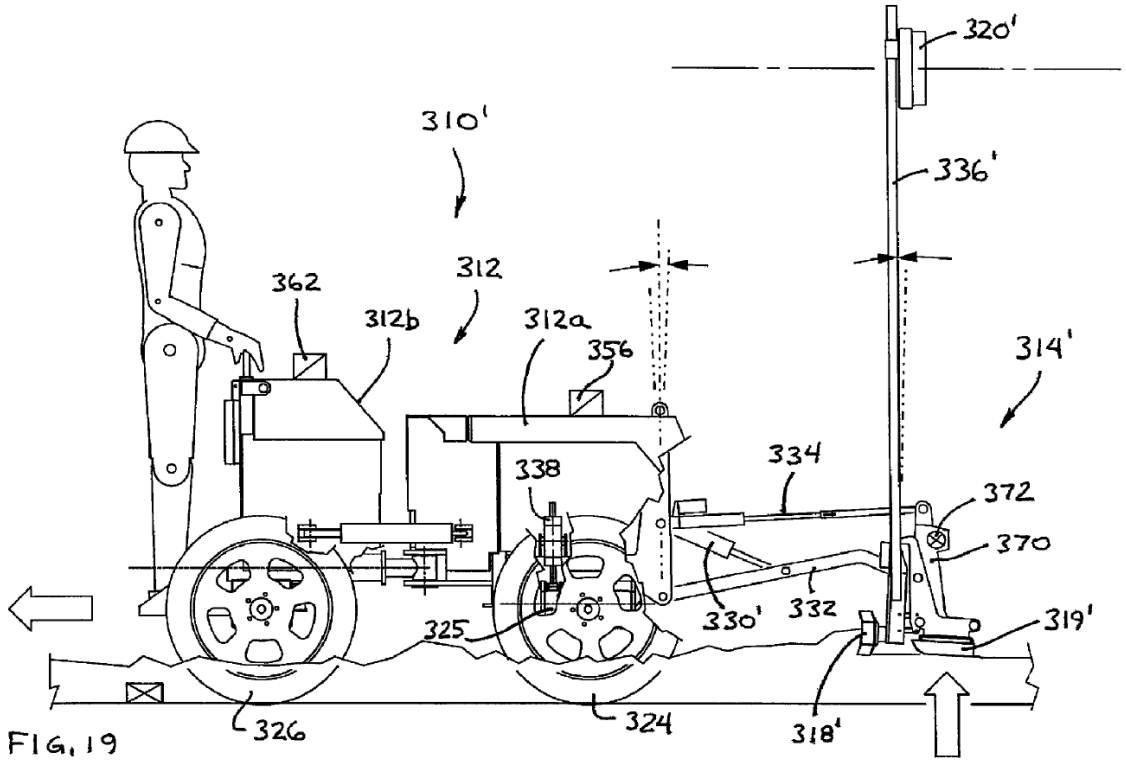

Figure 19 illustrates screeding machine 310′ comprising wheeled support 312, including front frame portion 312a, and screed head

assembly 314′. *Id.* at 20:34–37. The screed head assembly is not mounted directly to the front frame portion. Rather, "screed head assembly 314′ is pivotally mounted to front frame portion 312a via an upper arm linkage 334 and a lower arm linkage 332." *Id.* at 20:61–63. Thus, based on our review of the current record, "attached at" as used in the '366 patent does not require a direct connection. Instead, the use of intermediate components is within the meaning of "attached at." It follows that "said vibratable member is adjustably attached at a rearward end of said grade establishing element" as recited in claim 1 does not require the vibratable member to be connected directly to the grade establishing element, but rather allows for the vibratable member to be connected to the grade establishing element via intermediary components. The patent Examiner and Applicant appear to have interpreted the term in the same manner during prosecution. *See* Ex. 1002, 94 (the Examiner finding that Nomura's tamper 34 "is adjustably attached at a rearward end of" leveling blade 33), 116–18 (the Applicant addressing the Examiner's rejection but not contesting the Examiner's interpretation); Ex. 1007, Fig. 2 (illustrating the positioning of Nomura's tamper 34 and leveling blade 33).

As noted above regarding the Screed Head Recitation, Quenzi discloses that each of the asserted embodiments includes a strike-off plow and a vibration beam. Ex. 1003 ¶¶ 68, 91, 103, 121, Figs. 16, 23. The vibration beam is connected to the plow via framework 214, 314, 414, with the framework connected to a rearward end of the plow. *Id.* ¶¶ 68, 90, 98, 121, Figs. 1, 16, 23. The framework allows the pitch angle and height of the vibrating beam to be adjusted. *Id.* ¶¶ 109, 121. And as correctly noted by Petitioner, the '366 patent relies on Quenzi as an example of how its screed

head assembly operates and is attached to the frame portion. *See* Ex. 1001, 20:45–54.

Accordingly, for the foregoing reasons and on this preliminary record, Quenzi supports Petitioner's contentions.

f. The Third Wherein Recitation

Claim 1 recites "wherein said vibratable member at least partially floats behind said grade establishing element on the struck-off surface of the uncured concrete and is at least partially supported at the struck-off surface of the uncured concrete as said wheeled unit is moved in said screeding direction." Ex. 1001, 25:30–35. Petitioner notes that Quenzi discloses that its vibrating member "generally floats upon or is supported directly on the uncured concrete surface" and argues that this disclosure applies to each of the asserted embodiments. Pet. 35–36 (quoting Ex. 1003 ¶ 9). Petitioner provides citations to Quenzi's discussion of each of the asserted embodiments it purports to support its contention. *Id.* at 36 (citing Ex. 1003 ¶¶ 96, 112, 115–116, 121; Ex. 1006 ¶ 108). Petitioner asserts that "the '366 [p]atent expressly relies on and incorporates by reference Quenzi's prior art disclosure as written description support for how the screed head 'generally floats on or is supported by the concrete surface.'" *Id.* at 37 (emphasis omitted) (citing Ex. 1001, 20:44–60; Ex. 1006 ¶¶ 109–110).

As noted above regarding the discretionary denial analysis, Quenzi repeatedly discloses that its vibration beam floats on and is at least partially supported at the struck-off surface of the uncured concrete. In the summary section, Quenzi discloses that its "vibrating member generally floats upon or is supported directly on the uncured concrete surface created by the grade

setting device ahead of it." Ex. 1003 ¶ 9; *see also id.* ¶¶ 11 ("the ability of the apparatus to be at least partially supported upon the desired correct elevation surface it creates"), 12 ("[t]he concrete surface working member is at least partially supported on the uncured concrete surface"), 13 ("the concrete surface working member comprises a vibrating member or beam which is vibratable to flatten, smooth and consolidate the uncured concrete while being partially supported thereon"). Regarding the first embodiment discussed in the detailed description, Quenzi discloses that "the vibrator beam 20 floats on or is at least partially supported on the uncured surface" and "vibrator beam 20, along with the screeding device 10, floats on or is at least partially supported on the uncured concrete surface." *Id.* ¶¶ 68, 70. Quenzi discloses that the vibrating beams of the asserted embodiments operate in the same manner. *See id.* ¶¶ 90, 102, 121. Quenzi also explicitly discloses that the vibrating beams of the asserted embodiments operate in this manner. *See id.* ¶¶ 92 ("the vibrating beam 220 rests upon the uncured concrete"), 112 ("vibrating beam 320 is at least partially supported by, or essentially 'floating' upon, the uncured concrete surface"), 121 ("vibrating beam 420 [is] substantially similar to . . . vibrating beam 320"); *see also id.* ¶ 141 (referring to the asserted embodiments when describing another embodiment as "*[s]imilar to the embodiments discussed above*, screeding device 810 is at least partially supported on an uncured concrete surface and moved along and over the concrete surface to screed and smooth the surface via vibration of the vibrator beam 820 as the vibrator beam 820 floats on or is at least partially supported on the uncured surface" (emphasis added)). And as correctly noted by Petitioner, the '366 patent relies on Quenzi as an

example of how its screed head assembly operates and is attached to the frame portion. *See* Ex. 1001, 20:45–54.

Accordingly, for the foregoing reasons and on this preliminary record, Quenzi supports Petitioner's contentions.

g. Conclusion

Accordingly, at this stage of the proceeding, we determine that Petitioner has established a reasonable likelihood of prevailing on its assertion that claim 1 is anticipated by Quenzi.

2. Dependent Claims 2–9

Claims 2–9 depend, directly or indirectly, from claim 1. Petitioner identifies sufficient evidence indicating that Quenzi discloses the limitations in these claims. Pet. 38–54. As noted above, Patent Owner does not challenge Petitioner's contentions. *See generally* Prelim. Resp. Therefore, on this preliminary record, Petitioner demonstrates a reasonable likelihood of prevailing in showing that claims 2–9 are anticipated by Quenzi.

F. Asserted Obviousness Based on Quenzi

Petitioner argues that claims 1–9 are obvious in view of Quenzi because it would have been obvious to combine the various features of Quenzi's embodiments due to the similarity between the structure and function of each disclosed embodiment and Quenzi's repeated references to prior embodiments when discussing features of the devices. Pet. 54–55. Petitioner provides example rationales for several claims or claim elements. *Id.* at 55–58.

Patent Owner does not challenge Petitioner's contentions. *See generally* Prelim. Resp.

Having found that Quenzi anticipates claims 1–9 as explained in section III.E above, we also determine that Quenzi renders obvious claims 1–9. "It is well settled that 'anticipation is the epitome of obviousness.'" *In re McDaniel*, 293 F.3d 1379, 1385 (Fed. Cir. 2002) (quoting *Connell v. Sears, Roebuck & Co.*, 722 F.2d 1542, 1548 (Fed. Cir. 1983)). "Though it is never necessary to so hold, a disclosure that anticipates under § 102 also renders the claim invalid under § 103, for 'anticipation is the epitome of obviousness.'" *Connell*, 722 F.3d at 1548 (quoting *In re Fracalossi*, 681 F.2d 792, 794 (CCPA 1982)).

Accordingly, at this stage of the proceeding, we determine that Petitioner has established a reasonable likelihood of prevailing on its assertion that claims 1–9 would have been obvious in view of Quenzi.

G. Asserted Obviousness Based on Jochems and Quenzi

Petitioner argues that claims 1–15 would have been obvious in view of Jochems and Quenzi. Pet. 58–88. In support of its showing, Petitioner relies upon the Breidenbach Declaration. *Id.* (citing Ex. 1006). Patent Owner does not challenge Petitioner's contentions. *See generally* Prelim. Resp. We have reviewed Petitioner's assertions and supporting evidence. For the reasons discussed below, and based on the preliminary record before us, we determine that Petitioner demonstrates a reasonable likelihood of prevailing in showing that at least one challenged claim would have been obvious in view of the combination of Jochems and Quenzi.

1. Independent Claim 1

a. Combining Jochems and Quenzi

Petitioner argues that Jochems discloses a wheeled concrete screeding device substantially as recited in claim 1 and relies on Quenzi to teach a screed head for use with Jochems's screeding device. Pet. 58–78. Petitioner argues that Jochems and Quenzi are analogous art with respect to the '366 patent. *Id.* at 58–61. Petitioner argues that it would have been obvious to an ordinarily skilled artisan "to replace [Jochems's] screed head with Quenzi's screed head to achieve the numerous benefits of Quenzi's floating-type vibrator/vibrating beam." *Id.* at 58 (citing Ex. 1006 ¶¶ 175–193). Petitioner acknowledges that "Jochems discloses a screed head," but argues that "Quenzi explains the benefits to using [a] screed head with a floating-type vibrating beam." *Id.* at 62. Petitioner contends that Quenzi discloses the "floating action of the vibrator beam 20 over the uncured concrete then continues to consolidate, smooth, level and finish the uncured concrete surface" and "floating 'applies a sufficient and desired amount of down-pressure to work the surface.'" *Id.* (emphases omitted) (quoting Ex. 1003 ¶¶ 81, 112) (citing Ex. 1003 ¶¶ 70, 115; Ex. 1006 ¶¶ 183–187).

On this preliminary record, we are persuaded by Petitioner's showing. Although Jochems discloses that its machine includes "a vibration beam 27 which is driven by vibration motor 28" (Ex. 1004, 4:14–16), Jochems does not provide details regarding the nature of its vibration beam or how it functions. *See generally* Ex. 1004. Quenzi, on the other hand, explains that its vibrating beam "flatten[s], smooth[s] and consolidate[s] the uncured concrete while being partially supported thereon." Ex. 1003 ¶ 13; *see also id.* ¶ 81 ("The floating action of the vibrator beam 20 over the uncured

concrete then continues to consolidate, smooth, level and finish the uncured concrete surface."). Petitioner's contentions are supported by its witness, Mr. Breidenbach. *See* Ex. 1006 ¶ 183. Mr. Breidenbach further testifies that the benefits of a floating-type vibration beam, such as disclosed by Quenzi, were well known and desirable at the time the '532 application was filed. *Id.* ¶¶ 184–188.

Accordingly, for the foregoing reasons and on this preliminary record, we are persuaded that Petitioner has set forth reasoning with rational underpinning explaining why it would have been obvious to use Quenzi's screed head with Jochems's screeding machine.

b. The Preamble

Claim 1 recites "[a] wheeled concrete screeding device for screeding uncured concrete." Ex. 1001, 25:9–10. Petitioner argues that Jochems teaches a wheeled "machine for striking off poured concrete." Pet. 65.

Jochems discloses "a machine for striking off poured concrete" comprising "frame parts [that] are equipped with wheels." Ex. 1004, 1:3–8. The machine includes a scraper and a vibration beam. *Id.* at 4:10–17.

Accordingly, for the foregoing reasons and on this preliminary record, to the extent the preamble is limiting, Jochems supports Petitioner's contentions.[8]

[8] Although we disagree with Petitioner's contention that an ordinarily skilled artisan would interpret "that 'striking off concrete' means 'screeding uncured concrete'" (Pet. 65) for the reasons set forth in section III.C, our interpretation of these terms does not affect Petitioner's showing.

c. The Wheeled Unit Recitation

Claim 1 recites "a wheeled unit having at least two wheels for movably supporting a frame portion of said wheeled unit, said frame portion having a forward end and a rearward end, wherein said wheeled unit is movable through uncured concrete in a screeding direction." Ex. 1001, 25:12–16. Petitioner argues that Jochems's machine includes "a first frame part 1 and a second frame part 2 which are hingedly connected to each other at the vertical hinge axis 3," reproducing a modified version of Jochems Figure 1 ("the modified figure") that replaces Jochems's arm 9, column 18, support beam 24, and other components with Quenzi's screeding head as depicted in Figure 18. Pet. 66–67 (emphasis omitted) (quoting Ex. 1004, 2:30–34). Petitioner maps the end of second frame part 2 behind the driver's seat to the recited forward end and the end of first frame part 1 near the front wheels 4 to the recited rearward end, reproducing and annotating the modified figure to identify its mappings. *Id.* at 68. Petitioner argues that Jochems's machine is movable through uncured concrete in a screeding direction, reproducing and annotating the modified figure to identify the direction of movement of the machine during use. *Id.* at 68–69.

Jochems discloses that its machine comprises first frame part 1 and second frame part 2, each frame part including two wheels 4. Ex. 1004, 2:30–34, 2:39–53. The machine is movable through uncured concrete in the right-to-left direction of Figure 1. *Id.* at 2:45–53, 3:2–6, 4:26–30, Fig. 1.

Accordingly, for the foregoing reasons and on this preliminary record, Jochems supports Petitioner's contentions.

d. The Screed Head Recitation

Claim 1 recites "a screed head supported at said rearward end of said frame portion and following behind said wheeled unit when said wheeled unit is moved in said screeding direction, said screed head comprising a grade establishing element and a vibratable member." Ex. 1001, 25:17–21. Petitioner relies on its mappings and arguments made for the Screed Head Recitation for the anticipation challenge based on Quenzi, in which Petitioner maps Quenzi's screeding heads 211, 311, 411 to the recited screed head, plows 312, 412 to the recited grade establishing element, and vibrating beams 220, 320, 420 to the recited vibratable member. Pet. 25–28, 70–72.

For the reasons set forth in section III.E.1.c above and on this preliminary record, Quenzi supports Petitioner's contentions. For the reasons set forth in section III.G.1.a above and on this preliminary record, we are persuaded that Petitioner has set forth reasoning with rational underpinning explaining why it would have been obvious to combine the teachings of Jochems and Quenzi.

e. The First Wherein Recitation

Claim 1 recites "wherein said grade establishing element is generally vertically adjustable responsive to a signal from a laser receiver disposed at said screed head to establish a struck-off surface of the uncured concrete at a desired grade when said wheeled unit is moved in said screeding direction." Ex. 1001, 25:22–27. Petitioner relies on its mappings and arguments made for the First Wherein Recitation for the anticipation challenge based on Quenzi, in which Petitioner maps Quenzi's laser receivers 322, 422 to the recited laser receiver and argues that Quenzi's plows are vertically

adjustable responsive to a laser plane sensed by the receivers. Pet. 29–31, 73–75.

For the reasons set forth in section III.E.1.d above and on this preliminary record, Quenzi supports Petitioner's contentions. For the reasons set forth in section III.G.1.a above and on this preliminary record, we are persuaded that Petitioner has set forth reasoning with rational underpinning explaining why it would have been obvious to combine the teachings of Jochems and Quenzi.

f. The Second Wherein Recitation

Claim 1 recites "wherein said vibratable member is adjustably attached at a rearward end of said grade establishing element." Ex. 1001, 25:28–29. Petitioner relies on its mappings and arguments made for the Second Wherein Recitation for the anticipation challenge based on Quenzi, in which Petitioner argues that Quenzi's vibrating beams are attached at a rearward end of the plows and are adjustable in both height and pitch. Pet. 32–35, 75–76.

For the reasons set forth in section III.E.1.e above and on this preliminary record, Quenzi supports Petitioner's contentions. For the reasons set forth in section III.G.1.a above and on this preliminary record, we are persuaded that Petitioner has set forth reasoning with rational underpinning explaining why it would have been obvious to combine the teachings of Jochems and Quenzi.

g. The Third Wherein Recitation

Claim 1 recites "wherein said vibratable member at least partially floats behind said grade establishing element on the struck-off surface of the

uncured concrete and is at least partially supported at the struck-off surface of the uncured concrete as said wheeled unit is moved in said screeding direction." Ex. 1001, 25:30–35. Petitioner relies on its mappings and arguments made for the Third Wherein Recitation for the anticipation challenge based on Quenzi, in which Petitioner argues that Quenzi's vibrating beam floats on and is at least partially supported at the struck-off surface of the uncured concrete. Pet. 35–38, 77–78.

For the reasons set forth in section III.E.1.f above and on this preliminary record, Quenzi supports Petitioner's contentions. For the reasons set forth in section III.G.1.a above and on this preliminary record, we are persuaded that Petitioner has set forth reasoning with rational underpinning explaining why it would have been obvious to combine the teachings of Jochems and Quenzi.

h. Conclusion

Accordingly, at this stage of the proceeding, we determine that Petitioner has established a reasonable likelihood of prevailing on its assertion that claim 1 would have been obvious in view of the combination of Jochems and Quenzi.

2. Dependent Claims 2–12

Claims 2–12 depend, directly or indirectly, from claim 1. Petitioner identifies sufficient evidence indicating that Jochems or Quenzi discloses the limitations in these claims. Pet. 78–87. As noted above, Patent Owner does not challenge Petitioner's contentions. *See generally* Prelim. Resp. Therefore, on this preliminary record, Petitioner demonstrates a reasonable

likelihood of prevailing in showing that claims 2–12 would have been obvious in view of the combination of Jochems and Quenzi.

3. Independent Claim 13

Claim 13 recites a wheeled concrete screeding device substantially as recited in claim 1, and further reciting an articulatable two-piece wheeled unit and specifying that the grade establishing element comprises a plow member. Ex. 1001, 26:17–49. Petitioner relies on its previous mappings and arguments regarding Jochems and Quenzi for the subject matter common to claim 1. Pet. 87. We address Petitioner's contentions regarding the recitations unique to claim 13 below.

a. The Wheeled Unit Recitation

Claim 13 recites,

> an articulatable wheeled unit having a front frame portion movably supported by front wheels and a rear frame portion movably supported by rear wheels, wherein said front frame portion is articulatable relative to said rear frame portion about a generally vertical pivot axis when said wheeled unit is supported at a generally horizontal support surface.

Ex. 1001, 26:20–26. Petitioner maps Jochems's second frame part 2 with wheels 4 to the recited front frame portion and first frame part 1 with wheels 4 to the recited rear frame portion. Pet. 81, 87. Petitioner argues that Jochems's first and second frame parts are hingedly connected about axis 3. *Id.* at 81, 84–85, 87.

Jochems discloses that its machine comprises first frame part 1 and second frame part 2, each frame part including two wheels 4. Ex. 1004,

2:30–34, 2:39–53. The first and second frame parts "are hingedly connected to each other at the vertical hinge axis 3." *Id.* at 2:30–34.

Accordingly, for the foregoing reasons and on this preliminary record, Jochems supports Petitioner's contentions.

b. The Screed Head Recitation

Claim 13 recites "wherein said grade establishing element comprises a plow member." Ex. 1001, 26:34–35. Petitioner relies on its mapping and arguments made for the Screed Head Recitation for the anticipation challenge based on Quenzi, in which Petitioner maps Quenzi's screeding heads 211, 311, 411 to the recited screed head, plows 312, 412 to the recited grade establishing element, and vibrating beams 220, 320, 420 to the recited vibratable member. Pet. 27–28, 71–72, 87.

For the reasons set forth in section III.E.1.c above and on this preliminary record, Quenzi supports Petitioner's contentions. For the reasons set forth in section III.G.1.a above and on this preliminary record, we are persuaded that Petitioner has set forth reasoning with rational underpinning explaining why it would have been obvious to combine the teachings of Jochems and Quenzi.

c. The Second Wherein Recitation

Claim 13 recites "wherein said vibratable member is pivotally attached at a rearward end of said grade establishing element." Ex. 1001, 26:42–43. Petitioner argues that Quenzi's vibrating beams are attached at a rearward end of the plows via a pair of pivotally attached links. Pet. 32, 42–47, 79, 87.

Quenzi's vibration beams are connected to the plow via framework 214, 314, 414, with the framework connected to a rearward end of the plow. Ex. 1004 ¶¶ 68, 90, 98, 121, Figs. 1, 16, 23. The framework includes linkages 214e, 214f, 323 that are pivotable to adjust the vibrating beam. *Id.* ¶¶ 88, 107, 121.

Accordingly, for the foregoing reasons and on this preliminary record, Quenzi supports Petitioner's contentions. For the reasons set forth in section III.G.1.a above and on this preliminary record, we are persuaded that Petitioner has set forth reasoning with rational underpinning explaining why it would have been obvious to combine the teachings of Jochems and Quenzi.

d. Conclusion

Accordingly, at this stage of the proceeding, we determine that Petitioner has established a reasonable likelihood of prevailing on its assertion that claim 13 would have been obvious in view of the combination of Jochems and Quenzi.

4. Dependent Claims 14 and 15

Claims 14 and 15 each depend directly from claim 13. Petitioner identifies sufficient evidence indicating that Jochems or Quenzi discloses the limitations in these claims. Pet. 39–47, 79, 86–88. As noted above, Patent Owner does not challenge Petitioner's contentions. *See generally* Prelim. Resp. Therefore, on this preliminary record, Petitioner demonstrates a reasonable likelihood of prevailing in showing that claims 14 and 15 would have been obvious in view of the combination of Jochems and Quenzi.

IV. CONCLUSION

For the foregoing reasons, we determine that the information presented establishes a reasonable likelihood that Petitioner would prevail in showing that at least one of the challenged claims is unpatentable. At this preliminary stage, we have not made a final determination with respect to the patentability of the challenged claims or any underlying factual and legal issues. *See TriVascular, Inc. v. Samuels*, 812 F.3d 1056, 1068 (Fed. Cir. 2016) (noting that "there is a significant difference between a petitioner's burden to establish a 'reasonable likelihood of success' at institution, and actually proving invalidity by a preponderance of the evidence at trial").

Accordingly, *inter partes* review is instituted as to all challenged claims and all proposed grounds of unpatentability. *See* 37 C.F.R. § 42.108(a).

V. ORDER

Accordingly, it is:

ORDERED that pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–15 of the '366 patent is instituted with respect to all grounds set forth in the Petition; and

FURTHER ORDERED that, pursuant to 35 U.S.C. § 314(c) and 37 C.F.R. § 42.4, notice is hereby given of the institution of a trial, which commences on the entry date of this decision.

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