

**IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF DELAWARE**

MASCHIO GASPARDO S.P.A.,

Plaintiff / Counterdefendant

v.

PRECISION PLANTING LLC,

Defendant / Counterclaimant.

Case No. 22- 1394-RGA-JLH

JOINT CLAIM-CONSTRUCTION BRIEF
REGARDING U.S. PATENT NO. RE47,447

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TABLE OF CONTENTS

TABLE OF AUTHORITIES.....	ii
II. Introduction	1
III. Representative Claims of the '447 Patent	3
IV. Agreed-Upon Constructions.....	4
V. Disputed Construction.....	4
A. Precision Planting LLC's Opening Position	4
1. Maschio's proposed construction finds no support in the specification or prosecution history.....	4
2. Maschio's proposed construction ignores principles of claim differentiation.....	6
B. Maschio Gaspardo S.p.A.'s Answering Position	11
1. Intrinsic evidence supports that a "singulator" is a "single unitary element."	12
2. Accepting Precision's construction would render the patent claim invalid.	17
3. Precision's arguments on what the term is NOT are unavailing.	20
C. Precision Planting LLC's Reply Position	25
1. The claims and specification use "singulator," "singulator assembly," "seed singulator," and "seed singulator assembly" interchangeably.	27
2. The prosecution history does not support construing "singulator" as a "single unitary element.".....	32
D. Maschio Gaspardo S.p.A's Sur-reply Position	37
1. Intrinsic Evidence Supports that a "Singulator" is a "Single Unitary Element" .	37
2. The '447 Patent File History Refers To a "Singulator" as a Single Unitary Element.....	42
3. Precision's Plain and Ordinary Meaning Would Result In the Invalidity of the Claims of the '447 Patent	44

TABLE OF AUTHORITIES

Cases

<i>3M Innovative Properties Co. v. Tredegar Corp.</i> 725 F.3d 1315, 1325 (Fed. Cir. 2013).....	35
<i>Acceleration Bay LLC v. Activision Blizzard, Inc.</i> No. 16-453-RGA, 2017 WL 6508715 (D. Del. Dec. 20, 2017).....	9, 33
<i>Amgen Inc. v. Hoechst Marion Roussel, Inc.</i> 314 F.3d 1313 (Fed. Cir. 2003).....	26
<i>Andersen Corp. v. Fiber Composites, LLC</i> 474 F.3d 1361 (Fed. Cir. 2007).....	9, 10
<i>ArcelorMittal Fr. v. AK Steel Corp.,</i> 786 F.3d 885 (Fed. Cir. 2015).....	24
<i>Artemi, Ltd. v. Safe-Strap Co.,</i> Civil No. 03-3382 (JEI/AMD), 2014 U.S. Dist. LEXIS 91468 (D.N.J. Decided July 3, 2014).....	42
<i>Avid Technology, Inc. v. Harmonic, Inc.</i> 812 F.3d 1040 (Fed. Cir. 2016).....	35
<i>Cordis Corp. v. Medtronic AVE, Inc.</i> 339 F.3d 1352, 1359 (Fed. Cir. 2003).....	35
<i>E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.</i> 849 F.2d 1430 (Fed. Cir. 1988).....	37
<i>Edwards Lifesciences LLC v. Cook Inc.</i> 582 F.3d 1322 (Fed. Cir. 2009).....	30, 39
<i>Elekta Instrument S.A. v. O.U.R. Sci. Int’l, Inc.,</i> 214 F.3d 1302 (Fed. Cir. 2000).....	36, 45
<i>Good Technology Corp. v. Little Red Wagon Technologies, Inc.</i> No. 3:11-CV-2373-M, 2013 WL 4052408 (N.D. Tex. Aug. 11, 2013).....	10, 24
<i>Integra Lifesciences Corp. v. Hyperbranch Med. Tech.,</i> C.A. No. 15-819-LPS-CJB, 2018 U.S. Dist. LEXIS 234624 (D. Del. May 8, 2018).....	21

<i>Intel Corp. v. Qualcomm Inc.</i> 21 F.4th 801 (Fed. Cir. 2021).....	26
<i>Karlin Technology, Inc. v. Surgical Dynamics, Inc.</i> 177 F.3d 968 (Fed. Cir. 1999).....	6
<i>Liebel–Flarsheim Co. v. Medrad, Inc.</i> 358 F.3d 898 (Fed. Cir. 2004).....	8, 45
<i>Medicines Co. v. Mylan, Inc.</i> 853 F.3d 1296 (Fed. Cir. 2017).....	26
<i>Microsoft Corp. v. Geotag, Inc.,</i> C.A. 11-175-RGA, 2013 U.S. Dist. LEXIS 63497 (D. Del. May 3, 2013)	30, 39
<i>NCR Corp. v. Palm, Inc.,</i> 217 F. Supp. 2d 491 (D. Del. 2002)	22
<i>Nexxon Ltd. v. EaglePicher Technologies LLC</i> No. 15-955-RGA, 2018 WL 1942199 (D. Del. Apr. 25, 2018).....	30
<i>O2 Micro International Ltd. v. Beyond Innovation Technology Co.</i> 521 F.3d 1351 (Fed. Cir. 2008).....	25
<i>Oatey Co. v. IPS Corp.</i> 514 F.3d 1271 (Fed. Cir. 2008).....	10
<i>Phillips v. AWH Corp.</i> 415 F.3d 1303 (Fed. Cir. 2005) (<i>en banc</i>).....	6, 17, 36
<i>PSN Illinois, LLC v. Ivoclar Vivadent, Inc.</i> 525 F.3d 1159 (Fed. Cir. 2008).....	10, 24
<i>Rhine v. Casio, Inc.</i> 183 F.3d 1342 (Fed. Cir. 1999).....	17
<i>SanDisk Corp. v. Kingston Technology Co.</i> 695 F.3d 1348 (Fed. Cir. 2012).....	8, 32
<i>Sound View Innovations, LLC v. Hulu, LLC</i> 33 F.4th 1326 (Fed. Cir. 2022).....	11, 26
<i>TQ Delta, LLC v. ZyXEL Communications, Inc</i> No. 13- 02013-RGA, 2018 WL 2113226 (D. Del. May 8, 2018).....	10, 22

<i>Trustees of Columbia University v. Symantec Corp.</i> 811 F.3d 1359 (Fed. Cir. 2016).....	5
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II. INTRODUCTION¹

U.S. Patent No. RE47,447 is one of three reissue patents of U.S. Patent No. 7,699,009. This family of patents discloses a “seed singulator” for use on precision agricultural planters. Doc. 42-2 at 191 (abstract), 200, col. 2:30–41 (summary). As described in the specification, spacing seeds properly and uniformly in a furrow is essential to maximizing crop yield. *Id.* at 200, col. 1:13–14. “Singulation”—*i.e.*, dispensing one seed and one seed only per row at the proper timing—is the first step in achieving this uniform spacing and is a well-known performance benchmark to test seed meters. *Id.*, col. 1:14–20.

The invention disclosed in the ’447 Patent is a seed singulator for use on a vacuum planter. *Id.*, col. 2:30–31. In a vacuum planter, the individual planting unit for each furrow has a first compartment that fills with seeds from a hopper. Individual seeds sitting in the bottom of the compartment are drawn onto a rotating disk with holes around its perimeter. As the disk rotates, its edge passes out of the first compartment into a second compartment, where gravity causes each individual seed to fall out of the hole it was previously sucked into. Each seed then falls through a tube to be dropped into the furrow created by a lower section of the planting unit.

Historically, planters with vacuum seed meters operated at performance levels of 93 to 97 percent accuracy, with more recent improvements boosting their accuracy to a range of 98 to 99 percent. *Id.*, col. 1:31–34. But the meters needed frequent adjustment to

¹ The Court’s Scheduling Order (D.I. 17) provides the format for the Joint Claim Construction Brief. The Order does not include, nor does the Court ask for an “Introduction” section for Brief. Therefore, Maschio does not believe an introduction is appropriate and thus does not join in this “Introduction.”

maintain the highest levels of performance, and the design of many vacuum meters made them susceptible to reduced accuracy due to manufacturing tolerances. *Id.*, col. 1:34–40.

Some vacuum seed meters use disks with indentations or “cells” around each seed-hole. When planting flat-shaped seeds, these seed meters had a higher tendency to plant “skips” and “doubles.” *Id.*, col. 1:41–47. But these “celled-disk” vacuum meters have the advantage of operating at lower vacuum levels than meters with flat or “non-celled” disks, because less vacuum pressure is required to hold the seeds in place. *Id.*, col. 1:47–53. Although certain alterations and update kits were devised to improve flat-seed-planting accuracy, these altered vacuum meters still required frequent adjustments to maintain optimum performance. *Id.*, col. 1:54–2:19. Thus, at the time of invention, there remained a need for a seed singulator that could be used with different types of meters and seed disks to deliver high singulation accuracy with minimal adjustment. *Id.*, col. 2:20–26.

The '447 Patent and the other three patents in its family disclose a seed singulator for use with a vacuum disk that has a seed face and a shoulder. The singulator has a first member and second member. The first member has upper lobes disposed at a radius of curvature slightly less than the outside radius of a row of apertures on a seed plane of the vacuum disk. The second member has lower lobes disposed at a radius of curvature slightly greater than the inside radius of the row of apertures.² *Id.*, col. 2:30–41; *id.* at 366, col. 2:20–31; *id.* at 575, col. 2:35–46; Doc. 43-1 at 11, col. 2:41–52.

² In all four patents in the family, this sentence of the specification recites a “seed member” and “the row of apradius.” *Id.*, col. 2:36–38; *id.* at 366, col. 2:26–28; *id.* at 575, col. 2:41–43; Doc. 43-1 at 11, col. 2:47–49. These phrases appear nowhere else in the claims or specifications of any of the patents, and “apradius” does not appear to be an

III. REPRESENTATIVE CLAIMS OF THE '447 PATENT

Both independent claims of the '447 Patent contain the disputed term, "singulator."

8. A seed meter comprising:

a seed disc rotating about a central rotational axis in a direction of rotation, said seed disc having a plurality of seed apertures disposed in a seed plane, said seed disc disposed to entrain seeds from a seed pool onto said seed apertures by vacuum as said seed apertures rotate in said direction of rotation through said seed pool, said seed disc having a shoulder; and

a *singulator* disposed after said seed pool in said direction of rotation, said *singulator* having a plurality of lobes disposed to cover at least a portion of each of said plurality of seed apertures rotating in said direction of rotation past said lobes so as to bump said seeds entrained onto each of said plurality of seed apertures to remove excess seeds from said seed apertures such that only one seed remains entrained on each of said plurality of seed apertures, said plurality of lobes configured to float with at least one of said seed plane and said shoulder of said seed disc as said seed disc rotates about said central rotational axis.

12. A seed meter comprising:

a seed disc having a central rotational axis and plurality of seed apertures disposed along an aperture path radius from said central rotational axis, each of said plurality of seed apertures having a top side defined by an outer radius from said central rotational axis which is greater than said aperture path radius, each of said plurality of seed apertures having a bottom side defined by an inner radius from said central rotational axis which is less than said aperture path radius; and

a *singulator* having lobes disposed relative to said aperture path radius, said lobes disposed to make

English word. Thus, these phrases appear to be mistranscriptions of "second member" and "the row of apertures," respectively.

contact with seed entrained on said plurality of apertures three times along said top side and two times along said bottom side as each of said plurality of seed apertures rotates past said **singulator** as said seed disc rotates about said central rotational axis.

Doc. 42-2 at 202–03, col. 6:26–45, col. 6:53–col. 7:2 (emphases added).

IV. AGREED-UPON CONSTRUCTIONS

The parties do not agree on the constructions of any claim terms of the '447 patent.

V. DISPUTED CONSTRUCTION

The parties dispute the construction of the term “singulator,” which appears in both independent claims of the '447 Patent:

Maschio's Proposed Construction	Precision's Proposed Construction
singulator being a single unitary element	plain and ordinary meaning, which is not a “single unitary element”

A. Precision Planting LLC's Opening Position

Maschio's proposed construction, which would require the claimed singulator to be a “single unitary element,” lacks support in the specification and prosecution history, and runs afoul of the plain language of the claims in the patent family. Accordingly, the Court should construe “singulator” to have its plain and ordinary meaning, which is not a “single unitary element.”

1. Maschio's proposed construction finds no support in the specification or prosecution history.

While a claim-construction analysis begins “by considering the language of the claims themselves,” the claims “must be read in view of the specification,” which “is the single best guide to the meaning of a disputed term, and is, thus, the primary basis for

construing the claims.” *Trustees of Columbia Univ. v. Symantec Corp.*, 811 F.3d 1359, 1362–63 (Fed. Cir. 2016) (citations and internal quotation marks omitted). The phrase “single unitary element” appears nowhere in the claims or specification of the ’447 Patent. Indeed, the specification’s descriptions of the singulator repeatedly clarify that the singulator is not a “single” or “unitary” element at all.

For example, the abstract and summary both describe the singulator as having a “first member,” and “second member.” Doc. 42-2 at 191 (abstract), 200, col. 2:32–33. The first and second members, in turn, each have multiple lobes. *Id.* at 191 (abstract), 200, col. 2:34–38. Elsewhere, the specification describes and illustrates the singulator as an “assembly” that can achieve “various degrees of freedom,” with multiple elements including a base, a rail, hooks, brackets, and wires that serve as radial springs. *Id.* at 197–20, Figs. 5–10 & col. 2:53–67; *id.* at 201, col. 3–62–col. 4:5, col. 4:21–35, col. 4:40–59.

Thus, Maschio can point to nothing in the claims or specification of the ’447 Patent that supports reading the limitation of a “single unitary element” into the claimed singulator. Moreover, the phrase “single unitary element” was not the basis of any argument for allowance or any decision of the examiner in the ’447 Patent’s file history. *See generally id.* at 205–356. Lacking support in the intrinsic record of the ’447 Patent, Maschio turns to the other patents in the family—namely, the original ’009 Patent and its other two reissue patents. *See* Doc. 42-1 at 5–7 (“Maschio’s Intrinsic Evidence Support”). But as shown below, that intrinsic evidence lends further support to Precision Planting’s position that a “single unitary element” should not be part of the construction of “singulator.”

2. Maschio's proposed construction ignores principles of claim differentiation.

The language of the claims themselves provides “substantial guidance as to the meaning of particular claim terms.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005) (*en banc*). “For example, 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.” *Id.* at 1315 (Fed. Cir. 2005); *see also Karlin Tech., Inc. v. Surgical Dynamics, Inc.*, 177 F.3d 968, 971–72 (Fed. Cir. 1999) (doctrine of claim differentiation, “based on the common-sense notion that different words or phrases used in separate claims are presumed to indicate that the claims have different meanings and scope, normally means that limitations stated in dependent claims are not to be read into the independent claim from which they depend”) (citations omitted). That presumption arises here when the rules of claim differentiation are applied to the entire patent family.

The '009 Patent issued April 20, 2010 from a Patent Cooperation Treaty application filed August 17, 2006. Doc. 42-2 at 191. It contained one independent claim and six dependent claims. Independent claim 1 and dependent claims 3 and 4 recited as follows:

1. In combination, a seed **singulator** and a vacuum disk, the vacuum disk having a seed plane and a row of apertures at a radius R1 from the center of the disk, a radius R2 to the outside of the apertures, a radius R3 to the inside of the apertures, and a radius R4 to an annular shoulder of the vacuum disk, said **singulator** comprising:

a first member having upper lobes disposed at a radius of curvature slightly less than the radius R2, said first member further having a surface biased radially toward the annular shoulder of the vacuum disk;

a second member having lower lobes disposed at a radius of curvature slightly greater than the radius R3;

said upper and lower lobes having substantially coplanar surfaces biased axially against the seed plane of the vacuum disk.

3. The combination of claim 1 wherein said surface of said first member of said **singulator** has a radius of curvature substantially the same as the radius R4.
4. The combination of claim 3 wherein said first member and said second member of said **singulator** comprise a **single unitary element**.

Doc. 42-2 at 368, col. 6:2–16, 19–24 (emphases added)

The first reissue of the '009 Patent is U.S. Patent No. RE45,412, dated March 16, 2015. *Id.* at 567. The '412 Patent contains one new independent claim and 18 new dependent claims. *Id.* at 577–78, col. 6:30–col. 8:28. Minor alterations were made to the original claims, with dependent claims 2–4 surviving intact. *Id.* at 577, col. 5:56–col. 6:29. *De minimis* alterations were made to the specification. *Id.* at 567–577.

The second reissue of the '009 Patent is U.S. Patent No. RE46,461, dated July 4, 2017. Doc. 43-1 at 2. The '461 Patent is a continuation of the '412 patent. *Id.* at 11, col. 1:14–20; *id.* at 16. The '461 Patent contains five new independent claims and 16 new dependent claims. *Id.* at 13–14, col. 6:39–col. 8:53. Claims 1–7 are canceled, and the same *de minimis* alterations were made to the specification as in the '412 Patent. *Id.* at 2–13.

The third and final reissue of the '009 Patent is the '447 Patent, dated June 25, 2019. Doc. 42-2 at 191. The '447 Patent is a continuation of the '461 Patent. *Id.* at 205, 207. The '447 Patent contains two new independent claims and three new dependent claims. *Id.* at

202–03, col. 6:26–col. 7:2. As in the ’461 Patent, claims 1–7 are canceled, and the same *de minimis* alterations were made to the specification as in the ’412 Patent and the ’461 Patent. *Id.* at 191–202.

Although claims 1–7 are canceled in the ’447 Patent, they remain part of the patent family. Claim 1 of the ’412 Patent still recites the same combination of “a seed singulator and a vacuum disk” disclosed in the original ’009 Patent—with minor alterations to the elements comprising the singulator. *Compare* Doc. 42-2 at 577, col. 5:57–col. 6:6 *with id.* at 368, col. 6:2–16. And dependent claims 3 and 4 survived intact from the ’009 Patent. *Compare id.* at 577, col. 6:9–14 *with id.* at 368, col. 6:19–24. Claim 3 recites “[t]he combination of claim 1 wherein said surface of said first member of said singulator has a radius of curvature substantially the same as the radius R4.” *Id.* at 577, col. 6:9–11. Claim 4, in turn, recites “[t]he combination of claim 3 wherein said first member and said second member of said singulator comprise a single unitary element.” *Id.*, col. 6:12–14.

Maschio improperly seeks to import the “single unitary element” recited in dependent claim 4 of the ’412 Patent into the definition of “singulator” as used in the ’447 Patent. “Where, as here, the sole difference between the independent claim and the dependent claim[] is the limitation that one party is trying to read into the independent claim, ‘the doctrine of claim differentiation is at its strongest.’” *SanDisk Corp. v. Kingston Tech. Co.*, 695 F.3d 1348, 1361 (Fed. Cir. 2012) (quoting *Liebel–Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 910 (Fed. Cir. 2004)).

As this Court has recognized, “‘powerful evidence to the contrary’ can overcome th[e] presumption” that separate claims using different words or phrases have different

meanings and scope. *Acceleration Bay LLC v. Activision Blizzard, Inc.*, No. 16-453-RGA, 2017 WL 6508715, at *5 (D. Del. Dec. 20, 2017) (quoting *Andersen Corp. v. Fiber Composites, LLC*, 474 F.3d 1361, 1369–70 (Fed. Cir. 2007)), *aff'd sub nom. Acceleration Bay LLC v. 2K Sports, Inc.*, 15 F.4th 1069 (Fed. Cir. 2021). Here, no such evidence—much less the requisite “powerful” evidence—exists. As discussed above, the specification and prosecution history of the ’447 Patent provide no support for reading “single unitary element” into the definition of “singulator.” The same is true of the rest of the patent family’s intrinsic record. Nothing in the specifications of the ’009 Patent, the ’412 Patent, or the ’461 Patent—all of which are identical or near-identical to the ’447 Patent’s specification—supports Maschio’s proposed “single unitary element” construction. The family prosecution history is similarly devoid of support for Maschio’s position. The phrase “single unitary element” was included without comment in dependent claim 4 of the original ’009 Patent and was removed without comment from the ’461 Patent.

Thus, while dependent claim 4 of the ’412 Patent requires the first member and second member to “comprise a single unitary element,” *id.* at 577, col. 6:12–14, nothing in the intrinsic record supports a construction requiring the singulator recited in the ’447 Patent—or elsewhere in the patent family other than claim 4 of the ’412 Patent—to be a “single unitary element.”

Maschio may argue that applying claim differentiation is inappropriate because the dependent claim adding the “single unitary element” limitation is canceled in the ’447 Patent. But as explained above, that dependent claim remains a live claim within the patent family. As this Court has recognized, “[t]he Federal Circuit has applied the doctrine of

claim differentiation both within a single patent and within a family of patents.” *TQ Delta, LLC v. ZyXEL Commc’ns, Inc.*, No. 13-2013-RGA, 2018 WL 2113226, at *9 (D. Del. May 8, 2018) (citing *Andersen Corp.*, 474 F.3d at 1368–70).

But even if claim 4 had not survived in one of the other reissue patents, it would still be appropriate for the Court to consider the canceled claim language to determine the meaning of the remaining claim terms. *E.g.*, *Good Tech. Corp. v. Little Red Wagon Techs., Inc.*, No. 3:11-CV-2373-M, 2013 WL 4052408, at *7 (N.D. Tex. Aug. 11, 2013). When an applicant cancels claims without amending the specification to delete disclosure relevant to the canceled claims, such claims “may provide ‘probative evidence’ that an embodiment is not within the scope of an asserted claim.” *PSN Ill., LLC v. Ivoclar Vivadent, Inc.*, 525 F.3d 1159, 1166 (Fed. Cir. 2008) (quoting *Oatey Co. v. IPS Corp.*, 514 F.3d 1271, 1277 (Fed. Cir. 2008)). “Absent evidence that the PTO cancelled the dependent claim because it did not add anything to the independent claim, ... the original claim structure offers guidance as to how the inventor understood his patent, and how it would be understood by someone with ordinary skill in the art.” *Good Tech. Corp.*, 2013 WL 4052408, at *7.

Because the doctrine of claim differentiation creates a strong presumption that a “single unitary element” is not part of the definition of “singulator,” and because the intrinsic record lacks the “powerful evidence” required to rebut that presumption, Maschio’s attempt to improperly import a limitation into this claim term should be rejected. Instead, “singulator” should be construed to have its plain and ordinary meaning—*i.e.*, the assembly recited in the asserted claims and described in the specification of the ’447 Patent.

B. Maschio Gaspardo S.p.A.’s Answering Position

While claiming that “singulator” should have its plain and ordinary meaning, Precision neglects to say what that meaning is.³ By stating only what a singulator “is not,” and failing to provide what is the plain and ordinary meaning of the term, Precision proposes no construction leaving an indeterminate scope of the claim. If adopted, Precision’s “construction” fails to provide adequate notice of what Precision has allegedly invented because it only says ***what was not invented***. See, e.g., *Sound View Innovations, LLC v. Hulu*, 33 F.4th 1326, 1336 (Fed. Cir. 2022) (“But “[a]lthough there is no per se rule against negative constructions,’ which in some cases can be enough to resolve the relevant dispute,” the court’s construction here was inadequate for the second step of an infringement analysis—comparison to the accused products or methods.”) (internal citation omitted). Nor can Maschio meaningfully ascertain the nature of the dispute with Precision over the plain and ordinary meaning of “singulator.”

Rather, the proper construction of “singulator” is that disclosed by the ’447 patent and its prosecution history, “singulator being a single unitary element.” The applicants used this term in the same way not only in the ’447 patent, but also during prosecution of the original U.S. Patent No. 7,699,009 (the “’009 patent”), from which the ’447 patent claims priority, and two previous reissues, U.S. Patent No. RE45,412 (the “’412 patent”) and U.S. Patent RE46,461 (the “’461 patent”) also associated with the ’009 patent.

³ See the Court’s Form – Rule 16 Scheduling Order (Patent), February 2023 at 5 n. 3: “If a party proposes a construction of a term to be its “plain and ordinary” meaning, the party must explain what that meaning is.”

1. Intrinsic evidence supports that a “singulator” is a “single unitary element.”

a. The claims and specification only show “singulator” as a single unitary element.

The '447 patent defines a “singulator” as an element that has lobes. Claims 8 and 12 recite, respectively, “a singulator having a plurality of lobes” and “a singulator having lobes.” In claim 8, the lobes are “disposed to cover at least a portion of each said plurality of seed apertures . . . such that **only one seed** remains entrained on each of said plurality of seed apertures”⁴ In the '447 patent, lobes are essential to singulation, which is defined as “to accurately dispense **one seed and one seed only** at the proper timing.” ('447 patent at 1:14-20.)

The '447 patent distinguishes a singulator from the “singulator assembly.” Although the '447 patent discusses a “singulator assembly” in the specification, only the “singulator,” which is necessarily part of the singulator assembly, is recited in the claims. (See, e.g., '447 patent at 2:57-58 (“FIG 6 is a detailed perspective view showing the singulator assembly of FIG. 5 in use on an offset disk.”). For example, the specification refers to “[a] preferred embodiment of a seed singulator assembly **900** [] shown in FIG. 5 as being mountable to a back cover **104** of a conventional vacuum meter housing **102**.” ('447 patent at 3:62-64.) The singulator assembly includes a singulator (*id.* at 5:6-10), as

⁴ Unless otherwise indicated, all emphasis in Maschio’s Answering Position has been added.

well as other components that facilitate mounting the singulator, such as a back cover⁵ (*id.* at Figs. 5 and 6) and a singulator base **902** (*id.* at 3:66-4:5). The singulator base, in turn includes a first wire **926** and second wire **932** (*id.* at 4:40-56, Fig. 7). Thus, the singulator assembly contains a singulator and other components that are not part of a singulator.

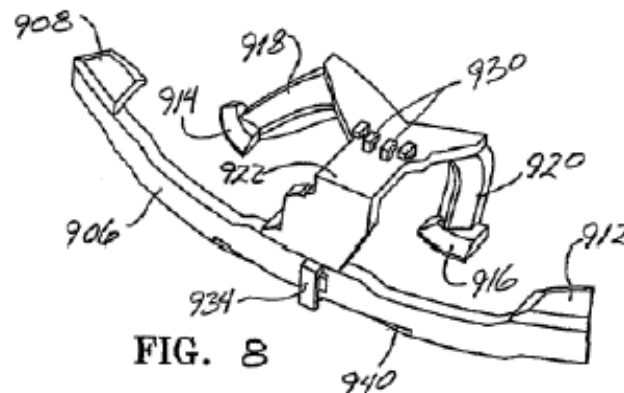
As discussed throughout the '447 patent, the singulator is shown as a single unitary element, as opposed to the singulator assembly, which is composed of many individual pieces. For example, the specification teaches that in a preferred embodiment of the singulator, “a rail **906** supports three lobes **908, 910, 912**” (*id.* at 4:21-22) and “two bottom lobes **914, 916** are preferably supported by two divergent arms **918, 920** preferably extending from an L-shaped bracket connected to the rail **906**” (*id.* at 4:27-30).

Moreover, the specification teaches that the singulator must be a single unitary element in order for the lobes to move “in various degrees of freedom” (*id.* at 2:66-67, Fig. 10). If the singulator were not a single unitary element, it would be impossible that each of the lobes could be at the same time co-planar with the other lobes (*id.* at 4:33-35) and also “‘float’ with the seed plane **222, 522** and the shoulder **230, 530** of the disk **200, 500**” (*id.* at 4:57-60.) The purported “inherent advantages” (*id.* at 4:60) of a floating singulator could not be exploited if it were not a single unitary element, because there would be no way to ensure that the lobes remain co-planar while in movement.

⁵ The component labeled 116 in Figs. 5 and 6, which depict “the seed singulator assembly of FIG. 5” appears to be the component identified elsewhere in the specification as “back cover **104**”. There is no component identified as “116” elsewhere in the specification.

That this is the case is confirmed by the facts that the first wire 926 of the singulator assembly “serves as an axial spring which biases the co-planar surfaces **924** of the lobes **908, 910, 912, 914, 916** against or in contact with the seed plane **222, 522** of the disk **200, 500**” (*id.* at 4:44-47) and “the second wire **932** serves as a radial spring which biases the inner face **913** of the rail **906** against the top or outside diameter of the shoulder **230, 530**” (*id.* at 4:54-56). In short, the singulator assembly facilitates movement of the singulator, which moves axially and radially with respect to the seed plane and shoulder of the disk. Thus, the co-planar flotation of the singulator lobes taught in the ’447 specification is only ***possible*** with a singulator as a single unitary element.

The figures also confirm that the rail, divergent arms, and lobes of the singulator form a single unitary element. For example, Figures 8 and 9 illustrate show the singulator from opposing perspectives as an integrated whole:



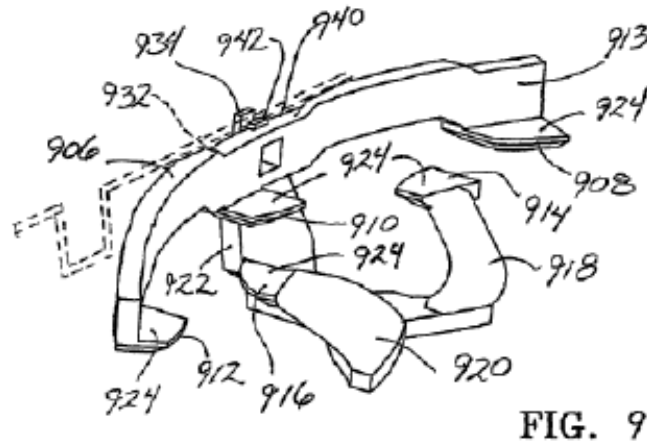


FIG. 9

(’447 patent at Fig. 9.) Thus, the specification and figures make clear that the singulator must be a single unitary element.

b. The ’447 patent file history refers to a “singulator” as a single unitary element.

The file history of the ’447 patent also contains numerous references to a singulator as a single unitary element. The claims of the ’009 patent, from which the reissued claims of the ’447 patent originate and from which the patent claims priority, include claim 4, which recites “the combination of claim 3 wherein first member and said second member of said singulator ***comprise a single unitary element.***” (’009 patent at claim 4.)

During the prosecution of Application No. 12/064,059, which led to the ’009 patent, the applicants expressly adopted a singulator that was a single unitary element. Specifically, in response to the Office Action dated December 30, 2008, the Applicants stated that claims 1, 6 and 14 each comprise a singulator as a single unitary member:

New claim 14 was added in view of the Office’s comments with respect to claim 6. Claim 14 depends from claim 5 which recites that the first and second members “***comprise a single unitary element.***” ***Thus, as recited in claim 1 from which claim 5 depends and from which claim 14 depends,*** because the upper and lower lobes are biased

axially against the seed plane, and because the first member has a surface that is biased radially toward the annular shoulder, and ***because the first and second members “comprise a single unitary member”*** the upper lobes and the lower lobes will “move with the seed plane and with the shoulder while maintaining the position of the upper lobes with the radius R2 and the lower lobes with the radius R3.

(’009 File History, D.I. 42-2 at 422.) Notably, claim 1 of the ’009 patent does not actually contain the words “comprise a single unitary element,” which are recited in dependent claim 5. Nevertheless, the Applicants recognized that claim 1 includes a ***singulator “compris[ing] a single unitary member”***, thereby disclaiming any alternative definitions.

In addition, by stating that claim 14 was “added in view of the Office’s comments with respect to claim 6,” the Applicants apparently recognized that at least this claim would have been indefinite without the limitation “comprise a single unitary element,” as the Examiner had previously rejected claim 6 on indefiniteness grounds. (D.I. 42-2 at 421, 443.)

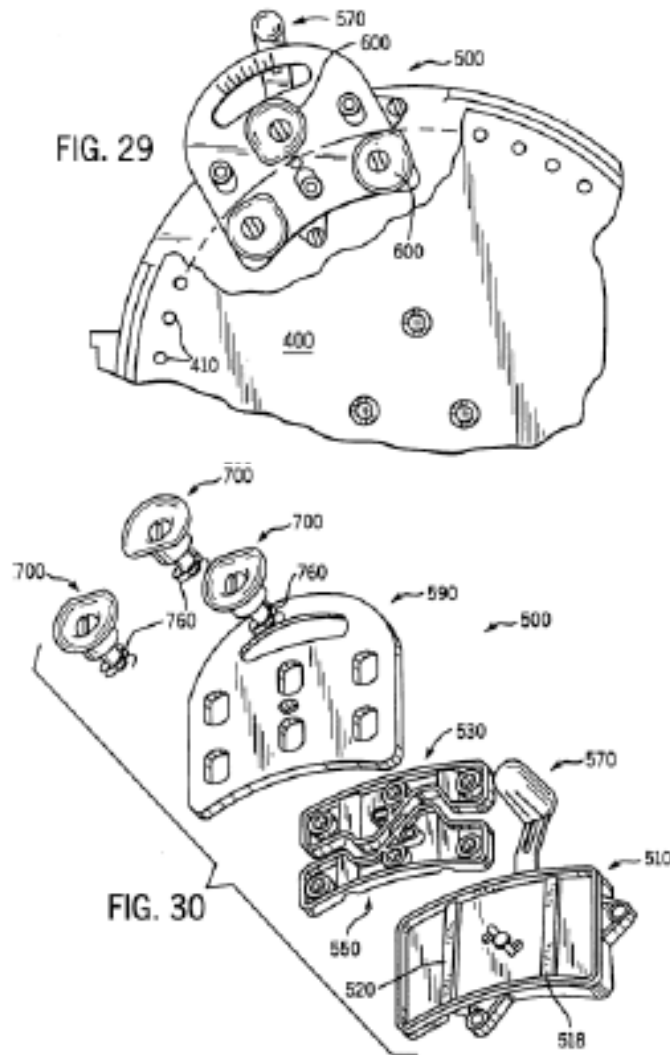
The Applicants’ adoption of a singulator that was a single unitary element is confirmed by a subsequent reissue application which uses the same language to limit the singulator. During prosecution of Application No. 13/451,386, which led to the ’412 patent which also claims priority to the ’009 patent, Applicants maintained claim 4, reciting “the combination of claim 3 wherein said first member and said second member of said singulator comprise a single unitary element.” (D.I. 42-2 at 616, 667, 706.) However, the Applicants amended “single unitary element” in claim 5, which depends from claim 4, with “singulator.” (*Id.* at 616, 667, 706.) This amendment did not eliminate “single unitary element,” which is recited in claim 4 and therefore also part of claims 5. The amendment

appears to have been intended only to remove the redundant recitation of that claim language in the two dependent claims. Thus, in the claims of the '412 patent, a singulator *is by definition* a single unitary element.

2. Accepting Precision's construction would render the patent claim invalid.

Precision's contention that the "singulator" of the '447 patent is "not a unitary element" is also incorrect because it would inevitably lead to the claims of the '447 patent being rendered invalid. Such a result is contrary to the Federal Circuit's dictates under *Phillips*. See *Philips v. AWH Corp.*, 415 F.3d 1303, 1327 (Fed. Cir. 2000) (quoting *Rhine v. Casio, Inc.* 183 F.3d 1342, 1345 (Fed. Cir. 1999) ("[C]laims should so construed, if possible, to sustain their validity").

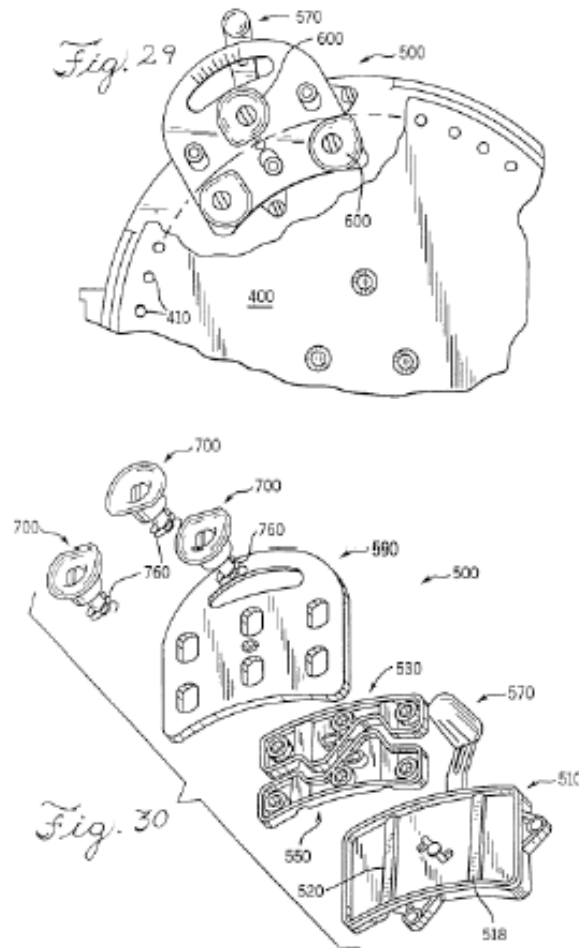
The specification of the '447 patent cites to U.S. Patent No. 5,842,428 to Stufflebeam ("Stufflebeam"), attached as Exhibit 1, noting that its meter "utilizes a flat disk and three spring loaded singulating spools that compensate for tolerances in one direction, but the spools do not compensate for radial translation of the disk." ('447 patent at 2:14-19.) Stufflebeam discloses that its singulating spools are individually removable components and not integrated into a unitary device as shown by element 700 in figures 29 and 30 of Stufflebeam:



(Stufflebeam at Fig. 29, 30.)

As the Applicants for the '447 patent made clear, there is no distinction between the singulating spools of Stufflebeam and the lobes of the '447 patent. In an Office Action during prosecution for the '009 patent dated December 30, 2008, the Examiner found claims 1 and 3 to be obvious in light of the "six singulator spools or lobes" disclosed by U.S. Patent 6,109,193 to Crabb et al., attached as Exhibit 2 ("Crabb"). (D.I. 42-2 at 445.) Crabb is particularly important here because all four inventors were also co-inventors of Stufflebeam and portions of the specifications of both patents are identical. (*Compare, e.g.,*

Ex. 1 at 1:15-2:21 *with* Ex. 2 at 1:33-2:39.) In response to the Office Action, the Applicants amended the claims to include the additional limitation of “the first member further having a surface biased radially toward the annular shoulder of the vacuum disk,” (*id.* at 429) and stating that the examiner’s determination was improper in view of its amendments (*id.* at 422). Notably, Applicants did not dispute that the lobes were rendered obvious by the spools of Crabb. Moreover, as shown below, Figures 29 and 30 of Crabb are indistinguishable from Figures 29 and 30 of Stufflebeam which is not surprising since they are related patents:



(Crabb '193 at Fig 29, 30.)

In light of the disclosures of the '447 patent and the prosecution history, Precision's proposed construction of a singulator that is not a single unitary element would result in the invalidation of the claims of the '447 patent. If the court were to adopt a construction that would allow a singulator to be anything other than a unitary element, the claims may run afoul of Stufflebeam and Crabb which both recite and claim singulators comprising individualized singulating spools. Moreover, as the '447 patent only discloses a new singulator ('447 patent at Abstract, 2:30-31.), the recitation of additional elements to the seed planters disclosed by Stufflebeam and Crabb in the claims of the '447 patent does not save it from invalidity. For that reason alone, it should be rejected.

3. Precision's arguments on what the term is NOT are unavailing.

a. A singulator is distinct from a singulator assembly.

Precision's counterarguments fail to account for the intrinsic evidence describing and showing a singulator as a single unitary element. First, Precision contends that the '447 specification's disclosure of an assembly with multiple elements somehow negates Maschio's proposed construction. (Opening Br. at 4.) However, this argument fails to account for the distinction between the "singulator" and the "singulator assembly" that appears throughout the '447 patent. *See* section I.A.1.a above. Similarly, the disclosure of first and second members that each have multiple lobes (*id.* at 4), as shown above, actually supports Maschio's proposed construction, because the lobes are a distinctive feature of the singulator, and can only achieve the goals of the patent if they are incorporated into the singulator as a unitary element.

Precision's alternative argument that the words "single unitary element" do not appear in the '447 patent (Opening Br. at 5) is also unavailing, because those words come from the intrinsic record. See section I.A.1.b above. Since the '447 patent claims priority to the '009 patent and is a continuation of the '461 patent, which is a continuation of the '412 patent, all patents that claim priority to the '009 patent, (D.I. 42-2 at 191-92), each of those patents and their file histories are part of the intrinsic record of the '447 patent. See *Integra Lifesciences Corp. v. Hyperbranch Med. Tech.*, C.A. No. 15-819-LPS-CJB, 2018 U.S. Dist. LEXIS 234624, at *17 (D. Del. May 8, 2018) (citing *Jonsson v. Stanley Works*, 903 F.2d 812, 818 (Fed. Cir. 1990)) ("The intrinsic record includes the prosecution history of a parent patent.").

Moreover, its contention that the claim language of the '009 and '412 patents is irrelevant to the proper construction of the claims of the '447 patent directly contradicts Precision's own argument in the following section of its brief that the cancelled claims of the '009 and '412 patents "remain part of the patent family" (Opening Br. at 7) and therefore must be differentiated from those of the '447 patent. (See *id.* at 9 ("But even if claim 4 had not survived in one of the other reissue patents, it would still be appropriate for the Court to consider the canceled claim language [of the '412 patent] to determine the meaning of the remaining claim terms [of the '447 patent]."))

b. Claim differentiation does not apply to the cancelled claims of the original '009 patent and previous reissues.

Precision also argues that the principle of claim differentiation bars Maschio's proposed construction because the claims of the '447 patent do not contain the recitation

of a “singulator” as “a single unitary element” as appears in claim 4 of the of the ’412 patent.⁶ (Opening Br. at 7-8.) In its view, the appearance of this language in one claim of a related patent means that it cannot be construed as a limitation of the claims of the ’447 patent.

However, Precision’s invocation of the principle of claim differentiation is entirely unjustified, and its application here runs afoul of this District’s caselaw. *See NCR Corp. v. Palm, Inc.*, 217 F. Supp. 2d 491, 512 (D. Del. 2002) (“Claim differentiation is a guideline that suggests that it is presumptively unreasonable to adopt a construction that would result in two claims **of the same patent** having the same scope, because such a construction would render one claim superfluous.”) Specifically as Precision admits, claim 4 of the ’412 patent is **not** a claim of the ’447 patent (Opening Br. at 9), and therefore there is nothing requiring differentiation. Accordingly, where the relevant claims belong to **different** patents, there is no need to differentiate between them.

Precision’s attempt to apply this doctrine to separate claims of different reissue patents is apparently unprecedented, as the Opening Brief fails to cite to any caselaw supporting that proposition. Precision cites to one case, *TQ Delta*, but its reliance on that case is misplaced. *TQ Delta, LLC v. ZyXEL Commc’ns, Inc.*, No. 13-2013-RGA, 2018 U.S. Dist. LEXIS 77271, at *23 n. 9 (D. Del. May 8, 2018). In Precision’s view, the application of claim differentiation to claims of separate patents with a common specification in *TQ Delta* would dictate that claim 4 of the ’412 patent “remains a live claim within the patent

⁶ As Precision acknowledges, claim 4 of the ’412 patent is the same as claim 4 of the ’009 patent. (Opening Br. at 6.)

family” (Opening Br. at 9) and must therefore have a different meaning from the claims of the ’447 patent. However, this argument ignores the crucial difference between the claims at issue in *TQ Delta* and claim 4 of the ’412 patent: as a claim of a previous reissue, claim 4 has been **surrendered** and is no longer operative within the ’447 patent. See 35 U.S.C. § 252 (“The surrender of the original patent shall take effect upon the issue of the reissued patent . . .”). In essence, the original patent claims no longer exist and there is nothing to differentiate against.

For the same reason, Precision’s argument that of claim 4 of the ’412 patent must be differentiated because it is a dependent claim (Opening Br. at 7-8) is also incorrect. Claim 4 of the ’412 patent is not a dependent claim of any claim of the ’447 patent. Moreover, as the previously quoted section of the prosecution history of the ’009 patent shows, claim 1 of the ’009 patent, an independent claim, should also be read as reciting “a single unitary member.” (See section I.A.1.b above, quoting D.I. 42-2 at 422.) Accordingly, a singulator as single unitary element was never limited to the dependent claims of the ’009 patent or any of the reissues that followed from it.

To the extent that Precision is arguing that the cancelled claims of the ’009, ’412 and ’461 patents are **relevant** to the meaning of claim terms of the ’447 patent, Maschio agrees. However, none of the cases Precision cites provide a legal basis for its novel concept that cancelled claims remain “live” for purposes of claim construction. That view stands at cross purposes with the policy reasons behind the reissue statute, which allow a later patent to claim priority from a previous one only under specific circumstances, one of which is that the claims of the first patent are “surrender[ed].”

For the same reason, it does not follow that cases from the reexamination context, in which patents are typically amended to preserve their validity, should be applicable to reissue patents, where the cancellation of prior claims is a matter of course. Precision relies on *Good Tech* for the proposition that the doctrine of claim differentiation fits the context of a reissue patent such as the '447 patent. However it simply does not apply here for the simple reason that in *Good Tech* the patent was not a reissue patent; rather, the original patent was under reexamination. *Good Tech. Corp. v. Little Red Wagon Techs., Inc.*, No. 3:11-cv-02373-M, 2013 U.S. Dist. LEXIS 112946, at *22 (N.D. Tex. Aug. 11, 2013). *Good Tech* falls short of showing that claim differentiation can be extended to multiple reissue patents.

Similarly, Precision's reliance (*id.* at 9) on *PSN Ill.* is also misplaced. That case states only that cancelled claims ***may be*** probative of the scope of asserted claims, not that they automatically trigger a presumption of claim differentiation. *PSN Ill. LLC v. Ivoclar Vivadent, Inc.*, 525 F.3d 1159, 1166 (Fed. Cir. 2008). Unlike the patent in *PSN Ill.*, the '447 patent, is a broadening reissue. (D.I. 42-2 at 314.) Thus, it did not remove any subject matter disclosed in any of the parent applications.

While Claim 4 of the '412 patent was cancelled during the two subsequent reissues of the '009 claims, there is nothing that indicates that Applicants intended to define singulator in a different way in any of the subsequent reissue applications from the '009 patent. The cancelled original claims are therefore a guide to the scope of the '447 claims. *See ArcelorMittal Fr. v. AK Steel Corp.*, 786 F.3d 885 (Fed. Cir. 2015) ("Moreover, the prosecution history of a reissue claim can certainly be relevant to determine the scope of

the reissue claim, and it is entirely possible that the prosecution history includes disavowals of claim scope that could preserve the reissue claim in the face of an apparent broadening.”)

Finally, even if the Court should determine that the doctrine of claim differentiation does apply in the context of reissue claims, there is more than sufficient evidence to overcome the presumption that it must apply to the claims of the ’447 patent. As shown above in Section II.A.1, the ’447 patent and prosecution history are unequivocal in teaching a “singulator” as a “single unitary element.” The ’447 patent shows that the singulator is a single unitary element, and the Applicants’ statements during prosecution of the ’009 patent confirm that this is the case. For that reason alone, Precision’s reliance on claim differentiation fails.

C. Precision Planting LLC’s Reply Position

Maschio complains that Precision has failed to provide a definition of the ordinary meaning of “singulator.” But neither party has proposed a definition, because there is no dispute about what a singulator is or does. Rather than define the term, Maschio seeks to narrow it to the subcategory of singulators that are constructed of “a single unitary element.” Precision has set forth the reasons a singulator within the meaning of the claims cannot be so limited. Nothing more is required, because that is the only dispute before the Court. *See O2 Micro Int’l Ltd. v. Beyond Innovation Tech. Co.*, 521 F.3d 1351, 1360 (Fed. Cir. 2008) (“When the parties raise an actual dispute regarding the proper scope of these claims, the court, not the jury, must resolve that dispute.”).

As Maschio acknowledges, “there is no *per se* rule against negative constructions, which in some cases can be enough to resolve the relevant dispute.” *Sound View*

Innovations, LLC v. Hulu, LLC, 33 F.4th 1326, 1336 (Fed. Cir. 2022); *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 811 (Fed. Cir. 2021); *see also Medicines Co. v. Mylan, Inc.*, 853 F.3d 1296, 1308 (Fed. Cir. 2017) (citing *Amgen Inc. v. Hoechst Marion Roussel, Inc.*, 314 F.3d 1313, 1329 (Fed. Cir. 2003) (affirming district court’s construction of asserted claims as product claims, imposing no positive “source and process” limitations to define how the product was made)). That is the case here. The parties do not dispute that “singulation” means “to accurately dispense one seed and one seed only at the proper timing.” (D.I. 42-2 at 200, col. 1:14–20; *see also* § I, *supra*, ¶ 1; § IV.B.1.a, *supra*, ¶ 1.) Thus, any assembly or structure that performs this function is a “singulator.”

Although a footnote in the February 2023 revision of this Court’s form scheduling order requires a party proposing a plain-and-ordinary-meaning construction to “explain what that meaning is,” the January 2023 Scheduling Order that governs this case contains no such requirement. (*See* D.I. 17 at 5–7 ¶¶ 7–9.) Thus, under Federal Circuit precedent and this Court’s order, there is nothing improper about Precision’s argument that the plain and ordinary meaning of “singulator” is agreed and cannot be limited to “a single unitary element.” No further construction is necessary because the entire ’447 Patent—entitled “Seed Singulator”—discloses an example of what a “singulator” is. Maschio’s attempt to limit each and every claim of the ’447 Patent to a “single unitary element” is improper and is unsupported by the intrinsic record.

1. The claims and specification use “singulator,” “singulator assembly,” “seed singulator,” and “seed singulator assembly” interchangeably.

Maschio begins its substantive argument by emphasizing the reference to “only one seed” in claim 8 and the reference to “one seed and one seed only” in the specification’s background section. (See § IV.B.1.a, *supra*, ¶ 1) But as discussed immediately above, dispensing “one seed and one seed only at the proper timing” describes a singulator’s *function*—*i.e.*, “singulation.” (D.I. 42-2 at 200, col. 1:14–20.) The references to “one seed” provide no guidance regarding the *structure* of a singulator, which is the only issue about which Maschio has raised a dispute.

Maschio next argues that the ’447 patent “distinguishes a singulator from the ‘singulator assembly.’” (See § IV.B.1.a, *supra*, ¶ 2.) Maschio is wrong. The claims use only the term “singulator” and never reference a “singulator assembly.” And the specification uses the terms “singulator,” “singulator assembly,” “seed singulator,” and “seed singulator assembly” interchangeably:

A further advantage of the preferred embodiment of the spring suspension system of the *singulator 900* is that the *singulator assembly 900* need not be removed when switching from the offset disk **500** to a celled (with which a singulator is not generally used).

(D.I. 42-2 at 202, col. 5:23–27, italic emphases added.)

A preferred embodiment of a seed singulator assembly **900** is shown in FIG. 5 as being mountable to a back cover **104** of a conventional vacuum meter housing **102**. FIG. 6 illustrates the seed singulator assembly **900** disposed on an offset disk

500. The *singulator assembly 900* includes a singulator base **902** which is preferably mountable in a conventional manner to the back cover **104** of the vacuum meter housing **102** through two mounting ears **904**. The base **902** provides a secure platform from which the other components comprising the *singulator assembly 900* are supported.

(*Id.* at 201, col. 3:62–col. 4:5, italic emphases added.)

FIG. 5 is an exploded perspective view of a preferred embodiment of the seed singulator of the present invention shown being mountable to the back cover of a conventional vacuum meter housing.

FIG. 6 is a detailed perspective view showing *the singulator assembly of FIG. 5* in use on an offset disk.

FIG. 7 is a perspective view of a preferred embodiment of a base for *the seed singulator of FIG. 5*.

FIG. 8 is a top perspective view of a preferred embodiment of the rail for *the seed singulator of FIG. 5*.

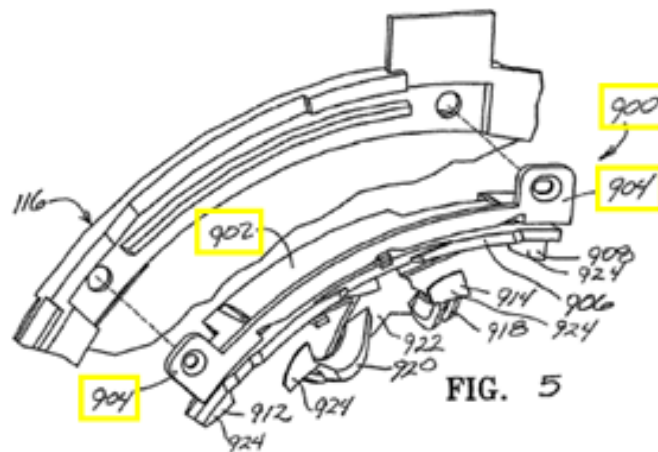
FIG. 9 is a bottom perspective view of the rail for *the seed singulator of FIG. 5*.

FIG. 10 is a perspective view of *the seed singulator of FIG. 5* illustrating the various degrees of freedom that can be achieved by the preferred embodiment.

(*Id.* at 200, col. 2:53–67, italic emphases added.)

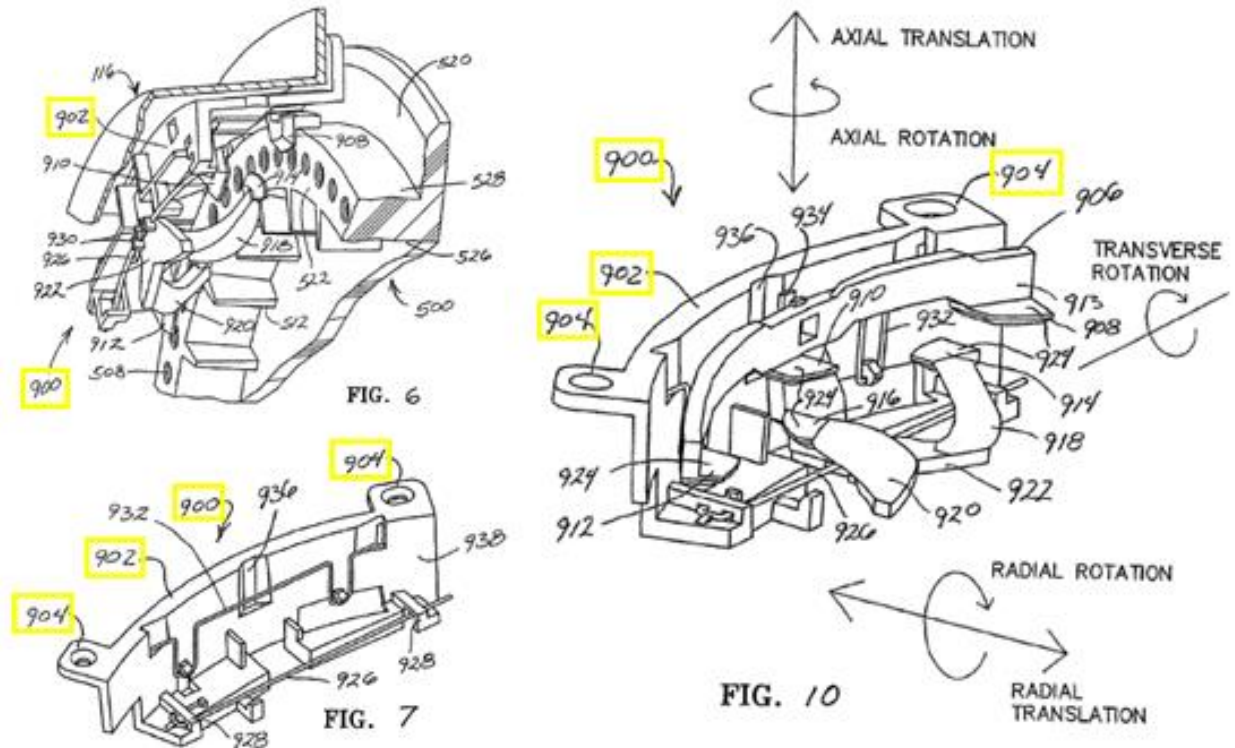
Thus, Figure 5 shows either “a preferred embodiment of a *seed singulator assembly* ... being mountable to a back cover ... of a conventional vacuum meter housing” (*id.* at

201, col. 3:62–64, emphasis added) or “a preferred embodiment of the *seed singulator* ... being mountable to the back cover of a conventional vacuum meter housing” (*id.* at 200, col. 2:53–56, emphasis added), depending on which of the specification’s descriptions one reads.



(*Id.* at 197, annotated.)

Similarly, the entire assembly labeled **900** in Figures 5, 6, 7, and 10 is either a “singulator” (*id.* at 202, col. 5:24), a “seed singulator” (*id.* at 200, col. 2:54, 60, 62–66), a “singulator assembly” (*id.* at 200, col. 2:57–58; *id.* at 201, col. 3:66, col. 4:4; *id.* at 202, col. 5:8–9, 25), or a “seed singulator assembly” (*id.* at 201, col. 3:62–63, 65; *id.* at 202, col. 5:5), depending on where in the specification one looks.



(*Id.* at 197–199, annotated.)

The specification’s interchangeable use of “singulator,” “seed singulator,” “singulator assembly,” and “seed singulator assembly” “is akin to a definition equating the [terms].” *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009); *see also id.* at 1326, 1328 (concluding that the district court “was correct to come to the same conclusions, either implicitly or explicitly,” with respect to its constructions of the terms “graft,” “graft structure,” “bifurcated base structure,” and “bifurcated base graft structure,” which were “used interchangeably in the specification and the claims”); *Microsoft Corp. v. Geotag, Inc.*, No. 11-175-RGA, 2013 WL 1868125, at *10–13 (D. Del. May 3, 2013) (construing “entries” as “records” because specification used the terms interchangeably); *Nexxon Ltd. v. EaglePicher Techs. LLC*, No. 15-955-RGA, 2018 WL 1942199, at *5 n.2 (D. Del. Apr. 25, 2018) (“The examples in the specification appear to

use ‘mat’ and ‘film’ interchangeably and appear to describe the ‘mat’ or ‘film’ as a ‘felt-like structure.’ I therefore find that there is no material difference between ‘felt-like’ and ‘mat-like.’”).

Accordingly, Maschio’s argument that a “singulator” is different from a “singulator assembly” is incorrect. The “[seed] singulator” recited in the claims and described in the specification is a “[seed] singulator assembly.” It includes a “base **902** which is preferably mountable in a conventional manner to the back cover ... of the vacuum meter housing ... through two mounting ears **904**, and which “provides a secure platform from which the *other components comprising the singulator assembly 900* are supported.” (*Id.* at 201, col. 3:66–col. 4:5.) The phrase “single unitary element” appears nowhere in the claims or specification of the ’447 patent, and there is no support in the claims or specification for importing this limitation into the construction of “singulator.”

Maschio argues that “the singulator is shown as a single unitary element” in “a preferred embodiment of the singulator.” (*See* § IV.B.1.a, *supra.*, ¶ 3.) But “the preferred embodiment” referenced in the portion of the specification cited by Maschio is the “preferred embodiment of a seed singulator *assembly 900* ... shown in FIG. 5”—not of a single, unitary *element*. (D.I. 42-2 at 201, col. 3:63–64, col. 4:21, emphasis added.)

Maschio further argues that the singulator “must be a singular unitary element” for the lobes of the singulator to move as described in the specification. (*See* § IV.B.1.a., *supra.*, ¶ 4.) But this conclusion is pure attorney argument. Maschio cites no intrinsic or extrinsic evidence to support its *ipse dixit* that the singulator’s advantages “could not be exploited”

and that there would be “no way” to keep the lobes co-planar if the singulator were not a single, unitary element.

Finally, Maschio cites Figures 8 and 9, which it argues “show the singulator” as a single, unitary element. (See § IV.B.1.a., *supra*, ¶ 5.) But the specification expressly states that these figures show a preferred embodiment of just one of the singulator’s components: “the rail for the seed singulator of FIG. 5.” (D.I. 42-2 at 200, col. 2:61–64.)

2. The prosecution history does not support construing “singulator” as a “single unitary element.”

Turning to the file history, Maschio first cites dependent claim 4 of the original ’009 patent, which recites the first and second member of the singulator “compris[ing] a single unitary element.” (See § IV.B.1.b, *supra*, ¶ 1.) But as previously explained, the presence of this limitation in dependent claims of related patents shows that the patentee knew how to require a singulator to be a single unitary element but did not recite such a requirement in any of the independent claims of the original patent or its subsequent reissues. (See § IV.A.2, *supra*, ¶¶ 2, 6–9.)

a. The prosecution history of the patent family supports Precision’s claim-differentiation arguments.

Had claims 1–7 of the ’009 patent (and its first reissue, the ’412 patent) survived, importing claim 4’s “single unitary element” limitation into the singulator recited in independent claim 1 would be presumptively improper. See *SanDisk*, 695 F.3d at 1361 (claim-differentiation doctrine is strongest where sole difference between independent and dependent claim is limitation that one party is trying to read into independent claim); *Acceleration Bay*, 2017 WL 6508715, at *5 (powerful evidence to the contrary can

overcome presumption that separate claims’ different words or phrases have different meanings). Maschio can advance no principled reason why a limitation that could not have been properly imported into the independent claims of the original ’009 patent or its first reissue should now be imported into all claims of its most recent reissue.

Indeed, Maschio’s arguments against applying claim differentiation collapse under the weight of their internal contradictions. (*See* § IV.B.3, *supra*.) Maschio acknowledges that the words “single unitary element” “come from the intrinsic record,” because the ’009 patent and its two prior reissues “are part of the intrinsic record of the ’447 patent.” (*See* § IV.B.3.a, *supra*, ¶ 2.) Yet Maschio urges the Court to ignore claim-differentiation principles while examining that intrinsic record, arguing that because claims 1–7 of the ’009 patent have now been surrendered and are “no longer operative within the ’447 patent,” “there is nothing to differentiate against.” (*See* § IV.B.3.b, *supra*, ¶ 3.) Later, however, Maschio is forced to acknowledge “that the cancelled claims of the ’009, ’412 and ’461 patents are **relevant** to the meaning of claim terms of the ’447 patent,” “may be probative of the scope of asserted claims,” and “are therefore a guide to the scope of the ’447 claims.” (*See id.*, ¶¶ 5, 7–8.) This admission is consistent with case law previously cited by Precision from this Court and other federal districts, which Maschio unsuccessfully attempts to distinguish. (*See id.*, ¶¶ 3, 6–7.)

Ultimately, Maschio argues “there is nothing that indicates that Applicants intended to define singulator in a different way in any of the subsequent reissue applications from the ’009 patent.” (*See id.*, ¶ 8.) Precision wholeheartedly agrees. As explained above, nothing in the claims or specification of the ’447 patent supports Maschio’s proposed

addition of a “single unitary element” limitation to the construction of “singulator.” (See § IV.C.1, *supra*.) The identical or near-identical specifications of the ’009 patent and its first two reissues are equally unsupportive of Maschio’s proposed construction. And the ’009 patent and its first reissue, the ’412 patent, create an even stronger presumption against Maschio’s proposed construction through claim differentiation. (See § IV.A.2, *supra*.) The Court should construe “singulator” in the ’447 patent just as it would have construed the term in the rest of the patent family and reject Maschio’s attempt to import a “single unitary element” limitation into the claim.

b. Maschio fails to show that the prosecution history limits the scope of a “singulator.”

Maschio’s arguments based on the Applicant’s interactions with the Patent Office during prosecution are similarly unavailing. First, Maschio creatively interprets a sentence from the prosecution history of the ’009 patent that explains the addition of new claim 14. (See § IV.B.1.b, *supra*, ¶ 2.) The lengthy sentence begins: “Thus, as recited in claim 1 from which claim 5 depends and from which claim 14 depends,” proceeding to describe claim 1’s limitations of upper and lower lobes biased axially against the seed plane and a first member biased radially toward the annual shoulder. (D.I. 42-2 at 422.) The second half of the sentence misquotes claim 5’s “single unitary element” limitation as “single unitary member,” and concludes by quoting new claim 14’s “move with the seed plane and with the shoulder” limitation. (*Id.*)

Maschio appears to argue that because the “single unitary member” misquote from *claim 5* appears in a sentence that recites claims 1, claim 5, and claim 14 in its introductory

clause, the Applicant thereby limited *claim 1*'s recitation of a “seed singulator” to a singulator “compris[ing] a single unitary member,” disclaiming any broader definition. But obviously, the Applicant cannot have quoted a phrase in claim 1 that was not present in claim 1, and it is readily apparent that the “single unitary member” phrase was a misquote of dependent claim 5. Even to the extent the Applicant may have erroneously believed that “single unitary [element/member]” appeared in claim 1 rather than claim 5, this misquote is far from the sort of “clear and unmistakable” statement required to trigger prosecution disclaimer. *See 3M Innovative Properties Co. v. Tredegar Corp.*, 725 F.3d 1315, 1325 (Fed. Cir. 2013) (“[I]n order for prosecution disclaimer to attach, the disavowal must be both clear and unmistakable.”).

At most, the snippet of prosecution history quoted by Maschio is an unartfully drafted sentence that was inexact and ambiguous about the portions of the intrinsic record it was (mis)quoting. This is far from sufficient evidence to support a finding that the Applicant disclaimed any singulator that is not a “single unitary element.” *See Avid Tech., Inc. v. Harmonic, Inc.*, 812 F.3d 1040, 1045 (Fed. Cir. 2016) (“Where the alleged disavowal is ambiguous, or even ‘amenable to multiple reasonable interpretations,’ we have declined to find prosecution disclaimer.”) (quoting *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1359 (Fed. Cir. 2003)).

Maschio also argues that an amendment made to claim 5 during prosecution of the ’412 patent transformed the definition of “singulator” across the entire patent family. (*See* § IV.B.1.b, *supra*, ¶ 4.) Again, Maschio is wrong. As discussed above by both parties, dependent claim 4 added to independent claim 1 the limitation “wherein said first member

and said second member of said singulator comprise a single unitary element.” (D.I. 42-2 at 577, col. 6:12–14.) Claim 5 depended from claim 4 and originally referenced “said single unitary element,” but was amended to reference “said singulator” instead. (*Id.*, col. 6:15–20; *see also id.* at 616.) Maschio argues that this change demonstrates that “in the claims of the ’412 patent, a singulator *is by definition* a single unitary element.” (§ IV.B.1.b, *supra*, ¶ 4.) But all it shows is that the singulator recited in and limited by claim 4 was a single unitary element.

Because Maschio cannot show that the Applicant clearly and unmistakably limited the scope of the term “singulator” during prosecution of the ’447 patent or its predecessors, the Court should reject Maschio’s attempt to import a limitation into the claim term.

c. Because “singulator” is unambiguous, the ’447 patent’s validity is not a proper claim-construction consideration.

Maschio’s final argument is that “singulator” must be construed as a “single unitary element” to preserve the validity of the ’447 patent’s claims. (See § I.V.2, *supra*.) “While [the Federal Circuit has] acknowledged the maxim that claims should be construed to preserve their validity, [it has] not applied that principle broadly, and [it has] certainly not endorsed a regime in which validity analysis is a regular component of claim construction.” *Phillips*, 415 F.3d at 1327. Construing a claim term to preserve validity is limited to cases in which “the court concludes, after applying all the available tools of claim construction, that the claim is still ambiguous.” *Liebel–Flarsheim*, 358 F.3d at 911. A court “cannot construe the claim differently from its plain meaning in order to preserve its validity,” *Elekta Instrument S.A. v. O.U.R. Sci. Int’l, Inc.*, 214 F.3d 1302, 1309 (Fed. Cir. 2000), and

may not add extraneous limitations to a claim to save it from invalidity, *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1434 (Fed. Cir. 1988).

Thus, even assuming for argument's sake that Maschio's perfunctory prior-art-based arguments establish that the '447 patent is necessarily invalid unless "singulator" is limited to a "single unitary element," adding such a limitation to preserve validity would be reversible error. Given the interchangeable use of "[seed] singulator" and "[seed] singulator assembly" in the claims and specification, and the claim-differentiation presumption created by the prosecution history, Maschio's proposal to construe "singulator" as a "single unitary element" is unambiguously wrong and should be rejected. The term's plain, ordinary meaning is apparent based on the disclosure of the '447 patent, and no limiting construction is necessary or appropriate.

D. Maschio Gaspardo S.p.A's Sur-reply Position

1. Intrinsic Evidence Supports that a "Singulator" is a "Single Unitary Element"

a. The "Singulator" and "Singulator Assembly" Are Not Interchangeable

Even when offered a second opportunity, Precision still did not provide an actual construction of the term "singulator", leaving Maschio and the Court in doubt as to what Precision believes the meaning of this term is. The closest Precision gets to a construction is its acknowledgement that "'singulation' means 'to accurately dispense one seed and one seed only at the proper timing,'" and that singulation is the function of a singulator. (Reply at 2.)

By arguing that the “singulator” is disclosed “interchangeably” in the specification with a “singulator assembly” (Reply at 3), Precision erases the ’447 patent’s distinction between a singulator with lobes that “**bump said seed** entrained onto each of said plurality of seed apertures **such that that only one seed remains** entrained on each of said plurality of seed apertures . . .” (’447 patent at claim 8)⁷ and the singulator assembly, which includes peripheral components that **never make contact with a seed**, such as a singulator base 902 (*id.* at 3:66-4:5), first wire 926, and second wire 932 (*id.* at 3:66-4:5, Fig. 7)⁸.

Precision also ignores the fact that the specification clearly and unmistakably articulates that the singulator and singulator assembly are in fact distinct from one another. The first full paragraph of column five of the ’447 patent expressly identifies **a singulator** as part of **the singulator assembly**. (’447 patent at 5:6-10 (“Thus, by providing **a singulator** with lobes that float and remain in contact with the seed plane . . . **the singulator assembly 900** is able to compensate for both radial translation and axial translation and radial rotation of the disk . . .”).)

The caselaw cited in Precision’s Reply does not provide an all-purpose license to construe similar sounding or related terms as “interchangeable” and therefore the same. To the extent that any of those cases has any bearing on the proper construction of claim language from other patents in different technological fields, they caution against the simplistic analysis that Precision engages in with respect to the ’447 patent. For example,

⁷ Claim 12, the other independent claim of the ’447 patent, includes similar language, reciting “. . . said lobes disposed to make contact with seed entrained on said plurality of apertures three times along said top side and two times along said bottom side . . .”

⁸ Unless otherwise noted, all emphasis in this Brief has been added.

in *Edwards*, the court concluded that a “graft” was necessarily an “intraluminal graft” where “the **only** devices described in the specification are intraluminal, supporting an interpretation that is consistent with that description.” *Edwards Lifesciences LLC v. Cook Inc.*, 582 F.3d 1322, 1329 (Fed. Cir. 2009). By contrast, nothing in the specification of the ’447 patent **categorically** states that a singulator is the same as a singulator assembly, making this case inapplicable to the ’447 claims.

Similarly, in *Microsoft Corp.*, this Court did not base its construction of the disputed term “entries” as “records” on the interchangeability of the two terms alone, instead finding that “[a]n even more persuasive reason to construe ‘entries’ as ‘records’ is **to maintain fidelity with the disclosed functions of the claimed invention.**” *Microsoft Corp. v. Geotag, Inc.*, C.A. 11-175-RGA, 2013 U.S. Dist. LEXIS 63497, at *27 (D. Del. May 3, 2013). Indeed, the opinion further emphasizes that “[i]t is thus apparent that the claimed invention **can only function** where its ‘entries’ have ‘fields.’” *Id.* at *29.

For “singulator,” Maschio’s proposed construction best reflects the undisputed function of a singulator, which is to dispense one seed at a time, while Precision’s conflation between “singlator” and “singulator assembly” encompasses additional components disclosed in the specification that are not involved in singulation. Moreover, as Maschio argued (Answering Br. at 3-4) and reiterates in Section I.A.1.b below, the singulator **can only function** as a single unitary element, a point that Precision has failed to persuasively rebut. Accordingly, under *Microsoft Corp.*, Maschio’s proposed

construction should be adopted as the one most faithful to the disclosed function of the '447 patent.⁹

b. Only a “Singulator Being a Single Unitary Element” Can Function In the Manner Taught By the '447 Patent

Without the distinction between a “singulator” and “singulator assembly,” Precision cannot provide a coherent account of how its purported invention functions. For example, Precision does not explain how a singulator that is “mountable to the back cover of a conventional vacuum meter housing” (Reply at 4 (quoting '447 patent at 3:63-64)) can at the same time “‘float’ with the seed plane **222, 522** and the shoulder **230, 530** of the disk **200, 500.**” ('447 patent at 4:58-60.) The specification teaches that the disk 200 is “rotatably mounted within” the housing 102. (*Id.* at 3:14-16.) Therefore, unless the entire housing floats with the disk, which is contrary to the teachings of the '447 patent, there is no way that a singulator mounted directly on the housing can also float with the disk.

As explained in Maschio’s Answering Brief, it is the presence of intermediate components, such as the first wire 926 and second wire 932, that make it possible for the singulator to float. (Answering Br. at 4.) Moreover, the first wire 926, second wire 932, and singulator base 902 are all part of the singulator assembly. (*Id.* at 3.)

⁹ Precision also relies on a footnote in *Nexxon*, where this Court “decline[d] to import a felt-like or mat-like limitation” into “elongated elements” where the terms “felt-like” or “mat-like” were used interchangeably. *Nexxon Ltd. v. EaglePicher Techs. LLC*, Civil Action No. 15-cv-955-RGA, 2018 U.S. Dist. LEXIS 69159, at *11 (D. Del. April 25, 2018). However, that case is distinguishable, as there “[t]he parties did not argue any material difference between felt-like and mat-like.” *Id.* at 14 n. 2. That is the opposite of the present case, where Maschio contends that there *is* a material difference between “singulator” and “singulator assembly.”

By collapsing all of these discrete components into one, Precision ignores the differences between the singulator assembly, which contains a singulator and its supporting components, and the singulator itself, which moves in “various degrees of freedom” while its lobes remain “co-planar.” Though Precision dismisses the apparent inoperability of a singulator that is not a single unitary element as “pure attorney argument” (Reply at 7), it fails to explain how, under Precision’s understanding of the term, singulator lobes remain co-planar while floating in multiple directions, as taught throughout the ’447 patent. See *AIA Eng’g Ltd. v. Magotteaux Int’l S/A*, 657 F.3d 1264, 1278 (Fed. Cir. 2011) (“A construction that renders the claimed invention inoperable should be viewed with extreme skepticism.”) (internal citation omitted).

Finally, Precision’s argument regarding Figures 8 and 9 is factually incorrect. While the specification describes these two drawings as showing the rail (’447 patent at 2:61-64), it is clear from the drawings themselves that they show **both** the rail 906 supporting lobes 908, 910, 912 **and** the two divergent arms 918, 920 supporting the bottom lobes 914 and 916. (*Compare id.* at 4:21-30 *with id.* at Figs. 8 and 9). Each of these components is identified by number in either Figure 8 or 9 or in both. Thus, there is no question that Figures 8 and 9 show the entire singulator as a single unitary element, not just the rail.

2. The '447 Patent File History Refers To a “Singulator” as a Single Unitary Element

a. Claim Differentiation Does Not Apply to the Cancelled Claims of the Original '009 Patent and Previous Reissues

Precision fails to identify a single case supporting the proposition that the doctrine of claim differentiation applies to the claims of a reissue patent based on claims present in the original patent. For that reason alone, the Court should ignore its specious assertion that the claims of the '447 patent must be differentiated from those of the '009 patent and subsequent reissues.

Despite obtaining no less than three reissue patents based on the '009 patent, Precision appears to consider that fact, as well as the specific requirements that govern this type of patent, meaningless to claim construction. While the claims of the '009 patent have been surrendered and are therefore inoperative for purposes of claim *differentiation*, they are part of the intrinsic record of the '447 patent and inform an artisan about the meaning that the Applicants intended to assign to certain terms. *See Artemi, Ltd. v. Safe-Strap Co.*, Civil No. 03-3382 (JEI/AMD), 2014 U.S. Dist. LEXIS 91468, at *6 (D.N.J. Decided July 3, 2014) (“More generally, to the extent that the language of the original patent forms part of the prosecution history of the reissued patent, it logically follows that the Court may consider it in construing the reissued patent.”). That is supported not only by the plain language of the 35 U.S.C. § 252, which dictates that the original patent is surrendered when the reissued patent issues, but also by the prosecution history and the '447 patent itself, which includes all of the bracketed claims of the '009 patent even though they were

cancelled. ('447 patent at 5:56-6:25.) Precision's cited caselaw does not address reissue patents and is inapplicable here.

b. The Prosecution History Supports that a Singulator is a Single Unitary Element

Recognizing that the file history of the '009 patent does not support its position, Precision attempts to deflect from this portion of the intrinsic record by dismissing the Applicants' statement as "an unartfully drafted sentence that was inexact and ambiguous about the portions of the intrinsic record it was (mis)quoting." (Reply at 10.) But there is nothing ambiguous about the cited portion of the prosecution history that cannot be attributed either to Precision's speculation as to what the "the Applicant may have erroneously believed" (*id.* at 10) or its confusing attempt to parse the various clauses of the sentence in question. (*id.* at 10). In responding to the Applicants' amendments, the Examiner made no mention of any ambiguity in the Applicants' remarks that accompanied them, which suggests that those remarks were not in fact ambiguous. (D.I. 42-2 at 393-94.)

Moreover, these points are ultimately unpersuasive because the quoted sentence only reaffirms what is obvious from multiple other pieces of evidence, including the claims of the '009 patent and the '447 specification—that a singulator is a single unitary element. While Precision argues that the '009 file history does not clearly and unmistakably disclaim alternative definitions (Reply at 10), Precision fails to identify *any* alternative meaning that would be compatible with this

disclosure. Precision's contention regarding what a singulator "is not" fails to provide a construction of what the term is.

This was confirmed during the subsequent prosecution of the '412 patent, the first reissue of the '009 patent. The Applicants' amended '412 claims teach that a "singulator" is equivalent to a "single unitary element," which further demonstrates that the term has the same meaning across the claims of the '447 patent. (*See* Answering Br. at 6-7.) Precision is incorrect to argue that the amendments to the claims of the '412 patent are limited to that patent and its individual claims. (Reply at 11.) As argued in Maschio's Answering Brief (at 10-14) and in Section I.A.2.a above, the file history of the '412 patent informs the meaning of singulator in the '447 patent.

3. Precision's Plain and Ordinary Meaning Would Result In the Invalidity of the Claims of the '447 Patent

After dismissing Maschio's validity argument as "perfunctory," (Reply at 12) Precision makes no attempt to address the substance of the arguments therein. While the issue of the '447 patent's validity is not before the court during this phase of the proceeding, it nevertheless bears on the proper construction of the term at issue. That is particularly true where the prior art at issue is already identified on the face of the '447 patent and the basic contours of the invalidity arguments are set forth within the file history of the '009 patent with respect to the very same claim element at issue here. By failing to respond to these points, Precision concedes that a singulator

under its proposed plain and ordinary meaning would be invalidated by Stufflebeam, Crabb, or a combination of the two.

Precision would understandably prefer to postpone this issue for another day, and argues that precedent dictates consideration of this issue should be limited to cases where a court finds that a claim is ambiguous after attempting to construe the term. (Reply at 11 (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 348 F.3d 898, 911 (Fed. Cir. 2004).) But here, neither party has alleged that “singulator” is an ambiguous term; rather, this particular dispute centers on whether Precision’s construction would result in the claim being invalidated when compared to prior art. Additionally, Precision’s reasoning that “a court ‘cannot construe the claim differently from its plain meaning in order to preserve its validity,’” (Reply at 11 (citing *Elektta Instrument S.A. v. O.U.R. Sci. Int’l, Inc.*, 214 F.3d 1302, 1309 (Fed. Cir. 2000))) makes no sense for the simple reason that Precision never proposes a plain and ordinary meaning, only saying what a singulator “**is not**.” Given that the validity of claims reciting “a singulator” was already disputed during prosecution of the ’009 patent, some consideration of the impact of the parties’ competing constructions on the validity of the ’447 claims is appropriate at this stage.

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