

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

PRECISION PLANTING LLC,
Petitioner,

v.

MASCHIO GASPARDO S.p.A.,
Patent Owner

U.S. Patent No. 8,770,121
IPR Case No.: IPR2024-00008

**PATENT OWNER'S RESPONSE TO PETITION FOR *INTER PARTES*
REVIEW OF U.S. PATENT NO. 8,770,121 UNDER 37 C.F.R. § 42.120**

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I. INTRODUCTION

Pursuant to 37 C.F.R. § 42.120, Patent Owner MASCHIO GASPARDO S.p.A. (“Maschio”) submits the following Response regarding the *inter partes* review instituted against U.S. Patent No. 8,770,121 (“the ‘121 patent”) (Exhibit 1001 to the Petition). This Response is timely filed in accordance with the parties’ stipulation (Paper 23). Because, as set forth below, PRECISION PLANTING LLC (“Precision”) has not met its burden of proof, and because Maschio presents the Board with facts that demonstrate the patentability of the challenged claims, the claims must be confirmed. The patentability of the claims is supported by the Declarations of Harry Dankowicz, Ph.D. attached as Exhibit 2012 (“Dankowicz Declaration”), and of Davide Locas, European Patent and Trademark Attorney, attached as Exhibit 2013 (“Locas Declaration”).

II. THE ‘121 PATENT AND INDEPENDENT CLAIMS 1 AND 10

The ‘121 patent discloses, and recites in independent claims 1 and 10, a seed distribution element (1) for precision pneumatic seed drills (3). Important to the ‘121 patent is the distinction between two portions of the housing (10) as illustrated in Fig. 1: the fixed portion (11), which is fixed on the frame (6), and a movable portion (12) hinged to the fixed portion (11). Exhibit 1001, 2:44-47. For the correct functioning of such seed distribution elements, an effective pneumatic seal must be ensured between the face of the sowing disc (16) that is subjected to suction and a seal (24) which delimits the pneumatic suction chamber (17). The ‘121 patent

explains that prior art seed drills include a thrust-bearing element (“TBE”) mounted on the fixed portion of the housing to relieve the heavy load on the seal. *Id.*, 1:53-59.

The inventor recognized, and the ‘121 patent explains, that mounting the TBE on the fixed portion of the housing (while providing the seed collection chamber in the movable portion) creates its own problems: opening of the housing necessarily involves the removal of the portion containing the seed collection chamber from the hopper and replacing the sowing disc requires removal of some parts of the distributor, such as the adjustable seed selector, and the seed ejector, where provided. *Id.*, 1:66 to 2:11. The ‘121 patent not only recognizes but solves the problems associated with mounting a TBE (26) on the fixed portion (11) of the housing. The ‘121 patent generally solves the problems by arranging the drive shaft (20) and the TBE in different housing sections, i.e., by mounting the drive shaft in the fixed housing portion and by mounting the TBE in the other, movable housing portion. Dankowicz Declaration, 40.

As the Board recognized in its “Decision Granting Institution of Inter Partes Review” dated March 26, 2024 (Paper 12) (“Institution Decision”) at 25, this case

hinges on the claimed “thrust-bearing element” recited in both independent claims (1 and 10) of the ‘121 patent.¹

III. LEVEL OF ORDINARY SKILL IN THE ART

In its Institution Decision on pages 7-8, the Board adopted Precision’s unopposed definition of a hypothetical “person of ordinary skill in the art” or “POSA.” Maschio has no objection to that definition. *See Dankowicz Declaration*, 37.

IV. CLAIM CONSTRUCTION

The Petition was filed on October 4, 2023. Therefore, the claim terms should be given their “ordinary and customary meaning” as understood by a POSA at the time of the invention. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc). In its Institution Decision, on pages 9-13, the Board applied that standard and preliminarily construed three claim terms: (1) “thrust-bearing element” or “TBE”; (2) “supported rotatably in the movable portion”; and (3) “transmission drive shaft.”

The Board preliminarily construed the term “transmission drive shaft” to mean “a shaft that is driven by a motor and is part of, or associated with, a

¹ Similarly, the opposition filed against the European patent that corresponds to the ‘121 patent hinged on the claim limitation “thrust-bearing element.” *See Locas Declaration*, 59, 67.

transmission.” The Board’s interpretation is reasonable and, therefore, should be adopted for at least the reasons recited on pages 11-13 of the Institution Decision.

The Board’s preliminary interpretation of “TBE” is “an [i.e., any] element that provides support against an axial force.” *Id.*, 10. This broad interpretation (i.e., any element) is also how Precision and the European Patent Office (EPO) interpreted the TBE. *See, e.g.*, Transcript of Deposition of Mark Fleming (Precision’s expert witness) dated June 27, 2024, Exhibit 2014, 106-110 (“Fleming Deposition”); and Locas Declaration, 62, 67. Maschio respectfully submits the claim term should be interpreted as a “means-plus-function” claim limitation under 35 U.S.C. § 112(f) and, for the reasons provided below, the preliminary interpretation is unreasonably broad with respect to both structure and function.

Finally, the Board preliminarily construed the claim terms “TBE” and “supported rotatably in the movable portion” separately which, Maschio respectfully submits, is not necessary.² Both terms are included in the same overall limitation that is recited in independent claims 1 and 10 of the ‘121 patent: “a thrust-bearing element of the sowing disc, which thrust-bearing element is supported rotatably in the movable portion in order to withstand at least some of the axial load produced by the disc on the seal.” Interpretation of the term “supported rotatably in the

² For reasons provided below, however, Maschio foreshadows the need to distinguish the claim term “movable portion” from an unclaimed “removable portion.”

movable portion” is subsumed in the interpretation of the means-plus-function term “a thrust-bearing element.” Note that the claims recite “a thrust-bearing element of the sowing disc” followed by a comma, and then define two characteristics of the TBE: (1) which thrust-bearing element is supported rotatably in the movable portion (2) in order to withstand at least some of the axial load produced by the disc on the seal. Maschio’s analysis of the overall limitation follows the direction of the U.S. Court of Appeals for the Federal Circuit in *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1350 (Fed. Cir. 2015) (en banc) (“We begin with the observation that the claim limitation in question is not merely the introductory phrase ‘distributed learning control module,’ but the entire passage This passage, as lengthy as it is, is nonetheless in a format consistent with traditional means-plus-function claim limitations.”).

A. The TBE Should Be Construed as a Means-Plus-Function Limitation.

A limitation in a claim that describes a function without describing the physical structures for performing that function is a “means-plus-function” claim limitation. *See Dyfan, LLC v. Target Corp.*, 28 F.4th 1360, 1365 (Fed. Cir. 2022) (a means-plus-function limitation recites “a function without reciting structure for performing the function”). The Patent Act states:

An element in a claim for a combination may be expressed as a means . . . for performing a specified function without the

recital of structure . . . in support thereof, and such claim shall be construed to cover the corresponding structure . . . described in the specification and equivalents thereof.

35 U.S.C. § 112(f). In enacting this provision, Congress “‘struck a balance in allowing patentees to express a claim limitation by reciting a function to be performed rather than by reciting structure for performing that function,’ while ‘placing specific constraints on how such a limitation is to be construed’ -- that is, by restricting the ‘scope of coverage to only the structure . . . described in the specification as corresponding to the claimed function and equivalents thereof.’” *Diebold Nixdorf, Inc. v. Int’l Trade Comm’n*, 899 F.3d 1291, 1297 (Fed. Cir. 2018) (quoting *Williamson*, 792 F.3d at 1347).³

“The overall means-plus-function analysis is a two-step process.” *Dyfan*, 28 F.4th at 1365. “The first step is to determine whether a claim limitation is drafted in means-plus-function format,” which requires the decisionmaker to “determine whether [the claim] connotes sufficiently definite structure to a person of ordinary skill in the art.” *Id.* “If the limitation connotes sufficiently definite structure, it is not drafted in means-plus-function format, and § 112[(f)] does not apply.” *Id.* If,

³ Under the European patent laws, the scope of protection conferred by a means-plus-function claim limitation encompasses any structural means performing the function specified. Thus, the European and U.S. patent laws differ dramatically in how they interpret a means-plus-function claim limitation. *See* Locas Declaration, 48.

however, the decisionmaker concludes that the limitation describes functions as opposed to physical structure, the decisionmaker performs the second step of “determining ‘what structure, if any, disclosed in the specification corresponds to the claimed function.’” *Id.* (quoting *Williamson*, 792 F.3d at 1351).

Turning to the first step of the analysis, the U.S. Patent and Trademark Office (PTO) issued a Memorandum dated March 18, 2024, providing guidelines for examining patent claims under Section 112(f). Exhibit 2015. The Memorandum instructs Examiners to use the three-prong test established by the Federal Circuit in *Williamson*, 792 F.3d at 1350-52 (which followed MPEP § 2181(I)), to determine whether a claim limitation invokes Section 112(f): (1) the claim limitation uses the term “means” or a generic placeholder having no specific structural meaning; (2) the generic placeholder is modified by functional language typically linked by a transition phrase such as “so that”; and (3) the generic placeholder is not modified by sufficient structure for performing the claimed function. Applying the three-prong test, it is clear that the claim limitation “thrust-bearing element” invokes Section 112(f).

First, if the limitation uses the word “means,” there is a rebuttable presumption that Section 112(f) applies. *Rain Computing, Inc. v. Samsung Elecs. Am., Inc.*, 989 F.3d 1002, 1005 (Fed. Cir. 2021). “Generic terms such as . . . ‘mechanism,’ ‘element,’ ‘device,’ and other nonce words that reflect nothing more than verbal

constructs may be used in a claim in a manner that is tantamount to using the word ‘means.’” *Williamson*, 792 F.3d at 1350 (emphasis added). Like the word “means,” the above “nonce” words “typically do not connote sufficiently definite structure.” *Id.* (citation omitted). Thus, the use of the generic term “element” can “presumptively bring the disputed claims limitations within the ambit of § 112[(f)].” *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1008 (Fed. Cir. 2018). Precision’s expert agreed that the word “element” is a generic term. Fleming Deposition, 113.

Second, the generic placeholder “element” is modified by functional language (the element functions to “bear thrust” or to “withstand at least some of the axial load produced by the disc on the seal”)⁴ linked by a transition phrase (“in order to”).⁵ Third and finally, the generic placeholder “element” is not modified by sufficient structure for performing the claimed function. The claim language explains what the “thrust-bearing element” does, i.e., the element bears thrust and the thrust that the element bears is at least some of the axial load produced by the disc on the seal, but not what the TBE looks like. In other words, the claim language does not describe

⁴ To this extent, Maschio agrees with the Board’s analysis on pages 9-10 of its Institution Decision: “Thus, literally, a ‘thrust-bearing element’ is an ‘element’ that bears thrust. In this case, as recited in claim 1 [and in claim 10], the thrust that the element bears is ‘at least some of the axial load produced by the disc on the seal.’” Precision’s expert agreed with the function attributed to the claimed TBE. Fleming Deposition, 111. The result of the TBE is “to limit the wear on the seal 24 resulting from sliding against the surface of the disc 16.” Exhibit 1001, 3:21-24.

⁵ Precision’s expert agreed that the transition phrase “in order to” links the structure of the claimed TBE to its function. Fleming Deposition, 111-12.

the physical structure of the TBE such as the type or shape of the components that perform the claimed function. Fleming Deposition, 107-08.

B. The Structure and Function of the Claimed TBE.

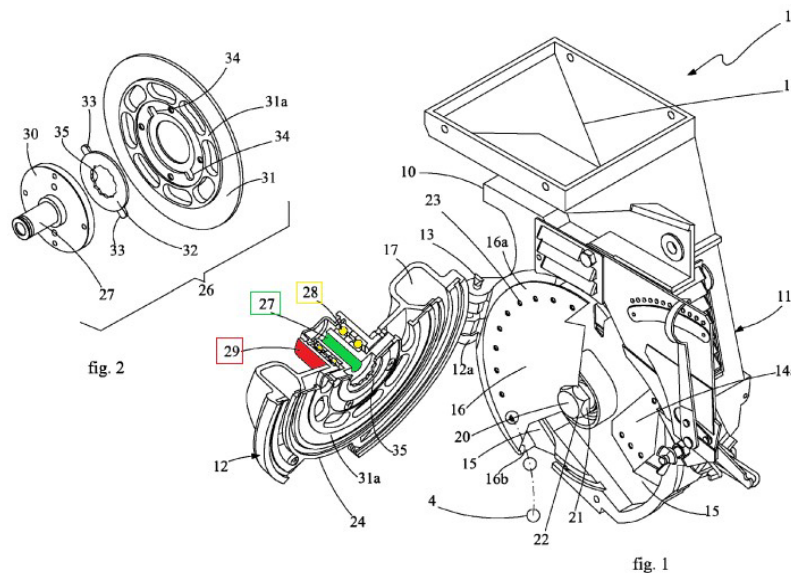
Having completed the first step of the overall two-step means-plus-function analysis, the only reasonable conclusion is that the claim limitation “TBE” should be interpreted as a means-plus-function limitation. Therefore, the analysis turns to the second step: determining what structure, if any, disclosed in the specification corresponds to the claimed function. The specification of the ‘121 patent expressly and unequivocally defines the structure of the TBE in the first sentence of the following paragraph:

The thrust-bearing element 26 comprises a shaft 27 rotatably mounted by means of bearings 28 in a seat 29 of the movable portion 12. The shaft 27 has flanging 30 by means of which it is fixed to a thrust-bearing plate 31 which can bear on that surface of the disc which faces the seal 24 in a zone radially inside the ring of holes 23 in order to withstand at least some of the axial load produced by the disc 16 on the seal 24.

Exhibit 1001, 3:25-32 (emphasis added).⁶ The word “comprises” signals that the TBE is composed or consists of three structural components: (1) a shaft 27 that is (2) rotatably mounted by means of bearings 28 (3) in a seat 29 of the movable portion

⁶ The Board quoted this definitional sentence on page 4 of its Institution Decision.

12.⁷ These three structural components are all illustrated together as part of the movable portion 12 of the housing 10 in Fig. 1 of the ‘121 patent, and only in Fig. 1, which is copied below and annotated to show the shaft 27 in green, the bearings 28 in yellow, and the seat 29 in red.



Important is that although the word “comprises” is not limiting, so that the TBE may include components that are not recited in the definitional sentence, the word cannot be read to require other structural components. *See, e.g., Versa Corp. v. Ag-Bag Int’l, Ltd.*, 392 F.3d 1325, 1329 (Fed. Cir. 2004) (“Although ‘comprising’

⁷ A dictionary definition of “comprise” is “To be composed of : consist of. To include : contain. **usage:** The traditional rule states that the whole *comprises* the parts, the parts *compose* the whole.” Webster’s II New College Dictionary at 231 (Houghton Mifflin Company 2001) (“Dictionary”) (Exhibit 2016).

language is not limiting and may include features not recited in the claim, such language cannot be read to require other structure.”). Thus, although Fig. 2 and the paragraph quoted above after the definitional sentence of the ‘121 patent may associate additional components (beyond the three components recited in the definitional sentence) with the TBE, neither the paragraph nor Fig. 2 require the TBE to have such additional components. Such additional components are, for example, flanging 30, a thrust-bearing plate 31, and a drive element 32. Some of these additional components are separately claimed in the ‘121 patent. *See* claim 3 (“The seed distribution element according to claim 1, wherein the thrust-bearing element comprises a thrust-bearing plate [31] . . .”) and claim 4 (“The seed distribution element according to claim 3, wherein the thrust-bearing element comprises a drive element [32]. . .”). Thus, these additional components cannot be considered part of the structure of the TBE as recited more broadly in claims 1 and 10 without violating the doctrine of claim differentiation. *See, e.g., nCube Corp. v. SeaChange Int’l, Inc.*, 436 F.3d 1317, 1322 (Fed. Cir. 2006) (rejected claim interpretation that “would impermissibly read the ‘virtual connection’ limitation of claim 2 into claim 1, making these claims redundant”). *See also* Dankowicz Declaration, 52.⁸

⁸ In Precision’s European opposition, the EPO considered claims reciting similar subject matter, both without (Sixth Auxiliary Request) and with (Seventh Auxiliary Request) the additional components, found both Requests patentable over the prior art, held Request 6 an “unallowable intermediate generalization” (a concept not

The definitional sentence in the specification of the ‘121 patent also defines the location of the three structural components that comprise the TBE. The shaft 27, the bearings 28, and the seat 29 are all “of” the movable portion 12. The Dictionary defines the preposition “of” as “Belonging or connected to <the rungs *of* a ladder>.” Exhibit 2016, 759. Thus, as defined, and as depicted in the only figure (Fig. 1) of the ‘121 patent that illustrates the three structural components of the TBE, the TBE belongs to or is connected to the movable portion 12 of the housing.

To be sure, after reciting the TBE (which comprises the shaft 27 rotatably mounted by means of bearings 28 in a seat 29 of the movable portion), claims 1 and 10 of the ‘121 patent further clarify “which thrust-bearing element is supported rotatably in the movable portion.” (Emphasis added.) The “supported rotatably in” language is based upon a sentence in the Abstract: “a thrust-bearing element (26) of the sowing disc (16), supported rotatably in the movable portion (12), to withstand the axial load produced by the disc (16) on the seal (24).” Regardless, there is nothing inconsistent between (or redundant about) defining the TBE to be both mounted rotatably by structure “of” the movable portion of the housing and supported rotatably “in” the movable portion. Dankowicz Declaration, 53.

found in U.S. law), and allowed Request 7. *See* Locas Declaration, 39-46, 61, 65-67.

The specification of the '121 patent also teaches: “In order to limit the wear on the seal 24 resulting from sliding against the surface of the disc 16, a thrust-bearing element indicated as a whole by 26 is mounted on the movable portion.” Exhibit 1001, 3:21-24 (emphasis added). This statement of “mounted on” is consistent with the portion of the specification that identifies the conventional practice of “positioning the thrust-bearing element on the fixed portion” of the housing, as opposed to on the movable portion of the housing, as “the source of numerous drawbacks” solved by the claimed invention. Exhibit 1001, 3:66 to 4:19.

The specification further clarifies the relationship between the TBE and the movable portion at column 3, lines 60-61 (emphasis added): “The whole of the movable portion 12 complete with thrust-bearing element 26 and seal 24” Similarly, claim 10 differs from claim 1 in that claim 10 recites a kit for retrofitting seed distribution elements of precision pneumatic seed drills that includes, as its only component, “the movable portion pre-assembled with: a thrust-bearing element of the sowing disc” (Emphasis added.) The Dictionary defines the preposition “with” as “Having as a possession, attribute, or characteristic <people *with* blue eyes>.” *See* Exhibit 2016, 1267; *see also* Fleming Deposition, 155-56 (conceding that, by requiring the movable portion to be pre-assembled with the TBE, claim 10 requires the TBE to be included as part of the movable portion, namely, together). Thus, in claim 10, the movable portion is pre-assembled to have the TBE as a

possession, attribute, or characteristic.⁹ *See also* claims 11-16 which state “wherein the movable portion and the thrust-bearing element [together] comprise at least one [additional] feature”

For the above reasons, the limitation “thrust-bearing element” recited in claims 1 and 10 of the ‘121 patent must be interpreted as a means-plus-function claim limitation. As defined in the specification, the corresponding structure is “a shaft rotatably mounted in the movable portion by means of bearings in a seat of the movable portion.” Therefore, in the context of the remaining claim language including the claimed function of the TBE, the last limitation of claims 1 and 10 should be interpreted to mean: “a shaft rotatably mounted in the movable portion and supported by means of bearings in a seat of the movable portion in order to withstand at least some of the axial load produced by the disc on the seal.”

⁹ Precision’s expert tries to avoid the difference in scope between claims 1 and 10 by interpreting claim 10 to mean that when the entire seed distribution element is pre-assembled, then the movable portion also happens to be preassembled with the TBE. Exhibit 1003, Fleming Declaration, 19-20, 157, 169; Fleming Deposition, 159-61. This interpretation is incorrect because it ignores: (1) the limitation “pre-assembled” connects the TBE with the movable portion while none of the other parts recited in claim 10 include that limitation; (2) the structure of claim 10 recites in its preamble distribution elements of a type including a large number of parts, the transition “wherein the kit comprises,” and the body (“the movable portion . . .”) thereafter; (3) the thing that is retrofitted in claim 10 (with the movable portion) is a seed distribution element so that the seed distribution element itself cannot be preassembled; and (4) the dictionary defines “kit” as “a set of parts or materials to be assembled <a stereo *kit*>.” *See* Exhibit 2016, 608 (underlined emphasis added).

C. Additional Evidence Supports the Means Plus Function Claim Interpretation.

Relevant portions of the intrinsic evidence (other claims and the specification) and of the extrinsic evidence (expert testimony, prior art, and dictionary definitions) support that interpretation. Some of the evidence is identified above. In addition, the adjective and hyphenated term “thrust-bearing” that modifies the noun and nonce word “element” supports this interpretation. *See* Institution Decision, 9. The word “thrust” means “A driving force or pressure.” Dictionary, 1151. This word refers to the function of the TBE, which claims 1 and 10 later expand upon (i.e., the TBE provides a driving force or pressure that counters or withstands at least some of the axial load produced by the disc 16 on the seal 24 in the absence of the TBE). In addition to operating as a verb to indicate that the structure of the claimed “element” functions to “bear” thrust, the word “bearing” also means “A device that supports, guides, and reduces the friction of motion between fixed and moving machine parts.” *Id.*, 97. As defined, the word refers to the bearings 28 that form part of the structure of the TBE and that reduce the friction of motion between the shaft and the seat. Thus, Maschio respectfully disagrees with the statement on page 9 of the Institution Decision that the embodiment of the thrust-bearing element (hyphen) disclosed in the ‘121 patent “does not resemble” the structure of the well-known “thrust bearing” (no hyphen). In fact, Precision’s own Exhibit 1017 defines “thrust bearing” (no hyphen) as “A bearing which sustains axial loads and prevents total movement of a

loaded shaft.” This is precisely what the claimed TBE (which comprises a shaft rotatably mounted in the movable portion and supported by means of bearings in a seat of the movable portion) “resembles” as the TBE functions to withstand at least some of the axial load otherwise produced by the disc on the seal.

Perhaps the most relevant extrinsic evidence is that Precision copied, verbatim, claims 1-16 of the ‘121 patent in three different patent applications. *See* Locas Declaration, 74-75. During prosecution of U.S. Patent Application No. 16/694,471, the PTO issued an Office Action dated October 5, 2021, which on page 3 stated: “The claims recite ‘a thrust-bearing element’. However, this specific type of bearing has not been disclosed throughout the continuation (CON) chain of applications. The limitations requiring a thrust-bearing element therefore comprise new matter.” *See* Locas Declaration, 78, and its Appendix B6. Precision responded, on April 5, 2022, in part by amending the limitation “a thrust-bearing element” to “a shaft coupled to bearings held in place by the movable portion of the housing.” *See* Locas Declaration, 78, and its Appendix B7. Thus, Precision itself defined the same claim limitation “a thrust-bearing element” much as Maschio now does.

In addition, the PTO issued U.S. Patent No. 9,127,708 to US Synthetic Corporation in 2015 based on an application filed in 2013. Exhibit 2017. The ‘121 patent was granted in 2014 based on an application filed in 2010. Therefore, although not prior art to the ‘121 patent, the ‘708 patent reflects how at least one third-party

POSA would understand the claimed TBE – and that understanding is consistent with the means-plus-function interpretation of “TBE” provided above.

As used in the ‘708 patent, the terms “thrust-bearing apparatus” and “thrust-bearing assembly” connote structures that achieve support against an axial load while being supported in a way that reduces friction between stationary and rotating machine parts, consistent with the means-plus-function interpretation of “TBE.” The analogous use in the ‘708 patent of the terms “radial bearing apparatus” and “radial bearing assembly” describing structures that achieve support against radial loads while being supported in a way that reduces friction between stationary and rotating machine parts shows that this interpretation is independent of the use of hyphenation in constructions using “thrust.” Dankowicz Declaration, 56.

V. VENHUIZEN DOES NOT ANTICIPATE ANY CLAIMS (GROUND 1).

Precision has not met its burden of establishing that claims 1-3, 7-12, and 16 of the ‘121 patent are anticipated by the VenHuizen patent (US 807; Exhibit 1006). To anticipate a claim, a reference must disclose every limitation of the claimed invention, either expressly or inherently. *Rapoport v. Dement*, 254 F.3d 1053, 1057 (Fed. Cir. 2001). The question of anticipation is not whether a reference suggests the claimed subject matter, but whether a POSA would reasonably understand or infer from a reference that every claim limitation is disclosed in that reference. *AstraZeneca LP v. Apotex, Inc.*, 633 F.3d 1042, 1055 (Fed. Cir. 2010).

The anticipation grounds based on VenHuizen fail because it does not disclose a TBE under the correct interpretation of that limitation. Specifically, VenHuizen fails to disclose or suggest any one of the three structural features of the claimed TBE: [iii] a shaft rotatably mounted in the movable portion [ii] and supported by bearings [i] in a seat of the movable portion. Precision's expert, Dr. Mark Fleming, agreed. *See Fleming Deposition*, 42-49.

VenHuizen discloses “[a] seed planter of the type having a metering unit with a seed chute that drops seeds into a seed tube for planting as manufactured by John Deere is provided with a deflector in the metering unit. The deflector directs the path of the seeds as they fall away from the seed disk so as to free fall along a vertical centerline between the leading and trailing walls of the seed tube and between the opposing sides thereof.” Exhibit 1006, Abstract.

The purpose of the VenHuizen patent is “to provide an improvement to a [John Deere] vacuum seed planter that would improve the spacings between seeds planted without requiring that the machine be pulled at a slower rate of speed.” Exhibit 1006, 3:3-6. To achieve the stated purpose, VenHuizen identifies a problem: “Although the seeds falling away from a seed disk follow the same path as they move through the air, each seed follows a different path once it makes contact with the surface of the seed tube. Whereas one seed may slide along the surface and move smoothly down the length of the tube until it is expelled, a second seed following the first seed may

be deflected from one surface to another of the seed chute and ricochet down its length causing it to be emitted into the trough after a longer period of time than the first seed.” *Id.*, 4:1-10. VenHuizen solves this problem by providing a deflector. *Id.*, 4:32-42 and 9:20-32. The deflector is recited in every claim of the VenHuizen patent. VenHuizen has nothing to do with the problems of seal abrasion and seal wear and fails to disclose anything about a TBE designed to solve those problems.

On pages 45-47 of the Petition, Precision equates the winged hub handle 58 disclosed by VenHuizen with the claimed TBE.¹⁰ A careful review of VenHuizen shows the fallacy of such attempted equation. Specifically, see Exhibit 1006, 5:59 through 6:18 (emphasis added):

Referring to FIGS. 6 through 10, the metering unit 36 includes a first housing member 50, having a generally cylindrical outer wall 52 and a planar rear wall 54 thereby forming a cavity. Extending from the rear wall 54, axially with respect to the cylindrical outer wall 52, is a tubular retaining hub 56 at the distal end of which is a handle 58 which is rotatable between a first position for receiving or removing a seed disk 60 and a second position for removably retaining a seed disk 60 on the hub 56.

¹⁰ Based on its earlier and preliminary interpretation of the TBE, the Board determined that Precision’s equation was “reasonably likely” to prevail. Institution Decision, 23-27.

Referring to FIGS. 6, 7, and 8, the retaining hub 56 is threaded on a cylindrical drive shaft 55 at the distal end of which are a pair of flanges 57 for drivingly engaging a drive member, not shown, which in turn is drivingly connected by the gearing, also not shown, to the wheels 26. A removable spring locking pin, not shown, locks the tubular retaining hub 56 to the inner drive shaft 55. By removing the spring locking pin, the retaining hub 56 can be rotated with respect to the inner shaft to thereby axially move the retaining hub 56 with respect to the rear wall 54 of the [fixed] first housing member 50. Rotating the retaining hub 56 clockwise with respect to the drive shaft moves a seed disk 60 retained thereon toward the rear wall 54 and rotating the retaining hub 56 counterclockwise moves a seed disk 60 thereon away from the rear wall 54 of the first housing member 50. Adjusting the retaining hub 56 causes the axial adjustment of the seed disk 60, after which the parts are locked into their desired orientation by locking pin 59.

As shown in Fig. 6 of VenHuizen, neither the hub handle 58 nor any structure associated with it equates to [i] the claimed seat of the movable portion. Although the handle 58 is located within the physical confines of the movable second housing member 90 when the two housing portions 50, 90 are closed together and not before, the handle 58 is rotatably supported by the retaining hub 56 in the fixed first housing member 50. *See also* Exhibit 1006, 7:48-51 (emphasis added): “As shown in FIGS. 3, 5, and 7, when the two housing members 50, 90 are latched in assembled

relationship, with a seed disk 60 retained on the retaining hub 56 of the housing member 50, the interior of the metering unit 36 will be divided into two chambers.” Thus, VenHuizen does not disclose or suggest any seat, and certainly not a seat of the movable portion, as required by the TBE recited in the ‘121 patent claims. Dankowicz Declaration, 59. Section II above describes the importance to the claimed invention of arranging the various components in different housing sections (fixed versus movable).

Further, and as shown in Fig. 6 of VenHuizen, neither the hub handle 58 nor any structure associated with it equates to [ii] bearings that support a shaft in the seat of the movable portion. VenHuizen does not disclose or suggest any bearings as required by the TBE recited in the claims of the ‘121 patent. The absence of bearings in VenHuizen is not surprising because bearings are not needed in the movable portion of the housing in the device taught by VenHuizen. Bearings are not needed, in turn, because VenHuizen also does not disclose or suggest [iii] a shaft rotatably mounted in the movable portion. Dankowicz Declaration, 60.

The ‘121 patent teaches that “[t]he thrust-bearing element 26 is driven in rotation with the sowing disc 16” Exhibit 1001, 3:36-37. *See also* claims 2 (“the thrust-bearing element is rotated with the disc”) and 4 (“the thrust-bearing element comprises a drive element which . . . can be coupled with the drive shaft of the disc”). Clearly, the shaft of the TBE, as rotatably mounted in the movable portion and

supported by means of the bearings in the seat of the movable portion, rotates along with the disc in an unrestricted, 360° manner. The shaft engages the seat through bearings that permit, indeed facilitate, such unrestricted rotation of the shaft (and disc) relative to the seat of the movable portion. Dankowicz Declaration, 61.

In contrast, the hub handle 58 taught by VenHuizen simply clamps or locks the sowing disc against the retaining hub. The handle does not rotate with respect to the hub when in the locked position, and no structure in the movable portion of VenHuizen permits unrestricted rotational movement between a shaft and either a (non-existent) seat or (more generally) the movable portion of the housing. The functions of the hub handle 58 disclosed by VenHuizen are to permit replacement of a seed disk 60 and, after the seed disk is installed, to retain the seed disk on the hub 56. Dankowicz Declaration, 62; Fleming Deposition, 28.

More specifically, as shown in Fig. 4 (labeled “PRIOR ART”) of VenHuizen, the sowing disk 60 has ramps 63, 64 and corresponding lock notches 65, 66 (which are located opposite each other, i.e., 180° apart) arranged around a wing-shaped center opening 53. The wing-shaped opening receives the winged hub handle 58. *See Exhibit 1006, 6:19-27.* The retaining hub 56 is threaded on the drive shaft 55, both of which are located in the fixed portion 50 of the housing, and the handle 58

is located on the distal end of the retaining hub.¹¹ The user can grasp the handle 58 and rotate it about the retaining hub relative to the seed disk a short distance so that the ramps facilitate engagement with the lock notches and the seed disk is locked to the hub. Once locked, the hub and handle do not rotate with respect to each other. Essentially, the handle 58 functions like a nut on the retaining hub to lock and unlock the sowing disk. Dankowicz Declaration, 63; Fleming Deposition, 34-36 (confirming that VenHuizen does not explicitly state that the hub handle constrains movement of the seed disk when vacuum is applied).

The absence of any teaching in VenHuizen of the properly interpreted TBE limitation of claims 1 and 10 is fatal to Ground 1 of the Petition. Therefore, the Petition cannot prevail on Ground 1.¹²

VI. FIORIDO DOES NOT ANTICIPATE ANY CLAIMS (GROUND 2).

Precision has not met its burden of establishing that claims 1-5 and 10-14 of the ‘121 patent are anticipated by European Patent Application Publication No.

¹¹ Claims 1 and 10 of the ‘121 patent recite, separately from the TBE, a motor-driven transmission drive shaft 20 that rotates the sowing disc 16. The drive shaft 20 is supported in the fixed portion 11 of the housing and the sowing disc is removably mounted to the drive shaft. *See* Exhibit 1001, 2:60-63 and Fig. 1. If the drive shaft 55 taught by VenHuizen equates to any structure of the ‘121 patent, it would be to the drive shaft 20. The drive shaft 55 has nothing to do with a TBE as recited in the claims of the ‘121 patent and correctly interpreted. Dankowicz Declaration, 64.

¹² During the EPO opposition directed to claims reciting similar subject matter to claims 1 and 10 of the ‘121 patent, as properly interpreted, the EPO found the subject matter patentable over VenHuizen. *See* Locas Declaration, 61, 63, 66, 70.

0536543 filed by Fiorido (EP 543; Exhibit 1007).¹³ As for VenHuizen, the anticipation grounds based on Fiorido fail because EP 543 does not disclose a TBE under the correct interpretation of that limitation. Specifically, Fiorido fails to disclose or suggest any one of the three structural features of the claimed TBE: a shaft rotatably mounted in the movable portion and supported by bearings in a seat of the movable portion. Fiorido also does not disclose or suggest a TBE that functions to withstand at least some of the axial load produced by the disc on the seal. These limitations are discussed further below.

A. A Housing Portion which is Movable Relative to the Fixed Portion.

As an initial matter, however, Fiorido fails to disclose or suggest a housing with a fixed portion and a portion which is movable relative to the fixed portion and can be closed against the fixed portion -- as recited in both claims 1 and 10 of the ‘121 patent -- or any of the many limitations that require components to be located in or on the movable portion of the housing (e.g., “a pneumatic suction chamber being defined in the movable portion,” “a seal which is arranged on the movable portion,” and “a thrust-bearing element . . . supported rotatably in the movable portion”) or between the fixed and movable portions of the housing (“the sowing disc being interposed between the fixed and movable portions”). Distinguish

¹³ The Board decided in its Institution Decision that “the issue of whether Fiorido anticipates the challenged claims is best left for trial after full development of the record.” Institution Decision, 34.

components that are movable relative to another component, such as the claimed movable housing portion that is “movable” relative to the fixed housing portion, from components that are “removable” because they can be separated, taken away, and conveyed to another place. The ‘121 patent makes this distinction clear.¹⁴

The ‘121 patent refers often to the need in conventional devices for “removal” of certain components as a problem which the claimed invention addresses. *See, e.g.*, Exhibit 1001, 1:60-62 (“an attachment system must be provided which in the stage of replacement of the disc must be removed”); 2:3-7 (“This is the source of numerous drawbacks, including the fact that the opening of the housing necessarily involves the removal of the portion containing the seed collection chamber from the hopper type store located above”); and 2:9-10 (“for the replacement of the sowing disc it is necessary to remove some parts of the distributor”). Having identified this problem, the ‘121 patent discloses the claimed invention and then touts the advantages of the invention as follows:

Among the principal advantages of the distribution element according to the invention is the fact that the wear on the seal resulting from the sliding contact with the seed selector disc is substantially reduced, if not eliminated; the thrust-bearing

¹⁴ So does the dictionary. “Movable” is defined as “Capable of being moved” and “move” is defined, most relevant to the context of the claimed invention, as “9. To be put into motion or turn in a prescribed fashion. – Used of machinery.” *Dictionary*, 717. In contrast, “removable” is defined as “2. To convey from one place to another. . . . 4. To take away <remove blemishes>.” *Id.*, 938.

element is self-cent[er]ing, thereby allowing easy opening and closing of the movable portion on the fixed portion of the housing; the system additionally lends itself to easy retrofitting, all without removing movable parts and/or operations of disconnecting the sowing disc.

Exhibit 1001, 4:1-9 (emphasis added) (clearly distinguishing movable parts that may or may not be removable).

Fiorido discloses a pneumatic precision seed drill that ostensibly provides two improvements: “The perforations (34) in the disk (13) have an elongated shape and a reduced cross-section. A selector element (14) is arranged to co-operate with the disk (13) by throttling the air suction area of the perforations. An optimum seed separation and single-seed distribution effect is thereby achieved, regardless of the size and the shape of the seeds.” Exhibit 1007, Abstract. The Fiorido publication expressly states its purpose: “It is the purpose of the present invention to provide an improved type of pneumatically operated, precision-type, single-seed planter which is simpler in construction as compared with the currently known machines of the same category, and which [can] use the same disk and the same adjustment thereof to individually sow or plant single seeds having different grain sizes.” Exhibit 1007, 4:31-43 (emphasis added). To achieve the stated purpose, Fiorido identifies a problem:

In single-seed planters of the known type, in which the perforations of said disk are generally circular in their shape, it

is rather difficult to succeed in having a single seed in correspondence of each perforation of the disk, particularly in those cases in which the seeds have no regular shape and/or have differing sizes. . . .

It therefore ensues that precision-type single-seed planters have to be provided with several sets of perforated disks having perforations drilled to different diameter sizes, which must therefore be changed quite often according to the average size and shape of the seeds to be planted, so as to reduce the extent of the above described drawbacks.

Id., 1:38-44 and 2:4-11.

Fiorido solves this problem by providing the two improvements highlighted above: (1) disk perforations 34 having an elongated shape and a reduced cross-section, *id.*, 5:56 to 6:9; and (2) a selector element 14, *id.*, 6:14-17. The perforations having an elongated shape and a reduced cross-section and the selector element are both recited in the only independent claim of the Fiorido publication, most notably after the transition phrase “characterized in that” to highlight them as the claimed improvements over the prior art. Fiorido has nothing to do with the problems of seal abrasion or seal wear or a TBE designed to solve those problems. Fiorido also fails to disclose anything about a movable housing portion. In fact, Fiorido minimizes the need to access and replace disks, which is a purpose of splitting the housing into movable and fixed portions.

To be sure, Fiorido teaches “[t]he single-seed distributor means 10 is essentially formed by a seed container 11 and a box-like casing 12, with a perforated disk 13, associated with a selector element 14, arranged therebetween.” *Id.*, 5:10-13. The two housing components, namely the seed container 11 and the casing 12, are illustrated in each figure of the Fiorido publication. But neither housing component is movable relative to the other (fixed) housing component. Instead, Fiorido teaches: “Said seed container 11 is further provided with projections 18, 19 that are adapted to co-operate with respective projections 181 and 191 of the casing 12 to effect the connection and the closure (by means of holes, pins and bolts) of the container 11 with the casing 12.” *Id.*, 5:22-27. Unlike the ‘121 patent and VenHuizen, each of which teach a hinge and a removable hinge pin connecting the housing components so that one component moves (i.e., pivots) relative to the other component (see the hinge 12a and removable hinge pin 13 illustrated in Fig. 1 and described at column 2, lines 44-47 of the ‘121 patent and the hinge and pivot pin 92 illustrated in Fig. 8 and described at column 7, lines 19-21 of VenHuizen), Fiorido bolts the housing components together into a fixed position. Both housing components are fixed relative to each other per Fiorido. See the bolt heads illustrated in Fig. 1 of Fiorido and identified by Precision’s expert. Fleming Deposition, 50-52.

The Institution Decision overlooks the important distinction between the claimed housing “portion which is movable [because hinged or via another

construction such as a pivot, swivel, ball and socket, saddle joint, etc.] relative to the fixed portion” and the removable portions of the Fiorido housing which are bolted together. In disagreeing with Maschio’s position that neither the seed container 11 nor the casing 12 of Fiorido can be considered a movable portion because they are bolted together rather than connected by a hinge pin, the Board stated: “Claim 1 does not recite any particular structure by which the fixed and movable portions are movably attached to each other; bolts can be removed to separate the components” Institution Decision, 31-32 (emphasis added). The claims recite a movable portion and need not recite any particular structure by which the fixed and movable portions are movably attached to each other. And the fact that the bolts of Fiorido can be removed to separate the seed container 11 from the casing 12 of Fiorido does not make either of those components movable relative to the other. In fact, the ‘121 patent specifically states that the hinge pin 13, which engages the hinge 12a, is “removable.” Removing the hinge pin 13 would render the two portions of the housing disclosed in the ‘121 patent removable – but claims 1 and 10 require only that one portion of the housing be movable relative to the other (and not that they be removable). Precision’s expert agreed with the distinction between “movable” and “removable,” noting that the housing components of Fiorido are not moveable once they are bolted together. *See Fleming Deposition*, 52-53, 58-62, 69.

The Board correctly recognized that, “based on the current record and as noted above, Fiorido does not expressly teach a fixed portion or movable portion.” Institution Decision, 33. Absent recognizing the important distinction between the claimed housing “portion which is movable relative to the fixed portion” and the removable, bolted housing portions taught by Fiorido, however, the Board is forced to struggle with the “red herring” issues of whether a POSA would define either or both of the seed container 11 and the casing 12 of Fiorido as movable. The correct answer is that neither component is movable relative to the other. Recognition of the distinction also precludes Precision from inconsistently and “alternatively describ[ing] casing 12 as the fixed portion and the movable portion, depending on which limitation is discussed.” Institution Decision, 32.

Because neither of the housing components in Fiorido is movable relative to the other, Precision is able to “cherry pick” and inconsistently (and improperly) define both of the housing components as “movable” in different portions of its analysis. The Petition on pages 56-57 quotes column 5, lines 49-55 of Fiorido (“The casing 12 is also provided with a perforated hub 27 (Figure 2) through which passes, as supported by bearings 28, a shaft 29 that may for instance be driven through a cog-wheel 30 to rotatably drive the disk 13, to which it is connected by means of a driving disk 31, a centering dowel 32 and a driving pin 33 (Figures 2 and 3).”) and, from that disclosure, concludes: “The driveshaft is on the fixed portion of the

housing . . . and therefore constitutes a transmission drive shaft.” Thus, the Petition equates the casing 12 with the fixed portion of the housing while characterizing the shaft 29 (and its related components including the hub 27, the bearings 28, the cog-wheel 30, the driving disk 31, the centering dowel 32, and the driving pin 33 -- all of which combine to rotatably drive the disk 13) as the transmission drive shaft.

In contrast, the Petition quotes the same disclosure (namely, column 5, lines 49-55 of Fiorido) on page 64 and, from that disclosure, equates the driving disk 31 (which the Petition already argued is part of the transmission drive shaft) with the claimed TBE. Thus, the Petition would have the same components constitute both of the separately claimed transmission drive shaft and TBE. In addition, the very first line on page 65 of the Petition states: “Fiorido’s shaft [29], bearings [28], and driving disk [31] are rotatably supported by bearings in the casing [12] (moveable portion of the housing).” (Emphasis added.) *See also, e.g.*, Petition, 62 (“Fiorido discloses a hollow sealing ring arranged on the movable portion between the casing (movable portion) and the disk.”). In summary, the Petition has separately equated the same casing (12) both (i) with the fixed portion of the housing in connection with the transmission drive shaft, and (ii) with the moveable portion of the housing in connection with the seal and the TBE. Such confusion follows because the Petition ignores a basic premise of Fiorido, namely, that both housing components are fixed relative to each and neither housing component is movable relative to the other

housing component (although they may be removable, or separated from, each other).

That premise leads to another reason why the Petition's attempt to equate the driving disk 31 with the claimed TBE must fail. Fiorido does not disclose or suggest a TBE that is supported rotatably in the movable portion of the housing as recited in the claims of the '121 patent. Section II above describes the importance to the claimed invention of arranging the various components in different housing sections (fixed versus movable). Fiorido does not disclose or suggest any movable housing portion.

B. A Motor-Driven Transmission Drive Shaft.

Although less than clear, the Petition would have the same components constitute both the separately claimed motor-driven transmission drive shaft and TBE. Specifically, the Petition identifies the shaft 29 of Fiorido as the claimed motor-driven transmission drive shaft and the same shaft 29 as one component of the TBE.¹⁵ This is improper.

¹⁵ In his recent deposition, Precision's expert took a different position, stating that the drive shaft 29 of Fiorido alone constituted the claimed transmission drive shaft, Fleming Deposition, 71-72, and the driving disk 31 alone (and not the bearings 28 and shaft 29) of Fiorido constituted the claimed TBE, *id.*, 74-75. That position would avoid having the same Fiorido component constitute two separate claim limitations. The position would also clearly distinguish, however, the claimed TBE (as properly interpreted) from Fiorido.

When “a claim lists elements separately, ‘the clear implication of the claim language’ is that those elements are ‘distinct component[s]’ of the patented invention.” *Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010) (quoting *Gaus v. Conair Corp.*, 363 F.3d 1284, 1288 (Fed. Cir. 2004), and holding that the district court erred by deciding that the limitations “spring means” and “hinged arm,” which were separately recited in the asserted claim, can be the same structure).

Regardless, the components that the Petition equates with the claimed TBE, namely Fiorido’s shaft [29], bearings [28], and driving disk [31], are located in the casing [12]. The ‘121 patent describes the “fixed portion” as “that portion which is fixed to the framework of the sowing elements.” Exhibit 1001, 1:57-59. The patent also teaches that it is “obligatory to mount on the fixed portion the transmission which drives in rotation the motor-driven shaft which rotates the disc,” *id.*, 1:63-65, because the drive shaft must be fixed in translation to the framework. And Fig. 1 of the ‘121 patent locates the transmission shaft [20] in the fixed portion [11] of the housing. Therefore, the casing [12] of Fiorido, in which the transmission drive shaft is located, would be the fixed portion of the housing -- and the TBE is not mounted in the other portion of the Fiorido housing (whether movable or not). Dankowicz Declaration, 68. Precision’s expert agreed that the fixed portion of the Fiorido housing is defined as that portion having the bearings 28, the shaft 29, and the

cogwheel 30 located in it. Fleming Deposition, 56-58. Precision cannot establish another reasoned basis, because none exists, for determining which of container 11 and casing 12 corresponds to a fixed portion as opposed to a movable portion.

C. Thrust-Bearing Element.

Moreover, Fiorido does not disclose or suggest a TBE that functions “to withstand at least some of the axial load produced by the disc on the seal.” The function of the driving disk 31 (assisted by the related components of a perforated hub 27, bearings 28, a shaft 29, a cog-wheel 30, a centering dowel 32, and a driving pin 33) is expressly taught by Fiorido and is “to rotatably drive the disk 13.” *See* Exhibit 1007, 5:49-55. Dankowicz Declaration, 69. The driving disk and sowing disk are not necessarily rigidly attached nor does the face of one necessarily touch or contact the face of the other. Specifically, Fig. 3 of Fiorido shows that the centering dowel 32 of the driving disk 31 engages a center hole of the sowing disk 13, centering the sowing disk 13 with respect to the driving disk 31, and that the driving pin 33 engages a smaller offset hole of the sowing disk 13 to rotatably drive the disk 13. *See also* claim 7 of Fiorido. Thus, the driving disk and sowing disk do not necessarily transfer any axial load whatsoever. The two components might slide axially, for example, with respect to each other. Dankowicz Declaration, 70.

This concept is further informed by Fiorido’s teaching that “a hollow sealing ring 39 or similar gasketing means of plastic material may be appropriately provided

between the casing 12 and the disk 13 so as to ensure correct positioning of said two elements and an effective sealing effect between them (Figure 2).” Exhibit 1007, 7:53-58 (emphasis added). Because the sealing ring 39 “appropriately” positions the disk 13 to create a seal between the casing and disk, the face of the driving disk 31 does not necessarily contact the face of the sowing disk 13. Rather, a gap may exist between the faces. Dankowicz Declaration, 71.

Finally, Precision highlights the last paragraph of Fiorido, which states “the seed container 11 may be provided with a central opening 40 (Figures 1 and 2) to possibly introduce the support and driving elements [i.e., the shaft 29, cog-wheel 30, centering dowel 32, and driving pin 33] for the disk 13 from the opposite side of the device, as opposed to the arrangement shown in the accompanying drawing.” Exhibit 1007, 8:1-6. Precision then argues that this paragraph teaches a POSA “the fixed and movable sides may be swapped because the motor-driven transmission shaft can be introduced on either side.” Petition, 59-60. Because Precision posits that the drive shaft 29 is both the transmission drive shaft and a component of the TBE, however, Precision creates a “catch-22” that undermines its position. For the reasons stated above, a POSA would understand the shaft 29 to be located in the fixed portion of the housing. Therefore, if the shaft 29 is located in the casing 12 as shown in the drawing, then the casing 12 is the fixed portion and the TBE is located in the fixed portion. And if the shaft 29 is located in the container 11 as the last paragraph of

Fiorido teaches might be possible, then the container 11 is the fixed portion and the TBE is again located in the fixed portion. Either way, as the Board recognized, “the structure that Precision asserts corresponds to the claimed thrust-bearing element would not be in the movable portion, as claim 1 requires.” Institution Decision, 33.

If the support and driving elements [i.e., the shaft 29, cog-wheel 30, centering dowel 32, and driving pin 33] for the disk 13 were moved from the casing 12 as shown in the drawing to the seed container 11 as proposed by the last paragraph of the Fiorido specification, then the sowing disk 13 would certainly not have the driving disk 31 contact it because the vacuum would pull in the opposite direction. Dankowicz Declaration, 73. The reason that Fiorido can move the support and driving elements to the other side is because the sealing ring 39 keeps the sowing disk 13 in the appropriate position. Contact would risk wear to the sealing ring, one of the very problems solved by the invention recited in claims 1 and 10 of the ‘121 patent. Fiorido simply does not care whether the driving disk 31 ever contacts the sowing disk 13. *Id.*, 74.

Fiorido discloses nothing about an axial load produced by the disk on the seal or that the driving disk (which the Petition equates with the claimed TBE) functions to withstand such a load. Dankowicz Declaration, 75. Precision cites to no evidence supporting its position that Fiorido’s driving disk 31 actually withstands axial load, other than its expert Dr. Fleming’s conclusory testimony. *See* Petition, 65, citing

Exhibit 1003, 100. Dr. Fleming’s statement that “[t]he driving disk mounts . . . withstanding some of the load applied to the seal by the disk when a vacuum is applied” (Exhibit 1003, 99) is devoid of any citation to Fiorido itself.¹⁶ The Board should disregard this argument entirely. *See, e.g. Koito Mfg. Co. v. Turn-Key-Tech, LLC*, 381 F.3d 1142, 1152 (Fed. Cir. 2004) (“General and conclusory testimony, such as that provided by Dr. Kazmer in this case, does not suffice as substantial evidence of invalidity.”). The absence of a TBE in Fiorido is fatal to Ground 2 of the Petition.

Finally, as noted above, the Petition refers to the EPO opposition against the European counterpart to the ‘121 patent. To the extent that Precision wants to rely on that opposition, it is noteworthy that Precision cited both the VenHuizen patent (Reference D1) and the Fiorido publication (Reference D2) as “Documents relied upon” to support its opposition. *See* Notice of Opposition dated September 2, 2015, 2 (Exhibit 1005, 1596) (noting that D1 and D2 “were also cited in the examination procedure up to grant”). Yet none of the grounds asserted by Precision to support its assertions that the counterpart European claims lack either novelty or inventive step relied upon Fiorido. *See* Notice of Opposition, Exhibit 1005, 866-903. *See also* Precision’s “Observations” submitted July 15, 2016 (Exhibit 1005, 642-60) and Precision’s “Observations” submitted August 22, 2017 (Exhibit 1005, 617-23) --

¹⁶ In fact, during his deposition Dr. Fleming conceded that Fiorido does not explicitly state that the driving disk withstands some of the load applied to the seal by the seed disk when vacuum is applied. Fleming Deposition, 76-77.

neither of which even mention the Fiorido publication. In fact, beyond Precision's initial citation, Precision never relied upon Fiorido during the European opposition. *See* Locas Declaration, 62, 63. That fact begs the question: "Why not?" A reasonable answer is that Precision long ago understood that Fiorido does not affect the patentability of the claims of the '121 patent or its European counterpart.

The absence of any teaching in Fiorido of the properly interpreted TBE limitation of claims 1 and 10 is fatal to Ground 2 of the Petition. Therefore, the Petition cannot prevail on Ground 2.

VII. FIORIDO ALONE OR IN COMBINATION WITH VENHUIZEN AND AAPA DOES NOT RENDER ANY CLAIMS OBVIOUS (GROUND 3).

Ground 3 asserts that claims 1-5, 7-14, and 16 would have been obvious based on a combination of Fiorido, VenHuizen, and applicant-admitted prior art (AAPA). Precision has not met its burden of establishing that independent claim 1 and, similarly, independent claim 10 are rendered obvious by Fiorido either alone or in combination with VenHuizen and AAPA.

Determining whether an invention would have been obvious requires consideration of the scope and content of the prior art, differences between the prior art and the patent claims, the level of ordinary skill in the art, and any objective or "secondary" considerations. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007) (applying *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966)). The Board must determine whether there was an "apparent reason to combine the known

elements in the fashion claimed by the patent at issue,” and whether a person of skill in the art at the time of the invention would have had a “reasonable expectation of success” in pursuing that combination. *See KSR, Int’l*, 550 U.S. at 418.

Ground 3 asserts that independent claims 1 and 10, and dependent claims 2-5 and 11-14, would have been obvious based on Fiorido alone. Petition, 72, 73. Ground 3 also asserts that dependent claims 7-9 and 16 would have been obvious based on Fiorido in view of VenHuizen and AAPA. Because claims 2-5, 7-9, 11-14, and 16 directly or indirectly depend from patentable independent claims 1 or 10, they are also patentable. *See, e.g., In re McCarn*, 212 F.2d 797, 799 (CCPA 1954) (“sound law” requires allowance of dependent claims when their antecedent claims are allowed).

A. Fiorido Does Not Disclose or Teach Either a Movable Portion or a TBE.

The nonobvious differences between the invention recited in independent claims 1 and 10 and Fiorido have been discussed above in Section VI which addresses Ground 2 of the Petition. As stated above for Ground 2, Fiorido does not teach or suggest either a movable housing portion or a TBE of the movable housing portion. Ground 3 fails for this same reason. The Board seems to agree on pages 34-36 of its Institution Decision. Regardless, Precision has not met its burden of establishing that Fiorido would have rendered the challenged independent claims obvious.

B. There was No Motivation to Combine or Reasonable Expectation of Success.

The Petition also fails to identify how a POSA at the time of the ‘121 patent’s effective filing date would have been motivated to combine the asserted references with a reasonable expectation of success in reaching the claimed invention. Dankowicz Declaration, 77.

It is respectfully submitted that independent claims 1 and 10 are patentable because there is no apparent suggestion or motivation to combine the principal reference (Fiorido) with either of the secondary references (VenHuizen or AAPA) to solve the problems addressed by inventor Enrico Bragatto when the application that issued as the ‘121 patent was filed. *See, e.g., Virtek Vision Int’l ULC v. Assembly Guidance Sys., Inc.*, 97 F.4th 882, 2024 WL 1292734 (Fed. Cir. March 27, 2024) (reversing the Board’s determination that certain claims were unpatentable, finding that there was not substantial evidence to support a motivation to combine the prior art references in the manner claimed in the patent, and stating that “[i]t does not suffice to meet the motivation to combine requirement to recognize that two alternative arrangements . . . were both known in the art”).

In addressing motivation to combine at pages 73-74, the Petition provides absolutely no reason to combine Fiorido with AAPA. With respect to the combination of Fiorido with VenHuizen, the Petition states two reasons – both of which are incorrect. First, the Petition states: “both [references] have fixed and

movable sides of a vacuum-operated seed meter housing.” Petition, 73. As explained above, Fiorido does not have fixed and movable sides. Second, the Petition implies that both references “address the same problem.” *Id.* As explained above, the problem addressed by Fiorido is that precision-type single-seed planters have to be provided with several sets of perforated disks having perforations drilled to different diameter sizes, which must therefore be changed quite often according to the average size and shape of the seeds to be planted. The problem addressed by VenHuizen is that seeds falling away from a seed disk follow different paths as they move through the air once they make contact with the surface of the seed tube. Thus, the references do not address the same problem. Dankowicz Declaration, 78.

The mere fact that certain of the applied references might be modified to include features of one or more of the other applied references “would not have made the modification obvious unless the prior art suggested the desirability of the modification.” *In re Laskowski*, 871 F.2d 115, 117 (Fed. Cir. 1989) (quoting *In re Gordon*, 733 F.2d 900, 902 (Fed. Cir. 1984) (although prior art device could have been turned upside down, that did not make the modification obvious unless the prior art fairly suggested the desirability of turning the device upside down), and citing cases)). *See also In re Levengood*, 28 USPQ2d 1300, 1301, 1993 WL 418326 at *3 (PTO Bd. Pat. App. & Interf. 1993) (“That which is within the capabilities of one skilled in the art is not synonymous with obviousness.”).

Under comparable circumstances, the predecessor to the Federal Circuit stated:

[A] person having the references before him who was not cognizant of appellant's disclosure would not be informed that the problems solved by the appellant ever existed. Therefore, can it be said that these references which never recognized appellant's problem would have suggested its solution? We think not, and therefore feel that the references were improperly combined since there is no suggestion in either of the references that they can be combined to produce appellant's result.

In re Shaffer, 229 F.2d 476, 480 (CCPA 1956). When an obviousness determination depends on a selective combination of prior art references, there must be some reason for the combination other than hindsight gleaned from the invention itself. The governing legal principle was stated precisely in *Northern Telecom, Inc. v. Datapoint Corp.*, 908 F.2d 931, 934 (Fed. Cir. 1990): "It is insufficient that the prior art disclosed the components of the [claimed] device, either separately or used in other combinations; there must be some teaching, suggestion, or incentive to make the combination made by the inventor."

In addressing a reasonable expectation of success at page 74, the Petition provides absolutely no reason for a POSA to expect success in reaching the claimed invention upon combining Fiorido with AAPA. With respect to the expectation of success upon combining Fiorido with VenHuizen, the Petition concludes, without

further explanation, that “a POSA would know that Fiorido’s seed meter, as modified by VenHuizen’s teaching [of a hinge, frame, and support structure], would still be operable in the environment of the implement on which it is installed with minimal, if any modifications.” *Id.* That conclusion is undermined by the principle of “teaching away.” *See, e.g.*, 2 D. Chisum, Chisum on Patents, Section 5.03[3][a] at 5-176 (Matthew Bender 2017) (the principle of “teaching away” as negating obviousness is logically related to the reasonable expectation of success standard for obviousness).

On page 72, the Petition characterizes Fiorido as disclosing that the drive element may be introduced into either side of the seed distributor housing, i.e., into the casing (12) as illustrated in the figures or (alternatively) into the seed container (11). *See also* Petition, 33 (referring to Fiorido, 8:1-6) and 65. Fiorido teaches at 8:1-6: “Furthermore, the seed container 11 may be provided with a central opening 40 (Figures 1 and 2) to possibly introduce the support and driving elements for the disk 13 from the opposite side of the device, as opposed to the arrangement shown in the accompanying drawing.” Thus, Fiorido expressly teaches that it does not matter whether the support and driving elements for the disk 13 (namely, the perforated hub 27, bearings 28, shaft 29, cog-wheel 30, driving disk 31, centering dowel 32, and driving pin 33) are located in or on the casing (12) or the seed container (11). This teaching makes sense because both housing components are fixed. Fiorido expressly

teaches away from the importance (to the claimed invention of the '121 patent) of arranging the various components in different housing sections. Dankowicz Declaration, 80.

The Federal Circuit has indicated that it is error to disregard disclosures that teach away from the invention at hand: *W.L. Gore & Associates, Inc. v. Garlock, Inc.*, 721 F.2d 1540, 1550 (Fed. Cir. 1983) (“the district court erred . . . in disregarding disclosures in the references that diverge from and teach away from the invention at hand”), *cert. denied*, 469 U.S. 851 (1984). As “a useful general rule,” “a reference that ‘teaches away’ can not create a *prima facie* case of obviousness.” *In re Gurley*, 27 F.3d 551, 553 (Fed. Cir. 1994). In *KSR Int’l Co.*, 550 U.S. at 416, the U.S. Supreme Court relied upon “the corollary principle that when the prior art teaches away from combining certain known elements, discovery of a successful means of combining them is more likely to be nonobvious.”

The totality of the Fiorido disclosure teaches away from the claimed invention. The teaching is to be viewed as it would have been viewed by a POSA. When so viewed, Fiorido teaches away from a seed distribution element having both fixed and movable housing sections and, more specifically, away from the importance of arranging the various components of the seed distribution element in different housing sections. The inventor of the claimed invention, Enrico Bragatto, proceeded contrary to the teaching of Fiorido. Dankowicz Declaration, 81.

The advantages of the subject matter of claims 1 and 10 are not attained or suggested by any of the applied references. This is because claims 1 and 10 contain a feature (a TBE located in a movable portion of the housing) not taught or suggested by those references. As explained by Judge Rich in *In re Civitello*, 339 F.2d 243, 245 (CCPA 1964), when a claimed feature is not disclosed by the prior art, the prior art cannot render the claim obvious:

Since Haslacher fails to disclose the feature of the claim relied on, we do not agree with the Patent Office that it would suggest modifying the Craig bag to contain the feature. The Patent Office finds the suggestion, only after making a modification which is not suggested, as we see it, by anything other than appellant's own disclosure. This is hindsight reconstruction. It does not establish obviousness.

(Emphasis added.) Even if the Fiorido, VenHuizen, and AAPA references were combined, therefore, the result would not be the claimed invention.

VIII. AMAZONE IN COMBINATION WITH FIORIDO, VENHUIZEN, AND AAPA DOES NOT RENDER ANY CLAIMS OBVIOUS (GROUND 4).

Ground 4 asserts that independent claim 1 (and, similarly, independent claim 10) would have been obvious based on a combination of Amazone with Fiorido. Ground 4 also asserts that dependent claims 2 and 11 (Fiorido alone), 3 and 12 (Amazone as modified by Fiorido or Fiorido independently), 7 and 16 (Amazone in view of VenHuizen and AAPA), 8 (Amazone alone), and 9 (Amazone alone) would

have been obvious. Because claims 2, 3, 7-9, 11, 12, and 16 directly or indirectly depend from patentable independent claims 1 or 10, they are also patentable. Precision has not met its burden of establishing that claims 1 and 10 are rendered obvious by Amazone in combination with Fiorido.¹⁷

The Board apparently and reasonably read the Petition to rely on Fiorido, rather than Amazone, to teach the claimed TBE recited in claims 1 and 10: “Although Petitioner contends that Amazone teaches most of the limitations of claim 1, Petitioner relies on Fiorido to teach the claimed thrust-bearing element. Pet. 83. (VenHuizen and AAPA are not relied on for any of the limitations of claim 1.)” Institution Decision, 37.¹⁸ Precision’s expert confirmed the Board’s understanding, conceding that Amazone does not disclose or suggest a TBE. Fleming Deposition, 99-101. For the reasons stated above in Section VII.A, Fiorido does not disclose or suggest a TBE.

On April 11, 2024, Precision took the deposition of Bernd Scheufler. The deposition focused on qualifying the Amazone operating manual as prior art. *See* Scheufler Deposition Transcript, Exhibit 2018. Mr. Scheufler works for Amazone

¹⁷ During the EPO opposition directed to claims reciting similar subject matter to claims 1 and 10 of the ‘121 patent, as properly interpreted, the EPO found the subject matter patentable over Amazone. *See* Locas Declaration, 61, 62, 63.

¹⁸ To the extent that Precision intends to rely on Amazone to teach the claimed TBE, Maschio’s expert has addressed such reliance in his Declaration. Dankowicz Declaration, 83-90.

and has done so since 1983, was responsible for Product Innovation, and was Head of Development. *Id.*, 10, 33, 40. He is familiar with precision seeders and is an inventor in the field of precision seeders. *Id.*, 11, 40. Although he is not an expert under U.S. patent law, Mr. Scheufler opined that the Amazone reference “cannot be used” to invalidate the claims of the ‘121 patent because the singulating disc and the circular disc do not touch in the Amazone machine. *Id.*, 36 (referring to Exhibit 7 of the deposition). It is clear to Mr. Scheufler that the Amazone reference “had nothing to do with” the ‘121 patent. *Id.*, 38.

**IX. OBJECTIVE INDICIA OF NON-OBVIOUSNESS SUPPORT
PATENTABILITY, I.E., NONOBVIOUSNESS (GROUNDS 3 AND 4).**

Objective or secondary (in time) indicia of non-obviousness, including (1) Precision’s copying of the claimed invention; (2) long-felt but unmet need in the art for the claimed invention; and (3) failure of others in the art to achieve the results of the claimed invention, also confirm the patentability of the claims challenged under Grounds 3 and 4. *See KSR, Int’l*, 550 U.S. at 415 (“*Graham* set forth a broad inquiry and invited courts, where appropriate, to look at any secondary considerations that would prove instructive.”). Objective indicia of non-obviousness “can be the most probative evidence of nonobviousness in the record, and enables the [Board] to avert the trap of hindsight.” *Leo Pharm. Prods., Ltd. v. Rea*, 726 F.3d 1346, 1358 (Fed. Cir. 2013) (reversing a PTO decision that had invalidated a Leo patent, in part, because the Board undervalued evidence of objective considerations). “Secondary

considerations evidence can establish that ‘an invention appearing to have been obvious in light of the prior art was not.’” *Apple Inc. v. Int’l Trade Comm’n*, 725 F.3d 1356, 1366 (Fed. Cir. 2013). The objective indicia outlined above illustrate the non-obviousness of the claimed invention.

A. Precision Has Copied the Claimed Invention.

Precision has copied all of the features of claims 1 and 10 through development and commercialization of its vSet, vSet Select, vSet-2, and vDrive products (the “Accused Instrumentalities”). See Complaint for patent infringement filed by Maschio at Paragraph 18 (and its Exhibit 2), Exhibit 2011. Maschio’s allegations of infringement are supported, in part, by evidence that Precision has advertised the interchangeability of its vSet devices with seed meters manufactured by Maschio and has provided instructions for retrofitting Maschio’s sowing element by replacing the original seed meter of Maschio with a Precision seed meter. *Id.*, 21; see also Dankowicz Declaration, 92-93 (discussing the instructions and providing a copy of the instructions as Appendix B).

Apparently recognizing its infringement, Precision attempted to license the ‘121 patent in 2020. Locas Declaration, 73. Although the parties were unsuccessful in reaching agreement on the terms of a license, licensing is evidence of commercial acquiescence supporting non-obviousness. *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 55-56 (1923). Precision would not have sought a

license, acting contrary to its economic interests, unless convinced of the validity of the claims of the ‘121 patent.

Evidence of Precision’s copying is further found in the fact that Precision copied verbatim not once, not twice, but three separate times the claims of the ‘121 patent into Precision’s own pending patent applications. *See* Locas Declaration, 74-75. Precision’s attempt to patent the identical claims recited in the ‘121 patent indicates that Precision believed that the claimed subject matter was non-obvious. *See, e.g., American Medical Sys. Inc. v. Medical Eng’g Corp.*, 794 F. Supp. 1370, 1386 (E.D. Wis. 1992) (upholding patent claims as nonobvious, in part, because MEC attempted to patent a product which falls within the scope of the claims of the asserted patent), *aff’d in part, rev’d in part & remanded*, 6 F.3d 1523 (Fed. Cir. 1993), *cert. denied*, 511 U.S. 1070 (1994).

The fact that Precision has copied the features of claims 1 and 10 is objective evidence of the non-obviousness of those claims. *See, e.g., Panduit Corp. v. Dennison Mfg. Co.*, 774 F.2d 1082, 1099 (Fed. Cir. 1985) (“That Dennison, a large corporation with many engineers on its staff, did not copy any prior art device, but found it necessary to copy the cable tie of the claims in suit, is equally strong evidence of non-obviousness. As was once so well said, of an infringer and the invention appropriated: ‘It gives the tribute of its praise to the prior art; it gives the [invention] the tribute of its imitation, as others have done.’ *Diamond Rubber Co. v.*

Consolidated Rubber Tire Co., 220 U.S. 428, 441 . . . (1911).”). The expression “imitation is the sincerest form of flattery” comes to mind.

B. Long-Felt Need.

The art of vacuum precision seed drills has been around since the 1960’s. Fleming Deposition, 125. The art has long recognized a problem with abrasion of the seal by the sowing disc and consequent seal wear in seed drills, which reduces the effective service life of the seal and requires periodic replacement of the seal. *See* Exhibit 1001, 1:45-46 and Fleming Declaration, 33; Fleming Deposition, 125-30 (referring to the Amazone Manual, Exhibit 1011, at page 166). With a TBE well-known “for centuries,” Fleming Declaration, 33, the prior art addressed that problem by providing a TBE on the fixed portion of the housing (while providing the seed collection chamber in the movable portion).¹⁹ But that solution creates its own, new, subset of problems, the source or origin of which was first recognized and solved by the ‘121 patent, namely that (1) the attachment system for the disc must be removed during replacement of the disc, consequently lengthening the replacement operation; and (2) the opening of the housing necessarily involves the removal of the portion

¹⁹ Precision’s expert agreed that the prior art addressed the problem by providing a TBE on the fixed portion of the housing. Fleming Deposition, 131. Evidence that others were “going in different ways” is strong objective evidence that the claimed invention’s way would not have been obvious.” *Panduit*, 774 F.2d at 1099.

containing the seed collection chamber from the hopper type store located above.
See Exhibit 1001, 1:53 to 2:8.

As an aside, the issue raised under Section 103 is whether “the subject matter as a whole” would have been nonobvious. Two aspects of this point are important. First, it is “the subject matter as a whole” which is the focus, not merely the differences between the subject matter and the prior art. *Carl Schenck, A.G. v. Nortron Corp.*, 713 F.2d 782, 785 (Fed. Cir. 1983). As a second aspect, “the subject matter as a whole” includes the insights of the patentee which motivated the invention. *Id.* Put another way, “the subject matter as a whole” includes the conception of the invention as well as its reduction to practice. *In re Sponnoble*, 405 F.2d 578, 585 (CCPA 1969) (“It should not be necessary for this court to point out that a patentable invention may lie in the discovery of the source of a problem even though the remedy may be obvious once the source of the problem is identified. This is part of the ‘subject matter as a whole’ which should always be considered in determining the obviousness of an invention under 35 U.S.C. § 103.”); *Leo Pharmaceutical Products Ltd.*, 726 F.3d. at 1353 (“an invention can often be the recognition of a problem itself”). In fact, in *Sponnoble*, the court upheld the patentability of claims partially because the applicant had discovered the unknown path of a known, problematic transmission of moisture.

A determination that the claimed invention is obvious over the cited references would be fatally flawed because it would ignore both the insight, or conception, of the invention and the functions of the invention. Thus, the determination would be flawed for ignoring “the subject matter as a whole” under Section 103. In the ‘121 patent, Maschio identifies the problems that occur when a TBE is provided on the fixed portion of the housing. Having defined the source of the problems, Maschio provides a device which solves those problems.

Returning to the question of long-felt need, Fiorido was published in 1993, Precision alleges that Amazone was published in 2005, and VenHuizen issued in 2007. Thus, the industry has long felt a need to improve seed drills. For almost two decades between the Fiorido publication and the filing of the ‘121 patent in 2010, the industry suffered without a solution to the problems that occur when attempting to reduce seal wear despite the existence of the references applied by Precision to support its obviousness position. *See, e.g., Leo Pharm. Prods., Ltd.*, 726 F.3d 1359 (emphasizing length of the gap between the two cited prior art references and the patent’s filing date, 22 and 14 years, as evidence of long felt but unsolved need). *See also* Dankowicz Declaration, 94.

Despite the industry’s long-felt need for improvement and the existence of the references cited by Precision, the industry was unable, until the claimed invention, to pinpoint the source of the subset of problems and to improve the art. The

references which Precision cites as analogous are insufficient to render the claimed invention obvious. Otherwise, the reason why the sophisticated seed drill industry long suffered with inferior seed drills is unclear. If the applied art does disclose the limitations of the claimed invention, then it has done so for many years and the length of time supports a finding of non-obviousness. Dankowicz Declaration, 95.

C. Failure of Others in the Art.

Precision touts itself as a leading provider of agriculture technologies for farmers, *see* Dankowicz Declaration, 96, and was founded in 1993. At that time, conventional seed drills included finger meters for corn and brush meters for soybeans. In fact, according to Kinze Manufacturing, brush meters for planting soybeans were introduced in the late 1980s by engineer Harry Deckler. *See* Dankowicz Declaration, 96. In its answer to Interrogatory No. 2 propounded by Maschio in the related district court litigation, Precision described the extensive development effort it devoted to some of its relevant products. *See* Exhibit 2019. Thus, Precision, Kinze Manufacturing, and others have long been developing new agriculture planting technologies for farmers but have failed to solve the problems addressed by the ‘121 patent. Dankowicz Declaration, 96.

The interrogatory answer provides evidence of Precision’s repeated failures to design the claimed invention and explains why it ultimately had to copy the claimed invention. *Dow Chem. Co. v. American Cyanamid Co.*, 816 F.2d 617, 622

(reasoning that an infringer's failed attempts to develop the claimed invention followed by subsequent copying of the invention supports non-obviousness); *Panduit Corp.*, 774 F.2d at 1099 ("That many others, including Dennison, had tried for years and failed to create a superior cable tie is virtually irrefutable evidence that the superior tie of the patents in suit would not have been obvious to those skilled in the art when it was invented.") (emphasis added), *vacated and remanded on other grounds*, 475 U.S. 809 (1986). "Indeed, the litigation argument that an innovation is really quite ordinary carries diminished weight when offered by those who had tried and failed to solve the same problem, and then promptly adopted the solution that they are now denigrating." *Heidelberger Druckmaschinen AG v. Hantscho Comm. Prods.*, 21 F.3d 1068, 1072 (Fed. Cir. 1994).

X. PRECISION'S OWN ACTIONS BELIE THE POSITIONS TAKEN IN THIS IPR.

As stated above, Precision copied, verbatim, claims 1-16 of the '121 patent in three different patent applications. *See* Locas Declaration, 74-75. During prosecution of U.S. Patent Application No. 14/793,360, Precision filed an Information Disclosure Statement on July 10, 2015, citing both the VenHuizen and Amazone references but not the Fiorido publication. Therefore, Precision took the position that the claims of the '121 patent are patentable over the VenHuizen and Amazone references, and that the Fiorido publication was insufficiently material to the claims to even make the publication of record. *See* Locas Declaration, 76 and its Appendix

B4. During prosecution of U.S. Patent Application No. 16/694,471, Precision filed an Information Disclosure Statement on June 19, 2020, citing the VenHuizen, Fiorido, and Amazone references. Therefore, Precision took the position that the claims of the '121 patent are patentable over those references. *See* Locas Declaration, 77 and its Appendix B5.

XI. CONCLUSION

The Petition therefore fails to establish by a preponderance of the evidence that the challenged claims are unpatentable. Accordingly, the claims should be confirmed under 35 U.S.C. § 316.

Respectfully submitted,

Date: July 19, 2024

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ATTORNEYS FOR PATENT OWNER

ATTACHMENT A: CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. § 42.6(e), the undersigned certifies that on July 19, 2024 a copy of PATENT OWNER'S RESPONSE TO PETITION FOR *INTER PARTES* REVIEW is being served via electronic mail, as agreed to by counsel, upon the following counsel of record for Petitioner:

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ATTACHMENT B: CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Patent Owner hereby certifies that the present paper contains 13,757 (as counted by the “Word Count” feature of Microsoft WordTM). This word count excludes the table of contents, table of authorities, table of exhibits, certificate of word count, and certificate of service.

/Kevin R. Casey/
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**ATTACHMENT C: LIST OF EVIDENCE AND EXHIBITS
RELIED UPON IN RESPONSE**

Ex [No.]	Description of Documents
1001	U.S. Patent No. 8,770,121
1003	Declaration of Dr. Mark Fleming
1005	EP Opposition File History
1006	U.S. Patent No. 7,228,807
1007	E.P. Patent No. 0536543 to Fiorido
1011	Amazone Manual – English
1017	McGraw-Hill Dictionary of Scientific and Technical Terms
2011	District Court Complaint for Patent Infringement
2012	Declaration of Harry Dankowicz, Ph.D.
2013	Declaration of Davide Locas
2014	Transcript of Deposition of Mark Fleming taken June 27, 2024
2015	PTO Memorandum dated March 18, 2024
2016	Dictionary Excerpts
2017	U.S. Patent No. 9,127,708
2018	Transcript of Deposition of Bernd Scheufler April 11, 2024
2019	Precision Planting, LLC's Second Supplemental Answer to Maschio Gaspardo S.pA's Interrogatory No. 2 in District Court