

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 SUR-REPLY TO PETITIONER'S REPLY
TO PATENT OWNER'S RESPONSE TO PETITION
FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,770,121**

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INTRODUCTION

This Sur-Reply follows the outline of Precision's Reply (Paper 20) to facilitate the Board's analysis. Applying the requisite claim construction principles, Maschio's proposed claim construction of "thrust-bearing element" or "TBE" is correct. That construction is also consistent with the EPO's construction in the corresponding opposition, with Precision's own construction of the same term in prosecuting its own patent applications, and with Section I.A.2 of Precision's Reply. All who have considered the properly construed claims have found them patentable over the same prior art references cited by Precision: the PCT International Search Authority (Ex.1002, 113-17), the PTO in granting the '121 patent, the EPO in the corresponding opposition, and Precision itself (in filing copied claims with the PTO). Precision's arguments to the contrary are based on an improper characterization of the drive mechanism for the sowing disc disclosed in both the VenHuizen and Fiorido references (and separately recited in claims 1 and 10 of the '121 patent) as a "TBE." *See Bettcher Indus., Inc. v. Bunzl USA, Inc.*, 661 F.3d 629, 640 (Fed. Cir. 2011) (affirmed patentability because a missing claim element "bearing race" [here, "TBE"] could only be found in the prior art based on "[t]he speculative notion that by happenstance the chamfers [another part, like the drive mechanism here]) might . . . be capable of operating as a bearing race.").

I. Precision Offers Several Inconsistent Constructions of the “TBE” Limitation; Maschio Has Not Misconstrued that Limitation.

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

Precision argues that Maschio “misapplies the law” by stating that any word other than “means” creates a presumption in favor of Section 112(f). But Precision cites no case questioning the statement in *Zeroclick, LLC v. Apple Inc.*, 891 F.3d 1003, 1008 (Fed. Cir. 2018) (emphasis added), that “nonce words . . . can operate as substitutes for ‘means’ and presumptively bring the disputed claims limitations within the ambit of § 112[(f)].” Regardless, “the essential inquiry” remains whether the words of the claim are understood by a POSA to have a sufficiently definite meaning as the name for structure. *Id.*, 1007. The claim language “TBE” is not so understood.

1. Maschio’s Means-Plus-Function Argument Is Not “Inconsistent” with Its Previous Position in the District Court.

During the *Markman* proceeding before the District Court, Maschio proposed to construe “TBE” as “a rolling bearing that supports against axial load” but the Court rejected its proposal. Ex.2003, 12. That rejection prompted Maschio, of course, to reconsider the proper construction of “TBE.” In its Preliminary Response (Paper 7), 27-28, Maschio reserved its claim construction position while advising the Board of the District Court’s tentative claim construction. Maschio now proposes the means-plus-function claim construction, which essentially parallels its position

before and the preliminary observations of the EPO during the related opposition. Ex.2013, 5.

The means-plus-function construction is not “inconsistent” with Maschio’s initial proposal to the Court. First, both constructions incorporate the structure of a bearing and recite the function of supporting against axial load. Second, Maschio never argued before the District Court that Section 112(f) did not apply; Section 112(f) simply never arose. Neither Maschio, Precision, nor the District Court ever raised the means-plus-function construction.

The District Court recently stayed the litigation with respect to the ‘121 patent pending a decision by the Board. *See* Ex.2020, Docket Entry 122. Should the Board adopt Maschio’s proposed construction, however, Maschio would ask the District Court to adopt the means-plus-function claim construction.

2. Precision Agrees with Maschio that “TBE” Conveys a Shaft, Bearing, and Seat as Structure!

In Section I.A.2 titled “The Claim Language Conveys Sufficient Structure to Avoid Application of 112(f)” on pages 3-7 of Precision’s Reply, Precision seems now to agree with Maschio that the preliminary Board and District Court constructions (which Precision initially proposed; Paper 2, 22) of “TBE” to include any element that supports against axial load or force are overbroad. Per Precision, “TBE” does not include any element, but “conveys” certain structure. Precision states “TBE” should be construed to include a shaft (Reply, 6: “The shaft of the

thrust-bearing element will rotate about its axis but must not translate.”), bearings (Reply, 5: “the word ‘bearing’ itself connotes structure that resists a force”), and a seat (Reply, 6: “This rotation without translation requires a seat to support the shaft in a specific fashion.”) -- all located in the movable portion of the housing (Reply, 6: “the [entire] thrust-bearing element is located in the movable portion”). These three structures, and their location, are exactly what Maschio has asserted to comprise the “TBE” as construed under Section 112(f).

Thus, whether the claimed “TBE” is construed under Section 112(f) as Maschio proposes, or as conveying sufficient structure to avoid Section 112(f) as Precision now proposes, both parties apparently agree that the structure of a properly construed “TBE” includes a shaft, bearings, and a seat in the movable portion of the housing. This construction is consistent with the corresponding EPO opposition (Ex.2013, 39-46, 61, 65-67) and with Precision’s own construction of a claimed “TBE” in prosecuting its own patent applications (*id.*, 78 and Appendix B7).

In further support of its listing of the structure conveyed by the “TBE,” Precision correctly states the legal principle, “The claim need only recite ‘sufficient structure for performing that function,’” quoting *Williamson v. Citrix Online, LLC*, 792 F.3d 1339, 1348 (Fed. Cir. 2015). Again, Maschio agrees. Applying that principle, “TBE” should not be construed to include additional geometrical features (such as a flanging and/or a ring) or additional structural features (such as a thrust-

bearing plate and/or a drive element) beyond the shaft, bearings, and seat. Ex.2021, 8-25. Such features are neither identified by Precision in Section I.A.2 of its Reply as structures “conveyed” by “TBE” nor are they necessary for the “TBE” to perform the claimed function.¹

B. Maschio Has Correctly Identified the Structure Disclosed in the Specification that Corresponds to the “TBE” Claim Limitation.

On page 8 of its Reply, Precision states: “In its proposed construction [of “TBE”], Maschio attempts to include certain structural elements not disclosed in the specification as performing the claimed function while ignoring other structural elements that are expressly disclosed as performing the claimed function.” That statement is inconsistent with Section I.A.2 of its Reply in which Precision agrees with Maschio that the correct structural elements are the shaft, bearings, and seat.

1. The Specification Identifies the Claimed TBE’s Corresponding Structure and Clearly Links That Structure to the TBE’s Function.

The parties disagree about what structure corresponds to the claimed function of withstanding at least some of the axial load produced by the disc on the seal. The parties agree that Section 112(f) does not “permit incorporation of structure from the

¹ Although Precision does mention a thrust-bearing plate, Precision adds that the plate is an “additional structure for receiving the thrust load from the sowing disc and resisting the load with the seat,” Reply, 6 (emphasis added); therefore, the plate is not necessary to perform the function.

written description beyond that necessary to perform the claimed function.” *Micro Chem., Inc. v. Great Plains Chem. Co.*, 194 F.3d 1250, 1258 (Fed. Cir. 1999) (emphasis added). Therefore, the parties’ disagreement focuses on distinguishing structure that is necessary from other features that are associated with the “TBE” but are unnecessary to perform the claimed function.

Precision errs with the first sentence of its analysis on page 8 of its Reply, which truncates a statement from the ‘121 patent to omit the underlined portion: “a [‘TBE’] indicated as a whole by 26 is mounted on the movable portion [12 of the housing 10 illustrated in Fig. 1].” Precision’s truncation omits the teaching that the corresponding structure must be mounted on the movable portion. Ex.1023, 77-78.

The more prevailing error in Precision’s analysis is that Precision selectively “cherry picks” features from between two different categories, the features illustrated in Fig. 2 and the features described in the ‘121 specification at 3:25-52, to arrive at a subset of structures it believes corresponds to the claimed function. (Precision makes no reference to Fig. 1, which illustrates the structures of the claimed “TBE” mounted on the movable portion, thereby exacerbating its truncation error.) Precision’s analysis identifies five corresponding structures: shaft 27, flanging 30, thrust-bearing plate 31, ring 31a, and drive element 32. Reply, 11. Precision’s analysis is incorrect and leads to several inconsistencies. Perhaps most important, the analysis is inconsistent with the position that Precision took in Section

I.A.2 of its Reply, which identified 27, 28, and 29 as the only three structures “conveyed” by the claimed “TBE” that are necessary and not “additional.”

The features shown in Figs. 1 and 2 and recited in 3:25-52 are summarized in the Table below.

Features Shown Fig. 1	Features Shown Fig. 2	Features Recited 3:25-52
movable portion 12, shaft 27, bearings 28, seat 29, ring 31a, internal polygonal profile 35	shaft 27, flanging 30, thrust-bearing plate 31, ring 31a, drive element 32, appendage(s) 33, plate seats 34, and internal polygonal profile 35	movable portion 12, transmission shaft 20, polygonal profile 21, chamfers 22, holes 23, shaft 27, bearings 28, seat 29, flanging 30, thrust-bearing plate 31, ring 31a, drive element 32, appendage(s) 33, plate seats 34, and internal polygonal profile 35

Maschio contends that, as defined in the sentence of the ‘121 specification most important to the analysis (“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.” at 3:25-27) and in agreement with Precision’s analysis in Section I.A.2 of its Reply, only the shaft 27, bearings 28, and seat 29 are necessary for the “TBE” to perform the claimed function while being supported rotatably in the movable housing portion. The shaft bears the axial load and transmits that load through the bearings to the seat on the movable portion so that the shaft, bearings, and seat together withstand at least some of the axial load produced by the disc on the seal -- with the

shaft supported rotatably by the bearings and the seat enabling unrestricted rotation of the shaft with the disc. Ex.2021, 8; Ex.1023, 59-61, 64, 68, 81.

In its Reply, 10, Precision identifies the eight features (27, 30, 31, 31a, 32, 33, 34, and 35) that are illustrated in Fig. 2 as structures or geometries -- all but the shaft 27 optional. Ex.2021, 14. Fig. 2 is “a detail” (not “the detail”) of the TBE. Ex.1001, 2:27-28. Mistaking “a preferred exemplary embodiment” for the claimed invention, 2:19-23, Precision exacerbates its mistake by isolating three specific sentences describing features recited in 3:25-52 to limit those eight features (thereby eliminating three features, namely, 33, 34, and 35, illustrated in Fig. 2) to “five green-highlighted elements” 27, 30, 31, 31a, and 32 that Precision states “are both expressly indicated by 26 as parts of the TBE and expressly identified as performing the TBE’s thrust-bearing function [and so] are part of the corresponding structure.” Reply, 11 (thereby eliminating eight features, namely, 20-24, 33, 34, and 35 recited in 3:25-52). The three sentences are repeated below, including Precision’s emphases, with Maschio’s indication in brackets of why the identified features are not “expressly identified as performing the TBE’s thrust-bearing function,” as Precision posits, and are not necessary to perform the claimed function:

- “The shaft 27 has flanging 30 by means of which it is fixed to a thrust-bearing plate 31 *which can bear on*” the surface of the sowing disc” 3:27-29. [First, Maschio agrees with Precision that the shaft 27 is corresponding structure.

Second, the flanging 30 which is simply part (the shaft “has” flanging) of the shaft is not because unnecessary to the claimed function. Ex.2021, 9, 16-18; Ex.1023, 65, 70-72. Precision’s attempt to include the flanging geometry of the shaft as corresponding structure is inconsistent with its decision not to include features 33 and 35 of the drive element 32 or feature 34 of the thrust-bearing plate 31 as corresponding structure. Finally, although the thrust-bearing plate 31 “can” (i.e., is able to) bear on the surface of the sowing disc, that ability does not render the structure necessary to the claimed function. Ex.2021, 11, 17-20, 25; Ex.1023, 67, 69-75.]

- “The *bearing* between the thrust-bearing plate 31 and the disc 16 *takes place* in the region of a ring 31a in relief on the surface of the plate which faces the disc 16.” 3:33-35. [Defining the “region of a ring 31a” as where the bearing or contact takes place does not render the ring 31a necessary structure to the claimed function. Ex.2021, 10, 11, 20.]

- The drive element 32 “comprises a coupling device constrained for *rotation with the thrust-bearing plate*.” 3:38-40. [The drive element 32 simply couples to and rotates with the thrust-bearing plate 31. Thus, the drive element is essentially part of, or an ancillary structure to, the plate and is unnecessary to the claimed function. Ex.2021, 12-16, 21, 25; Ex.1023, 66, 74-75.]

2. Maschio Correctly Identifies the Claimed TBE's Corresponding Structure.

Precision cites the paragraph at 3:25-32 of the '121 patent to support its position that identification of the shaft 27, bearings 28, and seat 29 of the movable portion as the corresponding structure “is both over- and underinclusive.” Reply, 12 (Maschio believes that Precision's identification should be so characterized.) The cited paragraph begins by defining the thrust-bearing element 26 as comprising (necessarily including only) a shaft 27, bearings 28, and seat 29 of the movable portion 12; then states that the shaft has or is affiliated with additional features; and concludes with the claimed function. Nowhere does the cited paragraph mention a ring 31a or a drive element 32. Therefore, the cited paragraph does not support, and is inconsistent with, Precision's position that the ring 31a and drive element 32 constitute corresponding structure.

Precision argues that the seat 29 “cannot be part of the TBE,” although conceding that it is part of the movable portion of the housing, because the seat does not rotate. Reply, 12. That argument is inconsistent with Precision's assertion that the shaft is “a spinning, rigid structure that contacts the sowing disc but nevertheless transfers the load to the housing. . . . The shaft of the thrust-bearing element will rotate about its axis but must not translate. This rotation without translation requires a seat to support the shaft in a specific fashion.” Reply, 6 (citation omitted; emphasis

added). That argument is also inconsistent with the view of a POSA. Ex.2021, 8, 22, 24; Ex.1023, 68. Thus, the seat and bearings do not simply “enable” other structures of the “TBE” to perform the claimed function, as Precision argues, Reply, 13; rather, the shaft, bearings, and seat are necessary both to perform the claimed function and to meet the “rotatably supported in the movable portion” claim limitation.

Next, Precision reads the definitional sentence “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.” to mean that *only* the seat (and neither the shaft nor the bearings) are “of the movable portion.” Reply, 13. Maschio reads that sentence to mean that all three structures (shaft, bearings, and seat) are of the movable portion. Although the sentence in isolation might be ambiguous, the rest of the specification removes any ambiguity. *See* Fig. 1 (all three structures are shown as part of the movable portion); 3:21-24; 3:60-61; claims 10-16. A POSA would agree. Ex.1023, 76-78. Further, during prosecution of its own patent application Precision amended the limitation “a thrust-bearing element” to “a shaft coupled to bearings held in place by the movable portion of the housing.” *See* Ex.2013, 78 and Appendix B7. The bearings are located in the seat and the shaft engages the bearings; therefore, if the seat is located in the movable portion, then so are the shaft and the bearings.

With respect to the doctrine of claim differentiation, Precision cites *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991), to support its statement

that Maschio “misuses” the doctrine. Reply, 14. Precision itself applied the doctrine in the related District Court litigation, Ex.2022, 6, citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1315 (Fed. Cir. 2005) (en banc): “the presence of a dependent claim that adds a particular limitation gives rise to a presumption that the limitation in question is not present in the independent claim.” That presumption arises here.

Precision seems to argue that the doctrine of claim differentiation cannot apply in the context of Section 112(f). That argument fails. *See, e.g., Wenger Mfg., Inc. v. Coating Mach. Sys., Inc.*, 239 F.3d 1225, 1233-34 (Fed. Cir. 2001) (distinguishing *Laitram* and applying the doctrine to construe claims under Section 112(f)). As in *Wenger*, application of the doctrine in this case is consistent with and supports the proper claim construction. Thus, the recitation of the thrust-bearing plate 31 in dependent claim 3 and of the drive element 32 in dependent claim 4 does not render the “TBE” “open-ended”; the recitation simply helps to distinguish between the structure that is necessary versus merely possible to perform the claimed function.

Maschio agrees with Precision’s position on page 15 of the Reply that the shaft does not alone withstand at least some of the axial load produced by the disc on the seal. The bearings and seat combine with the shaft to do so. Contrary to Precision’s position, however, the flanging 30, the thrust-bearing plate 31, and the drive element 32 are not required (and Precision inconsistently omitted the ring 31a

from its list of required structures). One specific flaw in Precision's analysis is its statement: "If the thrust-bearing plate 31 were eliminated from the corresponding structure as Maschio suggests, nothing would be in contact with the sowing disc, and the thrust-bearing element's function could not be performed by the remaining structure." Absent the thrust-bearing plate, the shaft itself would be in contact with the sowing disc and, with the help of the bearings and seat, would perform the claimed function. Ex.2021, 8, 9, 18, 19, 23, 24; Ex.1023, 67-69.

Precision's conclusion on page 16 of the Reply is again inconsistent with its own attempts to cherry-pick structures: "If the Board believes a means-plus-function construction of 'thrust-bearing element' is necessary, it should construe the term to mean 'a structure comprising a shaft [27] with flanging [30] fixed to a thrust-bearing plate [31] and which entire structure is connected to rotate with and can bear on that surface of the sowing disc which faces the seal in order to withstand at least some of the axial load produced by the sowing disc on the seal.'" Precision's proposed construction omits the ring 31a and the drive element 32. Precision offers several inconsistent constructions of the claimed "TBE" limitation.

In *Phillips*, 415 F.3d at 1327, the Federal Circuit "acknowledged the maxim that claims should be construed to preserve their validity." The Federal Circuit does not apply that principle broadly; rather "the applicability of the doctrine in a particular case . . . depends on the strength of the inference that the PTO would have

recognized that one claim construction would render the claim invalid, and that the PTO would not have issued the patent assuming that to be the proper construction of the term.” *Id.* See also *Generation II Orthotics Inc. v. Med. Tech. Inc.*, 263 F.3d 1356, 1365 (Fed. Cir. 2001) (“[C]laims can only be construed to preserve their validity where the proposed claim construction is ‘practicable,’ is based on sound claim construction principles, and does not revise or ignore the explicit language of the claims.”). Maschio’s proposed claim construction meets the requirements of *Generation II* and, unlike Precision’s analysis, Maschio proposes a single, consistent claim construction.

The properly construed claims distinguish the applied prior art. In its Petition, Precision presented four grounds, but Precision’s Reply does not address Ground 2 (“Fiorido anticipates claims 1-5 and 10-14”) or Ground 3 (“Fiorido combined with VenHuizen and Applicant Admitted Prior Art render obvious claims 1-5, 7-14, and 16”). Apparently, Precision concedes Grounds 2 and 3 and, more specifically and consistent with its position during the EPO opposition (Ex.2013, 62, 63), Precision concedes that Fiorido fails to disclose the claimed TBE. Regardless, Grounds 1 and 4 must also fail.

II. Venhuizen Does Not Anticipate (Ground 1).

A. Maschio's Expert Does Not Admit Anticipation Even Under the Board's Preliminary Construction of "TBE".

Precision asserts that (1) VenHuizen anticipates the challenged claims if the Board preserves its preliminary construction of "TBE" and (2) Maschio's expert so agreed. Reply, 16-17. Both assertions fail. The fact that anticipation fails because VenHuizen does not disclose the claimed "TBE" under the correct construction of that limitation does not mean anticipation exists under the Board's preliminary construction. In fact, VenHuizen fails to anticipate even under the preliminary construction for at least two reasons. First, the claims require that the entire "TBE" be located and "supported" in the movable portion and that certain structures of the "TBE" be "rotatabl[e]" relative to other structures (allowing unrestricted, 360° rotation along with the disc) to withstand at least some of the axial load produced by the disc on the seal -- limitations VenHuizen does not meet. Response at 21-23; Ex.2021, 31. Second, the claims recite, separately from the "TBE," a motor-driven transmission drive shaft that rotates the sowing disc. Precision would impermissibly have the same structure disclosed by VenHuizen meet both the drive shaft and "TBE" claim limitations. Response, 23 n. 11. The same structure cannot be used to disclose separate claimed elements. Response, 32-33 (citing *Becton, Dickinson & Co. v. Tyco Healthcare Group, LP*, 616 F.3d 1249, 1254 (Fed. Cir. 2010)); *Hopkins Mfg. Corp. v. Cequent Performance Prods., Inc.*, IPR2015-00613 at 11-12 (Paper 9, August 7,

2015) (Ex.2023). Maschio’s expert agreed only that VenHuizen discloses “an element that provides support against an axial force,” Ex.1023, 89, and this is achieved by transferring load to the drive shaft which in turn must transfer it to the housing in ways that are not described.²

B. VenHuizen Does Not Anticipate When “TBE” Is Construed as a Means-Plus-Function Claim Limitation.

Precision contends VenHuizen anticipates even if Maschio’s claim construction “is partly correct,” Reply, 17, because “VenHuizen’s shaft [55], hub [56], and handle [58] constitute the ‘thrust-bearing element,’” Reply, 18-19. Precision does not include bearings or a seat among the structures that “constitute” the “TBE.” Regardless, neither the shaft nor the hub (or, for that matter any bearings or a seat) are located in or on the movable portion of the housing. *See* Ex.2014, 42-49; Ex.2021, 32. Although the handle 58 is located within the physical confines of the movable second housing 90 when the two housings 50, 90 are closed and not before, the handle 58 is rotatably supported by the retaining hub 56 in the fixed first housing 50.

² These same two reasons why VenHuizen fails to anticipate under the broader preliminary construction apply to Precision’s assertions, discussed below, that VenHuizen anticipates under narrower claim constructions.

Precision incorrectly states, in the context of the claimed invention, that the handle 58 of VenHuizen is “rotatably mounted” relative to the hub 56. Reply, 17. The handle rotates (really, twists) a short distance (not 360°) between a first position for receiving or removing a seed disk 60 and a second position for retaining (i.e., locking) the seed disk 60 on the hub 56. Exhibit 1006, 5:59-6:18; Ex.1023, 91:17-24 (“the handle is able to rotate some distance, I don’t know how much, relative to 56”). The handle does not rotate at all with respect to the hub when in the locked position and during operation of the seed planter.

Precision also argues that the shaft, hub, and handle of VenHuizen anticipate as equivalent structure under Section 112(f). Reply, 19. The analysis of Section 112(f) “equivalents” is summarized in *IMS Technology, Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1435 (Fed. Cir. 2000): “a reduced version of the well-known tripartite test for the [infringement law] doctrine of equivalents has been applied in the § 112[(f)] context to determine if the differences are insubstantial, i.e., after determining that the accused [or prior art] device performs the identical function, as required by statute, whether it performs the function in substantially the same way to achieve substantially the same result.” Applying this analysis, the structure of VenHuizen is not equivalent to the claimed structure.

First, for Section 112(f), the function must be *identical* (the function must be merely substantially the same under the doctrine of equivalents). Precision states,

“VenHuizen’s handle performs the function of constraining the movement of the sowing disc when vacuum is applied to absorb some of the forces that would otherwise be applied to the seal.” Reply, 19 (emphasis added) (ignoring its expert’s admission that VenHuizen does not explicitly state that the hub handle constrains movement of the seed disk when vacuum is applied, Ex.2014, 34-36). First, the handle alone cannot perform the function that Precision attributes to it; the shaft, bearings, and hub located on one side, and the handle located on the opposite side, of the disk combine to pin the disc between them (i.e., to constrain movement of the disc). Ex.2021, 33. Second, VenHuizen’s handle helps constrain movement of the sowing disc regardless of whether (not “when”) vacuum is applied. Ex.1023, 94. Finally, VenHuizen specifically defines the two functions that the retaining hub and handle achieve together: “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.” (Ex.1006, 5:62-67, emphasis added); *see also* Ex.2012, 62; Ex.2014, 28; Ex.2021, 33 (VenHuizen’s handle and hub function to ensure that the sowing disc rotates with the drive shaft). VenHuizen teaches nothing about the claimed function of withstanding at least some of the axial load produced by the disk on the seal, and certainly not a function *identical* to the claimed function.

Precision misdescribes the “way” in which VenHuizen’s structure achieves its function as “a rigid rotatable structure located in the movable portion of the housing” Reply, 19. In fact, only the handle of VenHuizen is located in (and not on) the movable portion and only then after the housing is closed. VenHuizen’s drive shaft 55, bearings (X), and retaining hub 56 are located in the fixed housing and on the opposite side of the sowing disk from the handle (sandwiching the disk). In contrast, all of the claimed structures (shaft, bearings, seat) are located in and on the movable portion and entirely on one side of the sowing disc. VenHuizen locks the sowing disk between the handle and retaining hub; the claimed sowing disc, with the “TBE” only on one side, is pushed against but not locked between “TBE” structures. The “ways” are not substantially the same.³

Precision also errs by focusing on only the first of the results achieved by the claimed structure: (1) reduction of seal wear which increases seal life, improves sealing, and reduces the torque required to drive the disc allowing use of a low-amp motor (2) while permitting easy retrofitting, both without removing parts and/or operations of disconnecting the sowing disc. Ex.1001, 4:1-9. VenHuizen itself

³ Maschio agrees with Precision’s further distinction, Reply, 23, between the “ways” in which the claimed and VenHuizen structures achieve their functions based on shaft *tension* in VenHuizen versus *compression* in the ’121 patent. Ex.2021, 35.

discloses nothing about either of the two enumerated results. Precision focuses on the first result (elongating seal life) relying only on its expert's testimony. Regardless, the VenHuizen structure identified by Precision achieves precisely the opposite of the second result (easy retrofitting via streamlined operations): the handle must be rotated to its first position (as a separate step) before the sowing disk can be disconnected. The results are not substantially the same.

C. VenHuizen Does Not Anticipate Under Maschio's Correct Construction of "TBE."

Precision contends VenHuizen anticipates even under Maschio's proposed claim construction. Reply, 20. The main flaw in Precision's analysis is that it disregards, as "a distinction without a difference," the claimed invention itself. Reply, 23. The '121 patent explains that prior art seed drills have been equipped with a known thrust-bearing element to relieve heavy loads on the seal. Ex.1001, 1:53-55. Inventor Enrico Bragatto recognized, however, that "[i]n all cases" the known thrust-bearing element "is mounted on the fixed portion of the housing," *id.* 1:55-57, and he identified several problems with such positioning, *id.* 1:59-2:16. Recognition of those problems is part of the invention. The '121 patent solves the problems by arranging the sowing disc and the claimed TBE in different housing sections, i.e., by mounting the sowing disc with its drive shaft in the fixed housing and by mounting the claimed TBE in the other, movable housing opposite to the sowing disc. The inventor's solution is the claimed invention, with the "TBE" -- a

component claimed separately from the drive shaft that rotates the sowing disc -- mounted in the movable housing.

Under Maschio's proposed construction, VenHuizen fails to disclose a shaft rotatably mounted in, and supported by bearings in a seat of, the movable portion. Precision does not contest such failure. Rather, Precision improperly waives its proverbial hand over the claimed invention stating that VenHuizen's location of its seat and bearings (and retaining hub and flange) in the fixed rather than the movable housing is a distinction (note that Precision at least recognizes the distinction) without a difference.

Even without construing the claims as proposed by Maschio, the claims literally recite that the TBE "is supported rotatably in the movable portion." As properly construed, the claims require that the entire TBE be "supported" in the movable housing and that certain structures of the TBE be "rotatabl[e]" relative to other structures in the movable housing. The Board highlighted this literal requirement, stating: "According to the plain language of this term, *the* thrust-bearing element must be 'in' the movable portion of the housing, and 'supported rotatably' while it is in the movable portion." Paper 12, 10–11 (emphasis added). The structure of VenHuizen does not meet this requirement. Ex.2021, 37.

For the same reasons discussed above in Section II.B, VenHuizen's structure is not equivalent to the structural TBE under Section 112(f). Precision's conclusion,

“[r]egardless *where* the seat of VenHuizen’s structure is located, its structure is equivalent to the claimed TBE,” Reply, 24 (emphasis in original), is simply a continuation of the main flaw in Precision’s analysis, i.e., disregard for the claimed invention itself.

III. Amazone, AAPA, and Fiorido Do NOT Render the Challenged Claims Obvious (Ground 4).

Maschio agrees that the last limitation recited in independent claims 1 and 10 (for claim 10, the only limitation recited after the transition “comprises”) is what distinguishes the claimed invention from the prior art.

A. Modifying Amazone to Have a TBE Would NOT Have Been Obvious.

Amazone does not disclose the claimed TBE. Precision so concedes, Paper 2, 83-84 and Ex.2014, 99-101; and the Board so recognized, Paper 12, 37. Nor does Fiorido, Paper 12, 37 (“whether Fiorido teaches the claimed [TBE] is an issue best left for trial”) and the Reply’s silence. The advantages of the subject matter of claims 1 and 10 are not attained or suggested by either cited reference because the claims recite a feature (a TBE) not taught or suggested by those references. As explained in *In re Civitello*, 144 USPQ 10, 12 (CCPA 1964) (emphasis added), 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.

Further, were Amazone to be modified by a POSA to include a TBE, there would be no suggestion to place this on the movable portion because the prior art placed it on the fixed portion. Therefore, even if Amazone were modified to include a TBE, the result would not be the claimed invention.

Both Amazone and Fiorido do disclose, however, a motor-driven drive mechanism as separately recited from the TBE in the '121 claims. Amazone's drive mechanism includes a gear that drives the sowing disk; Fiorido's drive mechanism is the drive 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 13.⁴ Precision suggests placing only 29 and 31 of Fiorido into the Amazone device (more cherry picking; why would a POSA include 29, 31 yet not 30, 32, and 33?) to achieve the claimed

⁴ Precision supported its position that the '121 claimed motor-driven transmission drive shaft is disclosed by "a simple substitution of the peripherally located gearing of Amazone with the centrally located [drive] mechanism of Fiorido." Paper 2, 76. Thus, Precision impermissibly refers to the same Fiorido structure in modifying Amazone to meet both the claimed drive shaft and TBE limitations.

invention,⁵ i.e., modifying the Amazone device to include part of the Fiorido drive mechanism. Reply, 25-28.⁶ Why a POSA would want to include any of the drive mechanism of Fiorido in Amazone when Amazone already has its own drive mechanism is called into question (and undermines any motivation to combine). Ex.2021, 38. More important, if the modification were made, Amazone would simply have the drive of Fiorido rather than its own drive -- and not two, separate drives and certainly not a drive and a TBE. *Id.* Ostensibly, per Precision, the drive structure of Fiorio would magically become a “TBE” upon combination with Amazone -- but two “lacking disclosures” do not make a disclosure.

Specifically, using impermissible hindsight, Precision proposes that a “POSA would modify the circular element [the hub of Amazone] with the disclosure of Fiorido such that the modified structure would contact the sowing disc.” Reply, 25. The hub of Amazone does not contact the sowing disc. Ex.2012, 83-90. And the driving disk 31 of Fiorido does not necessarily contact the sowing disk. *Id.*, 70-75.

⁵ Precision also inconsistently suggests placing four components (29, 31, 32, 33) of Fiorido’s drive mechanism into the Amazone device. Reply, 26, 29. Such modification would not be operable as intended by Amazone. Ex.2021, 40.

⁶ On pages 25 and 28 of its Reply, Precision mistakenly states “Maschio’s expert admitted” when the opposite is true. *See* Ex.1023, 136:7-147:20 and 145:1-147:20. Similarly, the attribution made by Precision to Dankowicz at Reply page 26 misleadingly truncates the citation to his testimony. *See* Ex.1023, 127:25-129:7.

Precision asked Dankowicz “if” the driving disk were to contact the sowing disk in the configuration shown in Fig. 2 of Fiorido would it absorb some of the axial load. Reply, 26-27. Dankowicz candidly answered “yes” to the hypothetical. But Fiorido does not teach axial contact and “if” such contact existed the POSA would know of Fiorido’s capability to act as a drive structure, not a TBE as claimed; Precision’s analysis is classic hindsight modification.⁷ Ex.2021, 39; Ex.1023, 137-45.

B. Amazone, AAPA, and Fiorido Do NOT “Obviate” [Sic, Render Obvious] the Challenged Claims Under Maschio’s Claim Construction.

Precision proposes to modify Amazone with Fiorido’s driving mechanism of shaft, driving disk, centering dowel, and driving pin. Precision argues that the mechanism would perform the claimed function and “is nearly identical to, and at least equivalent to the disclosed structure from the ‘121 patent.” Reply, 29. Maschio disagrees based on a helpful chart provided by Dankowicz. Ex.2021, 41. Precision

⁷ Precision incorrectly states, “Fiorido teaches a driving disk 31, centering dowel 32, and driving pin 33 ‘to which [perforated disk 13] is connected.’” Reply, 26. As Precision knows from its deposition of Dankowicz, it is the shaft 29 that is “connected” to the sowing disk through the intermediary structures 31, 32, 33. Ex.1023, 118:22-121:24. Precision also incorrectly equates “connection” between 31 and 13 with “contact” between them. Reply, 26 and 27. Although 32 and 33 might “contact” 13, Fiorido does not teach contact between 31 and 13. Ex.2012, 70-75.

further argues, “The modified structure would perform substantially the same function [sic, the identical function is required], in substantially the same way, to achieve substantially the same result [as the “equivalent” structure of the claimed TBE].” Reply, 29. Again, Maschio disagrees. *See* Ex.2021, 42-44.

The function of the Fiorido structure is “to rotatably drive the disk 13.” Ex.1007, 49-55. Fiorido teaches nothing about the claimed function and, perhaps more important, does not necessarily perform the function that Precision attributes to it. The driving disk and sowing disk are not necessarily rigidly attached nor does the face of one necessarily contact the face of the other so that they do not necessarily transfer any axial load whatsoever (especially if inserted from the other side as Fiorido suggests). Paper 17, at 34-35. Remember, too, that the hub of Amazone is recessed slightly to avoid any contact between the surface of the hub and the surface of the sowing disk (i.e., there is a gap between the hub and the sowing disk when they are assembled). Ex.2012, 89-90. Therefore, neither the Fiorido nor Amazone structures, individually or combined, achieve the claimed function. Ex.2021, 42.

Precision misidentifies the “way” in which the modified structure would achieve its function as “a rotatable rigid structure (Fiorido disk 31 in combination with shaft 29) located in the movable portion of the housing . . . and transferring [the] load to a fixture.” Reply, 29. As taught by Fiorido, the shaft is “rotatable” when combined with the hub, bearings, and cog-wheel, all of which should be included as

part of the way in which the function would be achieved. Moreover, at least the cog-wheel is located on a fixed housing to engage another toothed mechanism and transmit motion. Further, because the hub of Amazone is fixed in the stationary cover, the hub is neither “rotatable” nor “supported rotatably in the movable portion.” Ex.2012, 88. Neither the Fiorido nor Amazone structures, individually or combined, function in a way substantially similar to the claimed function. Ex.2021, 43.

Finally, Precision argues that the “result” of its proposed modified structure “is that some of the forces are applied to the rigid structure rather than the seal, thereby elongating the life of the seal.” Reply, 30. Neither Fiorido nor Amazone discloses anything about that result. Regardless, Precision does not even argue that the modified structure would achieve the second result (easy retrofitting via streamlined operations) discussed above and conferred by the claimed invention. Ex.2021, 44.

C. Maschio Has Established Objective Indicia of Non-Obviousness.

1. The Evidence of Precision’s Copying Is Clear.

In its Reply, 30-31, Precision acknowledges that it copied the ‘121 patent claims into its own applications. Precision does not even attempt to distinguish the case, *American Medical Sys. Inc. v. Medical Eng’g Corp.*, 794 F. Supp. 1370, 1386 (E.D. Wis. 1992), cited in the Response, 49, supporting the principle that such

copying is objective evidence that those claims are non-obvious. Instead, Precision offers an unsupported excuse and a “red herring.” The excuse is that copying claims might evidence a belief in priority. There is no evidence, however, that Precision sought to provoke an interference.

The red herring is Precision’s argument that it did not copy its patent applications from Maschio. That argument may be true; the PTO Examiner rejected the copied claims under Section 112 because the claimed “thrust-bearing element” comprised new subject matter. Ex.2013, Appendix B.2, B.3, and B.5. Regardless, Maschio has not argued that Precision copied Maschio’s patent applications.

Although Precision addressed its advertising claims, Precision declined to address Maschio’s evidence that Precision (1) 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” in the related litigation); and (2) attempted to license the ‘121 patent.

2. The Evidence Establishes Long-Felt Need and Others’ Failure.

Precision’s reply to Maschio’s evidence of long-felt need is based on a misunderstanding of Maschio’s position. Precision states, “Maschio argues there was a long-felt need for the invention because in prior art meters” two characteristics (numbered (1) and (2) and directed to complex replacement) existed. Reply, 32. But (1) and (2) are not long-known characteristics of the prior art; rather, they are two of

the problems first recognized and solved by the ‘121 patent (and neither recognized nor solved by the prior art). Response, 50-51. Maschio identified the long-felt need as the need for an improvement that addresses the “problem with . . . seal wear in seed drills, which reduces the effective service life of the seal and requires periodic replacement of the seal.” *Id.* Thus, the improvement long needed includes reducing seal wear -- while streamlining replacement when required. Ex.2021, 45.

Precision again misses the point in its reply to Maschio’s evidence of others’ failure to solve the problems addressed by the ‘121 patent. Reply, 32-33. The extensive development efforts by Precision, Kinze Manufacturing, and others since the late 1980s provide evidence that, despite such efforts, others failed to identify let alone solve the problems addressed by the ‘121 patent. The alleged speed by which Precision completed its own design is irrelevant to either Precision’s failure to solve the problems or to long-felt need.

Precision fails to reply to the evidence of patentability presented by Maschio in Section X of its Response (Paper 17, 54-55). Precision’s own actions during prosecution of its patent applications evidence Precision’s position that the ‘121 claims are patentable over the VenHuizen, Amazone, and Fiorido references.

IV. Conclusion

Precision fails to establish by a preponderance of the evidence that the challenged claims are unpatentable and, therefore, the claims should be confirmed.

Respectfully submitted,

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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 November 22, 2024 a copy of PATENT OWNER'S SUR-REPLY TO PETITIONER'S RESPONSE TO 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 6,995 (as counted by the “Word Count” feature of Microsoft Word™). 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 SUR-REPLY**

Ex [No.]	Description of Documents
1001	U.S. Patent No. 8,770,121
1002	Prosecution History of U.S. Patent No. 8,770,121
1006	U.S. Patent No. 7,228,807
1007	E.P. Patent No. 0536543 to Fiorido
1023	Deposition Transcript of Dr. Harry Dankowicz
2003	District Court Memorandum Opinion on Claim Construction
2012	Declaration of Harry Dankowicz, Ph.D.
2013	Declaration of Davide Locas
2014	Transcript of Deposition of Mark Fleming taken June 27, 2024
2020	District Court Docket Report, Docket Entry 122
2021	Sur-Reply Declaration of Harry Dankowicz, Ph.D.
2022	Joint Claim-Construction Brief Regarding U.S. Patent No. RE47,447”
2023	<i>Hopkins Mfg. Corp. v. Cequent Performance Prods., Inc.</i> , IPR2015-00613 at 11-12 (Paper 9, August 7, 2015)