

**IN THE UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF IOWA
WESTERN DIVISION**

BRANDT INDUSTRIES, LTD., and
BRANDT AGRICULTURAL
PRODUCTS, LTD.,

Plaintiffs,

vs.

HARVEST INTERNATIONAL CORP.,

Defendant.

No. C15-4049-LTS

**MEMORANDUM OPINION AND
ORDER REGARDING
CONSTRUCTION OF DISPUTED
PATENT CLAIM TERMS**

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I. INTRODUCTION

This action is before me for submission to the parties of a ruling on patent claims construction after a Markman hearing.¹ Plaintiffs Brandt Industries, Ltd., and Brandt Agricultural Products, Ltd. (“Brandt”) hold a patent for “[a] belt guide apparatus for attachment to a belt conveyor [that] comprises top and bottom plates [with] [w]alls extend[ing] between the top and bottom plates [to] form a belt envelope that defines a belt opening” through which the endless belt of the conveyor moves, but “is substantially prevented from moving laterally or vertically.”² Brandt alleges that defendant Harvest International Corporation (“Harvest”) is a direct competitor that makes agricultural equipment, including the FC1545 Conveyor, that infringes Brandt’s United States Patent No. 8,061,511 (“‘511 Patent”), entitled “Conveyor Belt Guide,” issued on November 22, 2011. Brandt’s ‘511 Patent covers an apparatus to keep the belt of a grain conveyor on its track using plates. Harvest uses rollers to keep belts on the tracks of the grain conveyors it manufactures. Thus, and as I will explain further below, a hotly-contested issue of claims construction in this case is whether a “roller” can be characterized as a “plate.”

A. Procedural Background

Brandt filed its Complaint (Doc. No. 1) in the District of Minnesota on November 10, 2014. In **Count I**, Brandt alleges “direct patent infringement” of the ‘511 Patent pursuant to 35 U.S.C. § 271(a); in **Count II**, Brandt alleges “unfair competition,” in Harvest’s marketing of the Infringing Conveyor with a false or misleading designation of origin as a result of Harvest’s unauthorized use of Brandt’s Trade Dress, in violation of

¹ See *Markman v. Westview Instruments, Inc.*, 52 F.3d 967 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996).

² United States Patent No. 8,061,511 Abstract.

15 U.S.C. § 1125(a); in **Count IV**,³ Brandt alleges “trade dress infringement,” in violation of Minn. Stat. § 325D.44.

On February 9, 2015, Harvest filed its Answer, Affirmative Defenses, And Counterclaims (Doc. No. 14). In addition to denying Brandt’s claims, Harvest asserted affirmative defenses, including invalidity and unenforceability of the ‘511 Patent, and counterclaims for declaratory judgment, including declaratory judgment of non-infringement and invalidity of the ‘511 Patent. Brandt filed its Reply To Counterclaim (Doc. No. 28) on March 2, 2015, denying that Harvest is entitled to any of the declaratory judgments it seeks in its counterclaims. On February 23, 2015, Harvest filed a Motion To Transfer (Doc. No. 20), seeking transfer of this action to this district pursuant to 28 U.S.C. § 1404(a). After a hearing, United States District Judge Donovan W. Frank filed a Memorandum Opinion And Order (Doc. No. 43) on June 10, 2015, in which he granted Harvest’s motion and transferred this action to this court.

On June 25, 2015, I entered an Order For Pretrial Scheduling Conference In Patent Case (Doc. No. 46), in which I directed, *inter alia*, that the parties present a “technical tutorial on the background of the technology at issue in the case” at the scheduling conference before both Judge Mark W. Bennett and me.⁴ At the Scheduling Conference And Patent Tutorial on July 30, 2015, the parties presented their technical tutorials and the court and parties conferred on proposed deadlines. *See* Hearing Minutes (Doc. No. 53). I then directed the parties to submit an alternative Scheduling Order based on a shorter post-Markman hearing period for ruling on claim construction. *Id.* A Scheduling Order (Doc. No. 55) filed August 12, 2015, set various deadlines and scheduled a Markman hearing for March 18, 2016. A Trial Management Order (Doc. No. 56), filed September 4, 2015, set a jury trial in this case to begin on February 6, 2017.

³ There is no **Count III**.

⁴ That order was entered while I was a United States Magistrate Judge. This case was then assigned to me after I was appointed as a United States District Judge.

Pursuant to the Scheduling Order, the parties filed their Joint Claim Construction Statement (“Joint Construction”) (Doc. No. 62) on November 13, 2015. The parties then filed their Opening Claim Construction Briefs (Doc. Nos. 63 and 64) on December 11, 2015. On January 15, 2016, the parties filed their Rebuttal Briefs On Claim Construction (Doc. Nos. 66 and 67). I then provided the parties with a *Tentative Draft Memorandum Opinion And Order Regarding Construction Of Disputed Patent Claim Terms* (“Tentative Markman Opinion”) on March 15, 2016. I conducted the Markman hearing on March 18, 2016. Brandt was represented by Ann Schoen and Scott Flaherty, and Harvest was represented by R. Scott Johnson, Christine Lebron-Dykeman, and Jonathan Kennedy. Counsel for both sides were extremely well-prepared and presented their respective arguments in a well-organized and helpful manner.

B. Factual Background

Grain conveyors, the machinery at issue in this case, move grain via a conveyor belt. The specific grain conveyors at issue in this case are portable machines that have an intake-trough at ground level, into which grain can be poured to be lifted and moved some distance to be discharged at their top ends. Photographs of a grain conveyor manufactured by Brandt are below:



Photographs in Brandt’s Opening Cl. Construction Br. 2.

1. The patent in suit

The ‘511 Patent covers an invention “in the field of belt conveyors and in particular an apparatus for properly tracking the conveyor belt with respect to conveyor rollers.”

‘511 Patent Section 1. The Abstract of the ‘511 Patent describes:

A belt guide apparatus for attachment to a belt conveyor comprises top and bottom plates. Walls extend between the top and bottom plates. The plates and walls form a belt envelope that defines a belt opening that substantially corresponds to a cross-section of the endless belt such that the endless belt can slide freely through the belt opening yet is substantially prevented from moving laterally or vertically. A front entrance of the belt envelope is configured to funnel the endless belt into the belt opening, and when attached to the belt conveyor the belt envelope is oriented such that the right and left walls are aligned with a desired path of the endless belt, and the endless belt passes through the belt opening.

'511 Patent, Abstract. Thus, to describe the patent simply, it is a method for keeping conveyor belts on track.

The patent generally describes two versions of the apparatus, illustrated by FIGs. 7 and 8, which can be mounted or attached to a belt conveyor in two ways, illustrated by FIGs. 1 and 9, which are included below. The '511 Patent uses the term "embodiment" to describe both (a) the difference in methods of attaching the belt guide to the belt conveyor and (b) the different versions of the belt guide apparatuses illustrated by FIGs. 7 and 8. '511 Patent Col. 2, ll. 29-35; Col. 2, ll. 50-57; Col. 3, ll. 37-40. For the sake of clarity, I will use the term "embodiment" to refer to the method of mounting or attaching the belt guide apparatus, which is the main distinction between Claims 1 and 10. I will use the term "version" of the belt guide apparatus to refer to the differences illustrated by FIGs. 7 and 8, that is, whether the top and bottom plates are each single pieces, or whether they are separated, which is the subject of the "connected" section of this Opinion, below. Claims 2-9 refer to portions of Claim 1, which pertains to the first embodiment, illustrated in FIG. 1, in which the belt guide apparatus is attached to the belt conveyor. Claims 11-18 refer to portions of Claim 10, which pertains to the second embodiment, illustrated by FIG. 9, in which the belt guide apparatus is mounted on the frame.

Illustration FIG. 1 shows the belt guide apparatus attached to the belt conveyor in two places, which are labeled as 10 and 10A. Illustration FIG. 2 shows a perspective

view of the belt guide apparatus, which would be located at 10 and 10A in FIG. 1. The Summary of the Invention of the '511 Patent details the first embodiment below the illustrations:

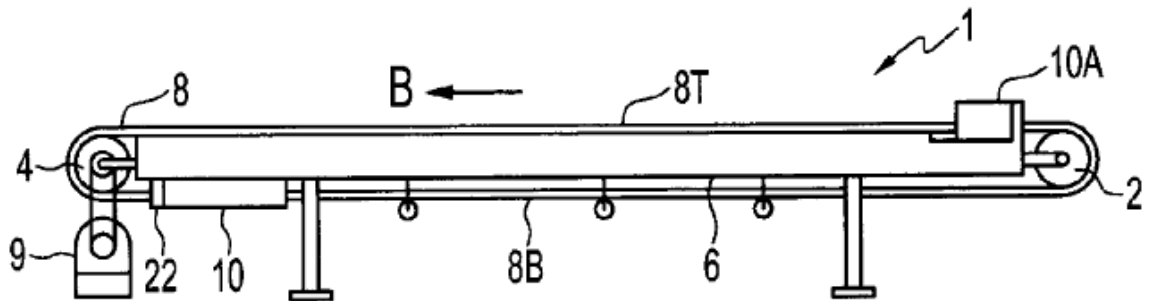


FIG. 1

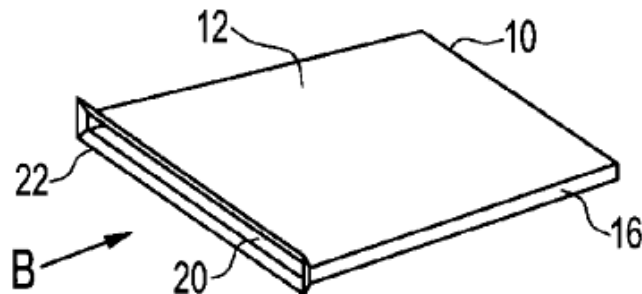
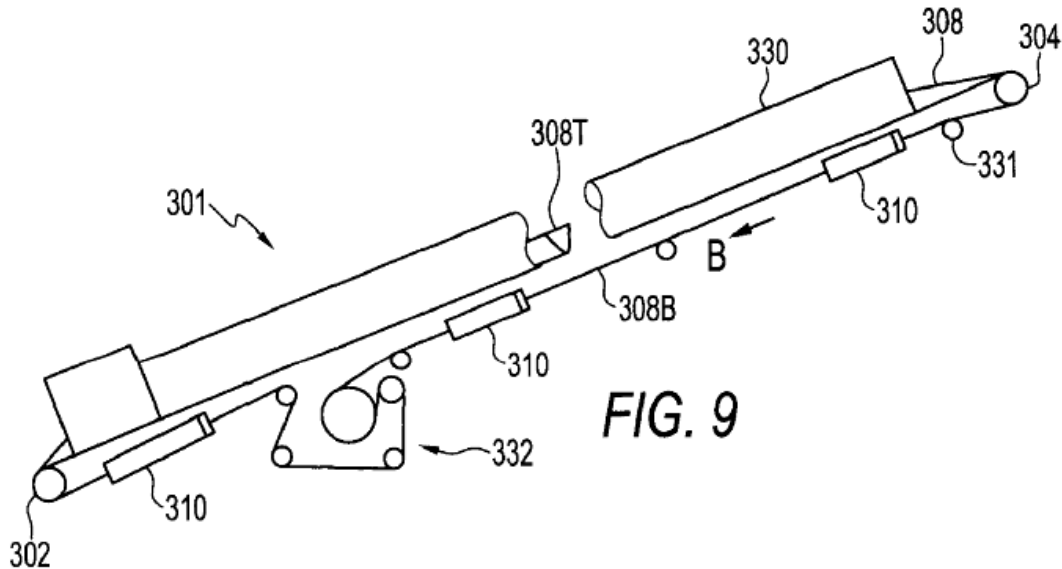


FIG. 2

It is an object [] to provide . . . a belt guide apparatus adapted for attachment to a belt conveyor comprising an endless belt with a conveying run and a return run. The apparatus comprises right and left top plates and right and left bottom plates. A right wall extends between the right top plate and the right bottom plate and a left wall extends between the left top plate and the left bottom plate. The right and left top plates, right and left bottom plates, and right and left walls form a belt envelope that defines a belt opening that substantially corresponds to a cross-section of the endless belt such that the endless belt can slide freely through the belt opening yet is substantially prevented from moving laterally or vertically. A front entrance of the belt envelope is configured to funnel the endless belt into the belt opening, and when attached to the belt conveying the belt envelope is oriented such the right and left walls are aligned with a desired path of the endless belt, and the endless belt passes through the belt opening.

'511 Patent Col. 2:32-49.

The second embodiment of the '511 Patent is best illustrated by FIG. 9. In the illustration below, the belt guide apparatus is mounted to the frame of a grain conveyor, and located in three places, labeled as 310. The Summary of the Invention of the '511 Patent details the second embodiment below the illustration:



a belt conveyor comprising front and rear end rollers mounted on a frame, and an endless belt mounted on the end rollers and driven such that a top conveying run of the endless belt moves from the front roller toward the rear roller along a top of the frame, and a bottom return run of the endless belt moves from the rear roller toward the front roller along a bottom of the frame. A belt guide comprises right and left top plates; right and left bottom plates; a right wall extending between the right top plate and the right bottom plate; and a left wall extending between the left top plate and the left bottom plate. The right and left top plates, right and left bottom plates, and right and left walls form a belt envelope that defines a belt opening that substantially corresponds to a size of a cross-section of the endless belt such that the endless belt can slide freely through the belt opening yet is substantially prevented from moving laterally or vertically. A front entrance of the belt envelope is configured to funnel the endless belt into the belt opening. At least one belt guide is mounted on the frame such the right and left walls are aligned with a desired path of the bottom return run of the endless belt, and such that the bottom return run of the endless belt passes through the belt opening.

'511 Patent Col. 2:32-49.

The difference between the versions is whether the belt guide apparatus has top plates and bottom plates, or a single top plate and a single bottom plate. A Description of the Drawings in the '511 Patent explains that FIG. 8 is "a schematic cross-sectional view of the belt guide of FIG. 1." The belt is fed through opening "20" in FIG. 2 and FIG. 8. A Description of the Drawings in the '511 Patent explains that FIG. 7 is "a schematic cross-sectional view of an alternative embodiment of the belt guide of the invention."

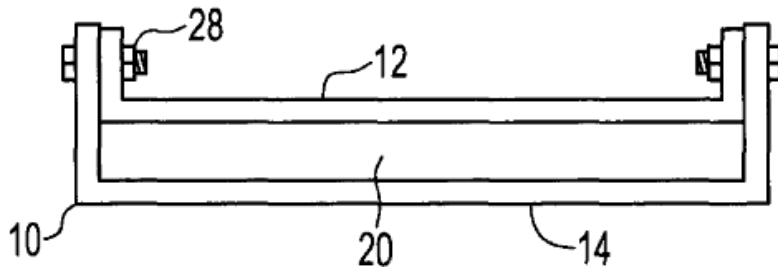


FIG. 8

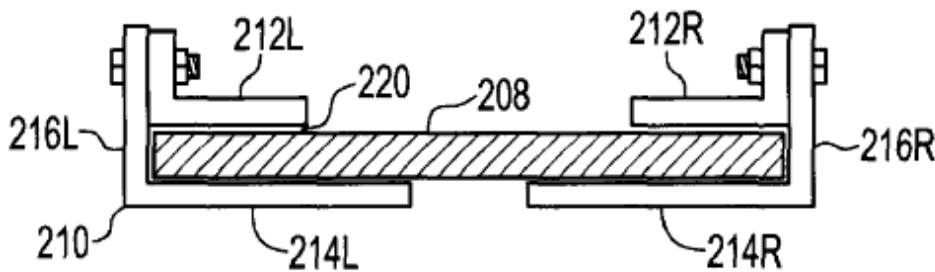


FIG. 7

2. *The claims at issue*

Brandt accuses Harvest of directly and indirectly infringing claims 1, 2, 3, 4, 8, 10, 11, 12, 16, and 17 of the '511 Patent. As noted above, Claims 1-9 cover one embodiment of the apparatus while Claims 10-18 cover the alternative embodiment of the apparatus.

Claim 1 states:

A belt guide apparatus adapted for attachment to a belt conveyor comprising an endless belt with a conveying run and a return run, the apparatus comprising:

- right and left top plates;

- right and left flat bottom plates oriented substantially parallel to the right and left flat top plates and oriented such that the right top and bottom plates are located in substantially the same plane, and such that the left top and bottom plates are located in substantially the same plane;

- a right wall extending between the right top plate and the right bottom plate; and

- a left wall extending between the left top plate and the left bottom plate;

- wherein the right and left top plates, right and left bottom plates, and right and left walls form a belt envelope that defines a belt opening that substantially corresponds to a cross-section of the endless belt such that the endless belt can slide freely through the belt opening;

- wherein a front entrance of the belt envelope is configured to funnel the return run of the endless belt into the belt opening in a flat orientation;

- wherein the belt envelope, when attached to the belt conveyor, is configured and oriented such that the belt opening is aligned with a desired flat path of the return run of the endless belt, and the walls are in proximity to edges of the return run of the endless belt to prevent the return run of the endless belt from moving laterally and the right and left top and bottom plates are in proximity to corresponding right and left upper and lower surfaces of the return run of the endless belt to prevent at least outer portions of the return run of the endless belt from moving vertically while passing through the belt opening, and

- wherein the conveying run is located above the top plates of the belt envelope.

Claim 2 states:

The apparatus of claim 1 wherein the right and left top plates are connected to form a top plate extending from the right wall to the left wall.

Claim 3 states:

The apparatus of claim 1 wherein the right and left bottom plates are connected to form a bottom plate extending from the right wall to the left wall.

Claim 4 states:

The apparatus of claim 1 wherein ends of a belt are connected by a belt lace to form the endless belt.

Claim 8 states:

The apparatus of claim 1 adapted for attachment to the belt conveyor adjacent to an end roller of the belt conveyor.

Claim 10 states:

A belt conveyor apparatus comprising:

- front and rear end rollers mounted on a frame, and an endless belt mounted on the end rollers and driven such that a top conveying run of the endless belt moves from the front roller toward the end roller along a top of the frame, and a bottom return run of the endless belt moves from the rear roller toward the front roller along a bottom of the frame;

- at least one belt guide comprising:

- right and left top flat plates;

- right and left flat bottom plates oriented substantially parallel to the right and left flat top plates and orientated such that the right top and bottom plates are located in substantially the same plane, and such that the left top and bottom plates are located in substantially the same plane;

- a right wall extending between the right top plate and the right bottom plate; and

- a left wall extending between the left top plate and the left bottom plate; and

- a left wall extending between the left top plate and the left bottom plate;

- wherein the right and left top plates, right and left bottom plates, and right and left walls form a belt envelope that defines a belt opening that substantially corresponds to a cross-section of the endless belt such that the endless belt can slide freely through the belt opening yet is substantially prevented from moving laterally or vertically; and

- wherein a front entrance of the belt envelope is configured to funnel the bottom return run of the endless belt into the belt opening;

- wherein the at least one belt guide is mounted on the frame such the right and left walls are aligned with a desired path of the bottom return run of the endless belt, and such that the bottom return run of the endless belt

passes through the belt opening, and such that the conveying run of the endless belt is located above the top plates of the belt guide.

Claim 11 states:

The belt conveyor of claim 10 wherein the right and left top plates are connected to form a substantially planar top plate extending from the right wall to the left wall.

Claim 12 states:

The apparatus of claim 10 wherein the right and left bottom plates are connected to form a substantially planar bottom plate extending from the right wall to the left wall.

Claim 16 states:

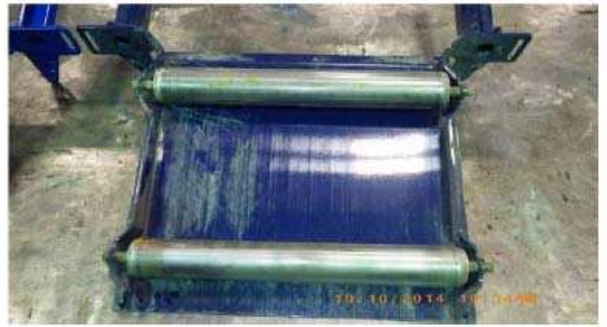
The apparatus of claim 10 comprising a belt guide mounted to the frame adjacent to the front end roller such that the bottom return run of the endless belt passes through the belt opening prior to passing over the front end roller.

Claim 17 states:

The apparatus of claim 10 comprising a belt guide mounted to the frame adjacent to the rear end roller such that the bottom return run of the endless belt passes through the belt opening after passing over the rear end roller.

3. *The allegedly-infringing apparatus*

The Harvest conveyor uses rollers at the entrance to the S-Drive mechanism, which powers the conveyor belt, as shown below:



Harvest's Opening Br. on Claim Construction Issues 5.



Brandt's Compl. Exh. F (Doc. No. 1-1).

4. *Undisputed and disputed claim terms*

Reviewing the undisputed and disputed claim terms will help clarify the claims of the patent that Brandt alleges that Harvest is infringing. In accordance with the August 12, 2015, Scheduling Order, the parties submitted a Joint Construction with their proposed construction of claims. The parties have ostensibly agreed on only two

undisputed claim terms, however, Harvest contests only the use of the term “substantially” in what I have labeled undisputed claim term numbers 3 and 5. As such, I have moved only the term “substantially” to the disputed term section, and the agreed upon construction of the remaining portions of those phrases are in the undisputed claim term numbers 3 and 5, with the word “substantially” omitted and the omission indicated with empty brackets.

Undisputed claim term number 4 was initially disputed, but Harvest no longer contends that this particular phrase is indefinite. Def.’s Reb. Br. 16. Additionally, the parties listed, “to prevent the return run of the endless belt from moving laterally” as a disputed phrase, however, I take the parties’ proposed constructions to be the same. In what is now labeled undisputed claim term number 6, Brandt proposed that “prevent” should be given its plain and ordinary meaning, whereas Harvest offered “keep” in lieu of prevent, which I take to have an identical meaning in this context.

UNDISPUTED CLAIM TERMS/PHRASES			
No.	Claim Term/Phrase	Relevant Claim(s)	Agreed Construction
1	“top”	1, 2, 10	“located above the conveyor belt”
2	“bottom”	1, 3, 10	“located below the conveyor belt”
3	“right and left flat bottom plates oriented [] parallel to the right and left flat top plates”	1, 10	“Each top plate on each side is [] parallel to each bottom plate on the same side.”
4	“a belt opening that substantially corresponds to a cross-section of the endless belt such that the endless belt can slide freely through the belt opening”	1, 10	This phrase has the plain and ordinary meaning of the words contained within it.
5	“[] prevented from moving laterally or vertically”	10	This phrase has the plain and ordinary meaning of the words contained within it.
6	“to prevent the return run of the endless belt from moving laterally”	1	To prevent the return run of the endless belt from moving side to side

The disputed claim terms are set out in the table below, with each parties' proposed construction side by side. These are the claim terms that were disputed prior to the Markman hearing. Several of the disputed claim terms have since been resolved by moving them to the undisputed section, or have been omitted entirely, in light of the parties' response to my Tentative Markman Opinion.

DISPUTED CLAIM TERMS/PHRASES				
No.	Claim Term/Phrase	Relevant Claim(s)	Brandt's Proposed Construction	Harvest's Proposed Construction
1	"right and left flat top plates;	1, 10	<p>"Plate" means one or more plate, bar, roller, or slide that spans at least a portion of the belt guide apparatus.</p> <p>"Flat" means having a substantially horizontal surface without a flanged edge.</p>	<p>"Plate" should have its plain and ordinary meanings, which is reflected in dictionary definitions as "a smooth flat thin piece of material" or "a forged, rolled, or cast metal in sheets usually thicker than 1/4 inch (6 millimeters)", which is planar and does not include a bar or roller.</p> <p>"Flat" should have its plain and ordinary meaning, which is reflected in dictionary definitions as "having a continuous horizontal surface"</p> <p>Further, Harvest contends "flat" and "plate" should be construed together, as "flat" is consistently used to modify "plate" in the claims and that a "flat plate" is a smooth thin piece of material which has a</p>

				continuous horizontal planar surface and does not include a bar or roller.
2	“end roller”	8, 10, 16, 17	A roller located near either end of the conveying run of the conveyor	A revolving cylinder over or on which something is moved at the end of the conveyor
3	“substantially”	1, 10	The term has its plain and ordinary meaning.	Harvest objects to the use of the word “substantially” as it is a term of degree, rendering the claim indefinite as there is no further definition or specificity offered in the ‘511 patent specification.
4	“oriented such that the right top and bottom plates are located in substantially the same plane, and such that the left and top and bottom plates are located in substantially the same plane”	1, 10	The right top and bottom plates and the left top and bottom plates each lie in the same planar area, and the planar area has a width, length, and thickness.	Harvest notes its standing objection to the term “substantially” as it is a term of degree. Without waiving that objection, “plane” is a two dimensional flat surface.
5	“belt envelope”	1, 10	“Belt envelope” means a space formed by the plates and the walls.	“Belt envelope” is a space corresponding to the outer dimensions of the belt as defined by the remainder of the claim.
6	“configured to funnel the return run of the endless belt into the belt opening in a flat orientation”	1, 10	Having angled, beveled, or rounded edges so as to guide the return run of the endless belt into the belt opening in a flat orientation	Harvest disputes only the inclusion of the word “beveled” in Brandt’s proposed construction.
7	“to prevent at least the outer portion of the	1	Plain and ordinary meaning wherein	To keep the top and bottom outer portions

	return run of the endless belt from moving vertically”		“vertically” means “up and down”	of the endless belt from moving up and down.
8	“connected”	2, 3, 4, 11, 12	Plain and ordinary meaning	Joined together

II. LEGAL ANALYSIS

A. Standards for Patent Claim Construction

The Supreme Court has mandated that the interpretation and construction of patent claims is a matter of law solely for the court. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 390 (1996). “It is the claims that define the metes and bounds of the patentee’s invention.” *Thorner v. Sony Computer Entertainment America, L.L.C.*, 669 F.3d 1362, 1367 (Fed. Cir. 2012) (citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc)). Claim interpretation proceeds under the guidelines set forth in *Markman*. The Court of Appeals for the Federal Circuit restated the familiar principles of claim interpretation:

To ascertain the meaning of claims, we consider three sources: the claims, the specification, and the prosecution history. Expert testimony, including evidence of how those skilled in the art would interpret the claims, may also be used. In construing the claims in this case, all these sources, as well as extrinsic evidence in the form of [] sales literature, were included in the record of the trial court proceedings.

Markman, 52 F.3d at 979 (citations and internal quotations omitted).

The place to begin any claim interpretation analysis is with the language of the claims. *See Renishaw P.L.C. v. Marposs Società Per Azioni*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). Claim terms are generally given their plain and ordinary meanings to one of skill in the art when read in the context of the specification and prosecution history. *See Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005). “There are only two exceptions to this general rule: 1) when a patentee sets out a definition and acts as his

own lexicographer, or 2) when the patentee disavows the full scope of the claim term either in the specification or during prosecution.” *Thorner v. Sony Computer Entm’t Am. L.L.C.*, 669 F.3d 1362, 1365 (Fed. Cir. 2012). The standards for finding lexicography and disavowal are exacting. *Hill-Rom Servs. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). “To act as its own lexicographer, a patentee must clearly set forth a definition of the disputed claim term other than its plain and ordinary meaning” and must “clearly express an intent to redefine the term.” *Thorner*, 669 F.3d at 1365. Disavowal requires that “the [intrinsic record] makes clear that the invention does not include a particular feature,” *SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc.*, 242 F.3d 1337, 1341 (Fed Cir. 2001).

1. The two-step patent infringement analysis

The two-step analysis to determine if a property right associated with a patent has been violated, *i.e.*, patent infringement, begins with the process of claim construction. *See Cook Biotech Inc. v. Acell, Inc.*, 460 F.3d 1365, 1372 (Fed. Cir. 2006). Claim construction is a question of law where the court interprets the words of the claim to determine their meaning and scope. *See Presidio Components, Inc. v. American Tech. Ceramics Corp.*, 702 F.3d 1351, 1358 (Fed. Cir. 2012) (citing *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1454 (Fed. Cir. 1998); *Markman*, 517 U.S. at 391. “When the parties present a fundamental dispute regarding the scope of a claim term, it is the court’s duty to resolve it.” *O2 Micro International, Ltd. v. Beyond Innovation Technology Co.*, 521 F.3d 1351, 1362 (Fed. Cir. 2008). “There are limits to the court’s duties at the patent claim construction state. For example, courts should not resolve questions that do not go to claim scope, but instead go to infringement, or improper attorney argument.” *Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, 2015 U.S. App. LEXIS 3612, *10 (Fed. Cir. Feb. 29, 2016) (citations omitted).

“Next, the jury compares the properly construed claims to the allegedly infringing device.” *Presidio Components*, 702 F.3d at 1358. Thus, my task is to “define[] the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction,” and then, “the task of determining whether the construed claim reads on the accused product is for the finder of fact.” *See generally Markman*, 517 U.S. 370.

2. *The claim construction process*

I begin this process, as *Phillips* instructs, with the principle that claims terms are generally given their ordinary and customary meaning. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (en banc). The ordinary meaning of a claim term is not “the meaning of the term in the abstract.” *Id.* at 1321. Instead, “the ‘ordinary meaning’ of a claim term is its meaning to the ordinary artisan after reading the entire patent. *Id.*; *see also Toro Co. v. White Consol. Indus., Inc.*, 199 F.3d 1295, 1299 (Fed. Cir. 1999) (“Determining the limits of patent claim required understanding its terms in the context which they were used by the inventor, considered by the examiner, and understood in the field of the invention.”); *Anderson v. Int’l Eng’g & Mfg., Inc.*, 160 F.3d 1345, 1348-49 (Fed. Cir. 1998) (“a word describing patented technology takes its definition from the context in which it was used by the inventor.”). “[T]he person of ordinary skill in the art is deemed to read the claim term not only in the context of the particular claim in which [it] appears, but in the context of the entire patent, including the specification.” *Phillips*, 415 F.3d at 1313. While claim terms are understood in light of the specification, a claim construction must not import limitations from the specification into the claims. *Id.* at 1323. The Federal Circuit has viewed intrinsic evidence as “the most significant source of the legally operative meaning of disputed claim language.” *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

When the meaning of a claim term is in doubt, the specification is the “single best guide to the meaning of a disputed term” and is typically dispositive on the issue of claim construction. *Id.* “It is a bedrock principle of patent law that the claims of a patent define the invention to which the patentee is entitled the right to exclude.” *Innova/Pure Water, Inc. v. Safari Water Filtration Systems, Inc.*, 381 F.3d 1111, 1115-16 (Fed. Cir. 2004). Because claim terms are construed based on the intrinsic evidence to the particular patent at issue, one court’s construction of a word in one patent is not conclusive, and may not even be probative, of that word’s meaning in another patent. *e. Digital Corp. v. Futurewei Tech., Inc.*, 772 F.3d 723, 727 (Fed. Cir. 2014). It is improper to rely on extrinsic evidence when any ambiguity in the claims can be resolved by reference to the intrinsic record alone. *Id.* at 1583.

Determining what is the “ordinary meaning . . . as understood by a person of skill in the art” is part of the process of claim construction. *Phillips*, 415 F.3d at 1314. In some cases, the ordinary meaning of claim language as understood by a person of skill in the art may be apparent to lay judges, and the claim construction may involve little more than the application of the widely accepted meaning of commonly understood words. *Brown v. 3M*, 264 F.3d 1349, 1352 (Fed. Cir. 2001). “A determination that a claim term ‘needs no construction’ or has the ‘plain and ordinary meaning’ may be inadequate when a term has more than one ‘ordinary’ meaning or when reliance on a term’s ‘ordinary’ meaning does not resolve the parties’ dispute.” *Id.* at 1361. This does not mean, however, that a court must attempt the impossible task of resolving all questions of meaning with absolute, unambiguous finality. *Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, ___ F.3d ___, 2016 WL 766661, at *3 (Fed. Cir. Feb. 29, 2016). “[A] sound claim construction need not always purge every shred of ambiguity.” *Id.* (quoting *Acumed LLC v. Stryker Corp.*, 483 F.3d 800, 806 (Fed. Cir. 2007)); *see also Vivid Techs., Inc. v. Am. Science & Eng’g, Inc.*, 200 F.3d 795, 803

(Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

“[T]he construction of claims is simply a way of elaborating the normally terse claim language: in order to understand and explain, but not to change, the scope of the claims.” *Scripps Clinic & Research Foundation v. Genetech, Inc.*, 927 F.2d 1565, 1580 (Fed. Cir. 1991). Courts have wide latitude in the type of sources that could be used in construing claim meaning. *Phillips*, 415 F.3d at 1324 (the court is not “barred from considering any particular sources or required to analyze sources in any specific sequence.”). The claims construction process is not confined to the intrinsic record alone, however extrinsic evidence may not be used “to contradict claim meaning that is unambiguous in light of the intrinsic evidence.” *Id.* Additionally, “extrinsic evidence is generally of less significance than the intrinsic record.” *Id.* at 1317. The *Phillips* court considered extrinsic evidence less reliable because (1) the evidence was not created at the time of prosecution to define the claim scope; (2) the publication may not reflect the understanding of a person skilled in the art; (3) the evidence is often generated for litigation; (4) there is a “virtually unbounded universe of potential extrinsic evidence” that could affect claim construction; and (5) there is a risk that the public notice function of patents would be undermined by changes to the meaning of claim terms based upon reliance on extrinsic evidence. *Id.* at 1318-19. Therefore, the intrinsic evidence as understood by one of ordinary skill in the art, rather than extrinsic evidence such as dictionaries, should provide the primary guidance in claim construction. In summary, both intrinsic and extrinsic evidence, although weighed differently, are used to determine the meaning and scope of a claim term.

a. The doctrine of “claim differentiation”

The doctrine of claim differentiation creates a presumption that distinct claims, particularly an independent claim and its dependent claim, have different scopes. *World Class Tech. Corp. v. Ormco Corp.*, 769 F.3d 1120, 1125 (Fed. Cir. 2014). “In the

most specific sense, claim differentiation refers to the presumption that an independent claim should not be construed as requiring a limitation added by a dependent claim.” *Enzo Biochem, Inc. v. Applera Corp.*, 780 F.3d 1149, 1156-57 (Fed. Cir. 2015) (quoting *Curtiss-Wright Flow Control Corp. v. Velan, Inc.*, 438 F.3d 1374, 1381 (Fed. Cir. 2006) (citing *Nazomi Commc’ns, Inc. v. Arm Holdings, PLC*, 403 F.3d 1364, 1370 (Fed. Cir. 2005))).

However, claim differentiation is merely a presumption. *CardSoft (assignment for the Benefit of Creditors), LLC v. VeriFone, Inc.*, 807 F.3d 1346, 1352 (Fed. Cir. 2015). “It is ‘a rule of thumb that does not trump the clear import of the specification.’” *Id.* (quoting *Eon-Net LP v. Flagstar Bancorp*, 653 F.3d 1314, 1323 (Fed. Cir. 2011); *see also Marine Polymer Techs., Inc. v. HemCon, Inc.*, 672 F.3d 1350, 1359 (Fed. Cir. 2012) (en banc) (“[C]laim differentiation is not a hard and fast rule and will be overcome by a contrary construction dictated by the written description or prosecution history.” (citation and quotation omitted.)). “There is presumed to be a difference in meaning and scope when different words or phrases are used in separate claims.” *Tandon Corp. v. U.S. Int’l Trade Comm’n*, 831 F.2d 1017, 1023 (Fed. Cir. 1987).

b. The relationship between construction and the “definiteness” requirement

The Federal Circuit has noted the definiteness problems that arise when “words of degree” such as “about,” “approximately,” and “substantially” are used in a claim. *Seattle Box Co. v. Indus. Crafting & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984).

Definiteness problems often arise when words of degree are used in a claim. That some claim language may not be precise, however does not automatically render a claim invalid. When a word of degree is used the district court must determine whether the patent’s specification provides some standard for measuring that degree.

Id. In order to be valid, a patent claim must “particularly point [] out and distinctly claim[] the subject matter which the applicant regards as his invention.” 35 U.S.C.

§ 112. The purpose of this definiteness requirement is “to ensure that the claims delineate the scope of the invention using language that adequately notifies the public of the patentee’s right to exclude.” *Datamize, L.L.C. v. Plumtree Software, Inc.*, 417 F.3d 1342, 1347 (Fed. Cir. 2005). The Supreme Court has recently clarified that the standard for indefiniteness is no longer a question of whether a claim term is “insolubly ambiguous.” *Nautilus, Inc. v. Biosig Instrs., Inc.*, 134 S. Ct. 2120, 2129 (2014). The Court stated that the definiteness requirement means “a patent’s claims, viewed in light of the specification and prosecution history, inform those skilled in the art about the scope of the invention, with reasonable certainty. [This] mandates clarity, while recognizing that absolute precision is unattainable.” *Id.* at 2129. “[T]he certainty which the law requires in patents is not greater than is reasonable, having regard to their subject-matter.” *Id.* (quoting *Minerals Separation, Ltd. v. Hyde*, 242 U.S. 261, 270 (1916)).

B. Undisputed Claim Terms

As to the six undisputed terms, the parties have agreed between themselves on the constructions of those terms. I have not found the parties’ agreed constructions to lack in support in the language of the claims, specifications, or prosecution history of the patents, which might give me reason to raise an issue *sua sponte*. Therefore, I adopt the six undisputed claim constructions as the final constructions of those terms, subject to the discussion below.

C. Disputed Claims

1. “Right and left flat top plates”

a. Proposed constructions

Brandt’s proposed construction of “‘flat’ means having a substantially horizontal surface without a flanged edge.” Joint Construction Exh. B. Brandt’s proposed

construction of “‘plate’ means one or more plate, bar, roller, or slide that spans at least a portion of the belt guide apparatus.” *Id.*

Harvest proposes that the term “‘flat’ should have its plain and ordinary meaning, which is reflected in dictionary definitions as ‘having a continuous horizontal surface.’” *Id.* Harvest proposes the term “‘plate’ should have its plain and ordinary meaning, which is reflected in dictionary definitions as ‘a smooth flat thin piece of material’ or ‘a forged, rolled, or cast metal in sheets usually thicker than 1/4 inch (6 millimeters)’”, which is planar and does not include a bar or roller.” *Id.* Further, Harvest contends “flat” and “plate” should be construed together, as “flat” is consistently used to modify “plate” in the claims and that a “flat plate” is a smooth thin piece of material which has a continuous horizontal planar surface and does not include a bar or roller.

b. Arguments of the parties

The parties’ arguments on the issue of claim construction are primarily directed at whether a “flat plate” can be construed to mean “roller.” As such, the terms “flat” and “plate” are addressed separately below. Additionally, the parties’ arguments regarding the term “end roller” are tied closely to the question of whether the term “flat plate” can be construed to mean “roller.” Therefore, I address all of these issues in my construction following “end roller” below.

At the Markman hearing, Brandt offered an alternative way to phrase the essential issue before the court at the claim construction phase: “whether the term ‘plate,’ as construed in light of the ‘511 Patent and all its intrinsic evidence, can literally cover a ‘roller.’” Realtime Transcript (“RT Tr.”) 006/06-006/08. Or, in other words, “whether the inventors invented a claimed plate that could encompass a roller.” *Id.* 006/09-006/11.

i. Flat

Brandt makes two major points to support its construction of the term “flat.” First, Brandt argues that, “flat” means “not curved,” which is made clear by prior art. Pl.’s

Op. Br. 9. Brandt argues that in the patent specification, the patentee criticized the prior art, such as U.S. Pat. No. 6,930,289 (“Hoggan Patent”), that taught the use of “flanged guide rollers.” App. B at Col. 2, ll. 15-18. With this criticism, the patentee disavowed coverage of any “flat” surface that included an extended flanged edge. Brandt argues that the prosecution history confirms its proposed construction and that the ‘511 Patent claims were amended to add the limitation “flat” to distinguish the claims from a prior art patent, U.S. Pat. No. 6,491,156, which had two curved surfaces. Brandt contends that the patentee explained why the amended claims, with the added “flat” limitation, were patentably distinct over prior art: flat plates prevent lateral and vertical movement, which prior art could not do. Non-Final Rejection, dated Dec. 27, 2010, Pl.’s Op. Br. Exh. K; Amendment and Response, dated Jan. 5, 2011, 7-8, Pl.’s Op. Br. Exh. L. Brandt notes, however, that its definition of “flat” as “not curved” does not require a perfectly horizontal surface across the entire width of the plate. For example, small perturbations are permitted across the surface, so long as they are not so significant as to create a “flange.” Brandt argues that the ‘511 Patent was drafted so as to “replace individual disbursed flanged rollers.” RT Tr. 005/11-005/12.

Second, Brandt argues that there are similarities as to the flatness of both plates and rollers. Brandt argues that rollers are not inherently “round,” which is to say, not “not flat.” Pl.’s Reb. Br. 8. The axial⁵ orientation, along the length of a roller, is flat, just as Harvest’s definition of a “flat plate” is flat. Additionally, Brandt notes that the front edges of the belt envelope, in one embodiment, are rounded, which is to say, not flat. In other words, Brandt argues, a “plate” itself can have rounded edges, for example in the radial direction, as long as it is flat across its width, for example in the axial

⁵ To help clarify the geometric terminology that follows below, I note that, as an example of a roller, the surface of a rolling pin that is in contact with a kitchen counter, while the rolling pin is sitting at rest, is at contact along the axial direction. When a rolling pin is pushed forward, such that it rolls, it is moving along the radial direction.

direction. It argues that it is this flat axial dimension that actually comes into contact with the conveyor belt, which is the same surface of contact that a flat plate has along a conveyor. RT Tr. 023/25-024/12.

Harvest argues that the dictionary definition of “flat” supports its proposed construction. Def.’s Op. Br. 10. Harvest includes Webster’s definition of “flat” as “having a continuous horizontal surface.” Harvest further argues that Brandt’s argument that “flat” should be interpreted as “having a substantially horizontal surface without a flanged edge” attempts to turn the flat plate into a flat line. Harvest points out that Brandt is trying to assert a roller – a cylindrical body having a tangent that is a flat line – meets the definition of flat plate. Harvest argues this is not supported by the intrinsic record of the ‘511 Patent; as “flat” was added not to overcome a teaching of a flanged surface or roller, but rather to overcome a reference that had a curved top plate. That curved top plate still had a tangential surface that was “flat” under Brandt’s litigation definition, but not Brandt’s prosecution definition. Harvest argues that Brandt cannot have it both ways; if a plate is curved in any direction, it is not a “flat plate” as required by the claims. Def.’s Reb. Br. 13.

Brandt expressed some concern over use of the word “continuous” to define this claim term. RT Tr. 010/16-011/18. Brandt points to Figure 7 of the ‘511 Patent to show that, one version of the belt guide apparatus may have an aperture through the top and bottom portions (or, basically, a hole through the middle). *Id.* Brandt argues that using “continuous” to define “flat plate” would disallow this version. *See also* Brandt’s Claim Construction Presentation 15-17.

ii. Plate

Brandt supports its argument that a “plate” can be construed to include the term “roller” because the ‘511 Patent explains that “plates or rollers” were known to be interchangeable to support a conveyor. ‘511 Patent Col. 1, ll. 17-28. Further, Brandt argues the ‘511 Patent shows that a structure such as a roller is covered by the term

“plate” because it explained that the “plates” could have “rounded edges.” *Id.* Col. 5, ll. 52-56.

Brandt points to Column 4, lines 41-45 of the ‘511 Patent to show that the patentee acted as his own lexicographer, providing the definition of the term “plates:”

while the belt guide [] of the invention can be made in varying lengths, from a short length such that the top and bottom plates [] are like bars, to a length in the order of a multiple width of the endless belt [] as illustrated in FIGs. 2 and 6.

Id. (illustration reference numerals omitted). Brandt argues this means that the length of the plate can vary, such that it can be a short “bar.” Thus, Brandt argues, a plate can be like a bar, and a bar can be a roller, whether it rotates or not. Brandt argues that the clear intention of the ‘511 Patent is to cover rounded objects such as bars and that rollers are merely a subset of bars, whether they are static or dynamic. RT Tr. 020/11-020/25.

Additionally, the ‘511 patentee identified a particular prior art reference in his patent specification. Brandt argues that the specification of the ‘511 Patent describes prior art patents teaching “that a static ‘slide’ can be interchanged with a ‘roller.’” Pl.’s Op. Br. 6-8; Pl.’s Reb. Br. 2-3. Brandt references Column 2, lines 6-14 of the ‘511 Patent, which discuss the Hoggan patent, to support this argument. However, Brandt notes the Hoggan patent is explicit that “the slide is not a roller but merely provides a smooth abutment surface to keep the belt laterally aligned.” Hoggan patent Col. 7, ll. 58-61 Exh. E to Brandt’s Brief. The Hoggan patent contemplates that the slide can be interchanged with a roller. Thus, Brandt argues that the figures from the Hoggan patent show that a person of ordinary skill in the art would have understood that a round roller was interchangeable with a “static slide.”

Harvest begins its argument that a “plate” cannot be construed to include roller by quoting the ‘511 Patent:

A problem with belt conveyors is that the belt must be tracked properly, meaning it must be maintained in alignment with the end rollers, idler rollers, and S-drive rollers. Such belts tend to move laterally along the

surface of the rollers toward one roller edge or the other where the belt edge will rub against support brackets and the like and be damaged.

‘511 Patent, Col. 1, ll. 41-46. The ‘511 Patent discusses a few prior art inventions that solved the tracking problem by using a variety of belt guides made with rollers. Harvest argues that the ‘511 Patent then notes problems with the prior art using rollers. Rollers “provide resistance to lateral belt movement only at discrete points along the belt edge.” ‘511 Patent Col. 2, ll. 15-17. Rollers are also “costly in both terms of initial cost and continued maintenance.” ‘511 Patent Col. 2, ll. 17-18. Harvest argues that the ‘511 Patent addressed this art for one reason: to distinguish rollers from the invention claimed, which replaces rollers with flat plates. Harvest argues that, at least until this litigation, the ‘511 Patent’s invention was replacing rollers with plates. Harvest asserts that every claim of the ‘511 Patent requires flat plates, not rollers. Def.’s Op. Br. 3-4. For example, the background section of the ‘511 Patent identifies several problems if rollers were used:

“[B]elts tend to move laterally along the surface of rollers toward one roller edge or the other where the belt will rub against support brackets and the like and be damaged.” ‘511 patent, Col. 1, ll. 44-46; “Flanged guiding rollers used to maintain tracking provide resistance to lateral belt movement only at discrete points along the belt edge” ‘511 patent Col. 2, ll. 15-17; “[Using] guide rollers is costly both in terms of initial cost and in continued maintenance.” ‘511 patent Col. 2, ll. 17-18.

Def.’s Reb. Br. 5-6. Harvest details how Brandt distinguished plates from prior art rollers in that plates did not require maintenance, such as cleaning or lubrication, in order to retain their dynamic motion. Def.’s Reb. Br. 6.

Harvest responds to Brandt’s plate-is-a-slide-is-a-roller argument by positing that the intrinsic record of the ‘511 Patent and the Hoggan patent show that while the items may be interchangeable, the terms are not. Def.’s Reb. Br. 5. According to Harvest, a dynamic roller is entirely different from a static plate, and a flanged edge on a plate or bar is not equivalent to a roller. Def.’s Reb. Br. 7. Additionally, Harvest asserts the

‘511 Patent shows that Brandt claimed to be solving the problems associated with rollers by using plates, ergo, Brandt’s patent cannot mean to include rollers. Def.’s Reb. Br. 6, 10.

Harvest argues that prior art and the prosecution history of the ‘511 Patent clearly show that flat was intended to mean not curved, which excludes a roller. Def.’s Op. Br. 9, 10, Def.’s Reb. Br. 12. Harvest notes that the prosecution history of the ‘511 Patent shows Brandt amended its claim to overcome prior art and required that these plates not be curved or rounded, but instead only “flat.” Harvest also argues that claims 1 and 10 of the ‘511 Patent require “right and left flat top plates” and “right and left flat bottom plates,” and that nowhere in the intrinsic record is it suggested that a flat plate can be a roller. Harvest supports this argument by pointing to the use of the terms “plate” and “roller” separately citing, for example, claim 10. It argues that because both flat plates and rollers appear as separate items with separate meanings in the context of the ‘511 Patent, the claims should be construed to have different meanings – the construction of “flat plate” does not include a “roller.” Brandt responds to Harvest’s argument of claim differentiation in the “end roller” section, below.

Harvest includes Webster’s definition of plate as “a smooth flat thin piece of material” or as “forged, rolled or cast metal in sheets usually thicker than 1/4 inch (6 millimeters)”. Harvest argues that Brandt cannot define “plate” as a plate plus several other meanings, as this is expansionary and not consistent with the intrinsic record. Def.’s Reb. Br. 9. Additionally, Harvest argues that Brandt chose not to specifically define this term. Def.’s Reb. Br. 8.

At the Markman hearing, Brandt argued that as a general rule of claim construction, permissible embodiments of a patent should not be read out, or construed in such a way as to be excluded. Brandt further argued that the ‘511 Patent did not describe a “flat plate” as being limited in its thickness. Brandt noted that the ‘511 Patent does not discuss the width or thickness, and includes the term “bars.” Brandt argued

that including the modifying word “thin” would read out “bars” or “rounded bars.” RT Tr. 007/24-009/13. Brandt argued that there is nothing in the ‘511 specification reading out a block from being included within the meaning of the term “flat plate.” RT Tr. 009/05-009/06. According to Brandt, the only practical constraint on the thickness of the plate would be that, a plate would not be so thick as to be wasteful, or wasted material. *Id.*

2. “End roller”

The parties’ arguments for the construction of the term “end roller” are more easily understood as extensions of their arguments to compare a “plate” with a “roller.” If an “end roller” acts to define the term “roller,” and if the ‘511 Patent uses the term “roller” in a separate and distinct fashion from the term “plate,” the effect is to give these terms different meanings.

a. Proposed constructions

Brandt: “A roller located near either end of the conveying run of the conveyor.”

Harvest: “A revolving cylinder over or on which something is moved at the end of the conveyor.”

At the Markman hearing, both parties agreed with my tentative claim construction of “end roller.” RT Tr. 027/16, 044/20. Nonetheless, I will discuss the parties’ arguments because they are closely tied to their arguments as to “flat” and “plate.”⁶

b. Arguments of the parties

Brandt argues that the definition of this claim term is provided by the patent specification itself. The end rollers are identified by reference to numerals 2 and 4 in

⁶ I have kept the claim term “end roller” listed as disputed, even though the parties have conceded that it is not, to avoid recharacterizing arguments briefed by the parties, which are instructive to the terms “flat,” “plate” and “roller.”

FIG. 1 of the '511 Patent. Additionally, these terms are identified by reference numerals 304 and 302 in FIG. 10 of the '511 Patent. Brandt argues that in light of the clear meaning in the intrinsic record, it is not appropriate to use extrinsic evidence in an attempt to change that meaning. Brandt also argues that the term "end roller" encompasses the terms "front roller" and "rear roller" as they are depicted in the '511 Patent, as rollers located near either end of the conveying run of the conveyor. Brandt is insistent that the term at issue, here, is not "roller," but is "end roller." Thus, the terms that appropriately contrast against each other are "plate" and "end roller." Pl.'s Reb. Br. 3. Brandt argues that in the context of a '511 Patent, a "plate" is a very different item than an "end roller," as they perform different functions in different portions of the claimed apparatus. However, Brandt urges that this does not mean a "plate" cannot be a "roller." Brandt argues that it has sufficiently distinguished "end roller" from the generic term "roller" and, as such, the term "roller" can fall within the definition of "plate" even though the term "end roller" cannot. To support this argument, Brandt notes that it would be illogical for a party to be precluded from using the common article "the" in more than one claim construction, on the basis that the term had been used to modify multiple claims. *Id.* at 4.

Harvest notes that the term "roller" is not defined in the '511 Patent. Harvest again relies on Webster's definition of "roller" as being "a revolving cylinder over which or on which something is moved or which is used to press, shape, spread, or smooth something." Harvest argues that only the first portion of this definition is applicable in the context of the '511 Patent, and that portion of the definition is consistent with the use of the term in the '511 Patent. Brandt responds by directing me to the entirety of the definition. Brandt argues (a) Harvest's definition shows that one purpose of a roller is to smooth, (b) the function of a plate in the '511 Patent is also to smooth and, therefore, (c) the term "plate" can properly be construed to include the term "roller." Pl.'s Reb.

Br. 9. Brandt argues that a “roller,” which is allegedly encompassed by the claimed “plate,” “smooths” the conveyor belt so that, for example, it does not fold over on itself.

c. The final construction

I agree with the parties as to the meaning of the modifiers “right and left” and “top.” The essence of the dispute about the construction of this claim, and ultimately Brandt’s infringement action, is in the term “flat plate.” Specifically, should its meaning be construed to include the term “roller.”

Brandt makes five main arguments to show that a plate can be a roller. First, Brandt points to prior art to show that flat should be construed to mean “not curved.” Second, it argues that within the context of the ‘511 Patent, a plate can be a bar and a bar is a roller. Third, it argues that prior art shows that a plate can be a slide, which can be a roller. Fourth, it argues that one dimension of a roller is flat, therefore, a flat plate is not precluded from encompassing the term “roller.” Fifth, Brandt seeks to distinguish an “end roller” as separate and distinct from a “roller” generally, such that by defining the terms “end roller” and “plate” in the ‘511 Patent, Brandt is not precluded from construing a plate as a form of roller.

Harvest’s selection of quotations from the ‘511 Patent’s background provides an illustrative starting point to the patentee’s perception of rollers in prior art: “[B]elts tend to move laterally along the surface of rollers toward one roller edge or the other where the belt will rub against support brackets and the like and be damaged.” ‘511 Patent, Col. 1, ll. 44-46. “Flanged guiding rollers used to maintain tracking provide resistance to lateral belt movement only at discrete points along the belt edge.” ‘511 Patent Col. 2, ll. 15-17. “[Using] guide rollers is costly both in terms of initial cost and in continued maintenance.” ‘511 Patent Col. 2, ll. 17-18. Thus, it is clear that the ‘511 Patent sought to distinguish its patented apparatus from prior art that relied on rollers, or plates with flanged edges. Leading into the summary of the invention, ‘511 Patent explains:

Prior art flanged guiding rollers used to maintain tracking provide resistance to lateral belt movement only at discrete points along the belt edge. Providing such guide rollers is costly both in terms of initial cost and continued maintenance. Further, the top conveying run of a bulk conveyor is often enclosed in a tube, such that guide rollers cannot be conveniently provided on that portion of the belt.

Rather than forcing the belt to track properly using guide rollers, U.S. Pat. No. 2,655,251 to Bankauf discloses conveyor rollers that skew in response to lateral belt movement in order to maintain the belt in the center of the rollers.

It is an object of the present invention to provide a belt guide apparatus for maintaining proper tracking in a belt conveyor that overcomes problems in the prior art. [] The apparatus comprises right and left top plates and right and left bottom plates.

'511 Patent Col. 2, ll. 15-37. Indeed, Brandt's first argument is that "flat" should be construed as "not curved" to avoid conflict with prior art. The '511 Patent highlights the problem of using a roller as a tracking mechanism: rollers require cleaning and lubrication. Rollers require this maintenance because they are dynamic, rather than static fixtures, as the '511 Patent's plate-based belt guide apparatus. Brandt argues that the '511 Patent is not really disclaiming the use of all rollers, just rollers that only touch the belt at discrete points. RT Tr. 012/07-015/20. It argues that this discrete-point-problem is evidenced by the '232, '289, and '666 patents. *Id.*

As for Brandt's analysis of prior art (a plate is a slide and a slide is a roller, therefore a plate is a roller), the Hoggan patent, which Brandt relies on to support this argument, states:

It is further contemplated that the roller [], shown in FIG. 6, may comprise a static slide [] as show in FIGS. 7A and 7B *in which the slide [] is not a roller* but merely provides a smooth abutment surface [] to keep the belt laterally aligned. Such a static slide [], may be in the shape of an elongate flat or curved plate [] having a polished or otherwise smooth surface [] against which the edge of the belt can ride.

Hoggan patent Col. 7, ll. 57-64 (emphasis added) (illustration reference numerals omitted). Brandt argues that because a slide can be replaced with a roller, this reference in prior art demonstrates that the terms are interchangeable. However, the plain language of the Hoggan patent shows that a slide is not a roller. Although the pieces may be interchangeable, the meaning of those pieces is not interchangeable. As to Brandt's argument that one dimension of a roller is flat, this does not mean that a plate can be construed to mean roller. Many items share characteristics: water and gasoline can both be described as wet, or as a liquid, but this does not mean that the terms "water" and "gasoline" are interchangeable. Similarly, because the purpose of a "plate" and "roller" in the context of a belt guide apparatus in grain conveyors may both include "smoothing," this does not mean that the terms are interchangeable in the context of patent claim construction.

As to Brandt's argument distinguishing the term "end roller" as something separate and distinct from a "roller," the relevant portion of Claim 10 states:

A belt conveyor apparatus comprising:

front and rear end rollers mounted on a frame, and an endless belt mounted on the end rollers and driven such that a top conveying run of the endless belt moves from the front roller toward the rear roller along a top of the frame, and a bottom return run of the endless belt moves from the rear roller toward the front roller along a bottom of the frame.

'511 Patent Col. 7, ll. 21-28. In the Detailed Description of the Illustrated Embodiments, the '511 Patent states, "[i]n the illustrated embodiment the endless belt [] is driven by a motor [] rotating the rear end roller[]." '511 Patent Col. 3, ll. 61-65 (illustration reference numerals omitted). Therefore, the '511 Patent makes clear that a roller is designed to rotate. That is, the end rollers are dynamic, not static, apparatuses.

Indeed, the relevant language of Claim 10 indicates that the endless belt is moved or conveyed atop the rollers, from the front roller toward the rear roller. The illustrations show that the rollers are cylindrical in shape. '511 Patent FIGs. 1, 9. The intrinsic

record of the '511 Patent shows that an end roller is a revolving cylinder over which the endless belt is moved. Therefore, I adopt the first portion of the proposed construction offered by Harvest, “a revolving cylinder over or on which something is moved. . .”

However, it is appropriate to adopt the second portion of Brandt’s proposed construction of the term, “located near either end of the conveying run of the conveyor” rather than Harvest’s “at the end of the conveyor,” because the specification makes clear that there are front and rear end rollers. ‘511 Patent, Col. 3, ll. 54-56, Col. 5, 49-51. Because the front end roller is located at one end of the conveyor, and the rear end roller located at the opposite end of the conveyor, end rollers are located at either end of the conveying run of the conveyor. Harvest’s proposed construction, placing the location of the end roller at “the end of the conveyor,” is more likely to be interpreted as, “the terminal end of the conveyor,” rather than, “at either end of the conveyor.” Therefore, I adopt “a revolving cylinder over or on which something is moved, located near either end of the conveying run of the conveyor” as my construction of the claim term “end roller.”

My rejection of the arguments in support of Brandt’s proposed construction for “flat plate” does not mean that I will adopt Harvest’s construction in its entirety. Harvest proposes that “flat” and “plate” should be construed together, and that “flat plate” should mean “a smooth thin piece of material which has a continuous horizontal planar surface and does not include a bar or roller.” Joint Construction Statement. Defining the term by what it does not include is not required to attribute its ordinary meaning to a person skilled in the art. As such, I omit the final clause of Harvest’s proposed claim construction. Additionally, in response to Brandt’s argument at the Markman hearing, the ‘511 Patent does not describe or limit the thickness of “flat plates.” The modifying word “thin” is not appropriate, as it would improperly exclude a thick flat plate. Of course, a plate’s thickness is necessarily limited in relation to its width and length dimensions, in order to continue to qualify as a “plate.”

Brandt also objects to the use of the word “continuous” in defining “flat plate,” on grounds that this would disallow the apertures or holes depicted in the version illustrated by Figure 7 of the ‘511 Patent. However, the language of the ‘511 Patent indicates, “[t]he belt guide [] comprises right and left top plates [], [] and right and left bottom plates . . .” ‘511 Patent Col. 5 ll. 5-7 (emphasis added) (illustration reference numerals omitted). Use of the word “continuous” to define “flat plate” does not read out the version envisioned by Figure 7 of the ‘511 Patent, because that version is composed of multiple plates. Although the top portion and bottom portion of the version formed by all these plates would not have a “continuous” surface, each of these flat plates, which make up those portions, would have a “continuous” horizontal planar surface.

Therefore, I adopt “a smooth piece of material which has a continuous horizontal planar surface” as my construction for the term “flat plate.”

3. *“Substantially” as a term of degree, the “definiteness” requirement and Harvest’s standing objection*

a. Proposed constructions

Brandt proposes that the term “substantially” has its plain and ordinary meaning as used in various claims.

Harvest objects to the use of the word “substantially” as it is a term of degree, rendering some claims indefinite as there is no further definition or specificity offered in the ‘511 Patent. Because the parties’ arguments directed at the “definiteness” of the term “substantially” are grouped in their briefs, I will address the arguments for several claims below.

b. Arguments of the parties

Brandt notes that there are several claims that include the word “substantially” about which the parties’ only disagreement centers on whether “substantially” is

indefinite. Brandt argues that as to the claim term “right and left flat bottom plates oriented substantially parallel to the right and left flat top plates,” the words of the claim provide “objective boundaries for those of skill in the art.” Brandt argues that the patent specification makes it clear that the claimed invention does not require perfect “parallelism” but rather “substantially” or “predominantly” parallel. Brandt argues that the language “substantially parallel” was added to distinguish the claims over cited prior art, that is, to require the top and bottom plates to be more parallel than the curved surfaces of the cited prior art ‘156 patent.

Harvest argues that a patent claim must “particularly point[] out and distinctly claim[] the subject matter which the applicant regards as his invention.” 35 U.S.C. § 112. Harvest points to a distinction between Claims 1 and 10 regarding their use of the word “substantial.” RT Tr. 044/08-044/15. While Claim 1 uses the phrase “to prevent,” Claim 10 states “to substantially prevent.” Harvest argues that there is a presumed difference in the scope of these claim terms. *Id.* Harvest further argues that if there is a presumed difference, then something that does not *substantially* prevent must *absolutely* prevent. *Id.* Harvest argues that there is no guidance in the ‘511 Patent specification to indicate “how close is too close” where the word “substantially” is used. Harvest Claim Construction Presentation 36. Harvest argues this undermines the public notice function of the patent. *Id.* Harvest relies on several pre-2014 cases that followed the standard for definiteness prior to the Supreme Court’s decision in *Nautilus, Inc. v. Biosig Instrs., Inc.*, 134 S. Ct. 2120 (2014), which reformulated that standard. Those cases are discussed below.

c. The final construction

The imprecise claim term at issue here, “substantially,” has been construed as a word of degree. *See, e.g., LNP Engineering Plastics, Inc. v. Miller Waste Mills, Inc.*, 275 F.3d 1347, 1359 (Fed. Cir. 2001) (considering the term “substantially completely wetted”); *Exxon Research & Eng’g Co. v. United States*, 265 F.3d 1371, 1377 (Fed. Cir.

2001) (considering the phrase “to increase substantially”). “When a word of degree is used the district court must determine whether the patent’s specification provides some standard for measuring that degree.” *Seattle Box Co. v. Indus. Crating & Packing, Inc.*, 731 F.2d 818, 826 (Fed. Cir. 1984). If the specification does not provide a standard for imposing a more precise construction of the term, the Federal Circuit has ruled that imposing a more precise construction would be error. *See Playtex Products, Inc. v. Proctor & Gamble Co.*, 400 F.3d 901, 907 (Fed. Cir. 2005); *Cordis Corp. v. Medtronic AVE, Inc.*, 339 F.3d 1352, 1360 (Fed. Cir. 2003).

However, other Federal Circuit cases have held that the term “substantially” does not require a strict numerical boundary. “We note that like the term ‘about,’ the term ‘substantially’ is a descriptive term commonly used in patent claims to ‘avoid a strict numerical boundary to the specified parameter.’” *Ecolab, Inc. v. Envirochem, Inc.*, 265 F.3d 1358, 1367 (Fed. Cir. 2001) (quoting *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211 (Fed. Cir. 1995)). “Expressions such as ‘substantially’ are used in patent documents when warranted by the nature of the invention, in order to accommodate the minor variations that may be appropriate to secure the invention.” *Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116, 1120 (Fed. Cir. 2002). “Thus, the law is clear that a court need not, and indeed may not, construe terms of degree to give them greater precision, absent a standard for imposing a more precise construction in specification.” *Apple, Inc. v. Samsung Elecs. Co.*, 932 F. Supp. 2d 1076, 1081 (N.D. Cal. 2013).

However, these cases were decided before the Supreme Court noted in 2014 that the formulations for definiteness “can breed lower court confusion, for they lack the precision § 112, ¶ 2 demands.” *Nautilus*, 134 S. Ct. at 2130 (noting “that such terminology can leave courts and the patent bar at sea without a reliable compass”). The Court stated that while it “does not ‘micromanag[e] the Federal Circuit’s particular word choice’ in applying patent-law doctrines, [the Court] must ensure that the Federal

Circuit's test is at least 'probative of the essential inquiry.'" *Id.* (quoting *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 40 (1997)).

Harvest relies heavily on *KLA-Tencor Corp. v. Xitronix Corp.*, No. A-08-CA-723-SS, 2011 WL 318123 (W.D. Tex. Jan. 31, 2011), to support its argument that the indefinite term "substantially" renders Brandt's claims using that term invalid. Additionally, Harvest cites *S.O.I. Tec. Silicon on Insulator Tech., S.A. v. MEMC Elec. Materials, Inc.*, 745 F. Supp. 2d 489 (D. Del. 2010). However, the use of the term "substantially" in those patents are distinguishable from Brandt's use in the '511 Patent.

In *KLA-Tencor*, "substantially" was used in the context, "substantially maximize the strength of the output signals corresponding to the modulated optical reflectivity response." 2011 WL 318123 at *3-5. In this context, "substantially" is clearly a term of degree, meaning signal strength is increased to some indefinite extent. The *KLA-Tencor* court noted that the claims provided no objective standard to determine the strength at which output signals would be infringing. In *S.O.I. Tec.*, "substantially" was used in the context, "conducting a subsequent thermal annealing of the semiconductor material substrate at sufficiently low temperature to substantially limit diffusion of gas from the semiconductor material substrate" 745 F. Supp. 2d at 505. The court noted that no mention of a specific time, temperature or gas was made in the claim. As in *KLA-Tencor*, there was no way to tell if the object of the patent was achieved.

The background of the '511 Patent notes: "During use [] conveyor belts have a tendency to wander laterally and frequent tracking adjustment is required in prior art belt conveyors." '511 Patent Col. 1 ll. 51-53. "A problem with belt conveyors is that the belt must be tracked properly . . . [because] belts tend to move laterally along the surface [] where the belt edge will rub against support brackets and the like and be damaged." *Id.* at ll. 41-46. The stated purpose of the '511 Patent is to allow "the endless belt [to] slide freely through the belt opening yet is substantially prevented from moving laterally or vertically. The parties agree that "moving laterally or vertically" means moving side

to side or up and down. Thus, while the word “substantially,” as used in various claims, is not defined with a specific numerical threshold, the definiteness is confined by the objectives of specific claims. For this reason, with regard to those claims to which Harvest has no objection other than the use of the word “substantially,” I adopt Brandt’s proposed construction.

4. *“Oriented such that the right top and bottom plates are located in substantially the same plane, and such that the left top and bottom plates are located in substantially the same plane”*

a. *Proposed constructions*

Brandt proposes this claim be construed as, “the right top and bottom plates and the left top and bottom plates each lie in the same planar area, and the planar area has a width, length, and thickness.”

Harvest contends that substantially is a term of degree, and as such, the claim is indefinite; and that “plane” is a two dimensional flat surface.

b. *Arguments of the parties*

Brandt concedes that in the pure mathematical sense, a plane is defined as a flat surface with only length and width. However, Brandt argues that the context of the claims in conjunction with the patent specification and prior art make it clear that the patentee did not intend “substantially the same plane” to create only a two-dimensional figure (which is an impossibility for any actual physical object). Brandt further contends it is clear that the right and left sides of the apparatus are being considered separately to determine whether, as a whole, each side unit lies in a planar area. In other words, the right top and bottom plates, together, and the left top and bottom plates, together, must each lie in a plane. Brandt explains that this language was used to distinguish the orientation of the plates, which do not lie in just any plane, but in the “same plane.”

Harvest, following its argument that the term “substantially” is too indefinite, ignores the term “substantially” as a modification to the term “the same plane.” Harvest argues that because the ‘511 Patent does not define the term “plane,” it is appropriate to look at the common meaning. Harvest states that “plane” is generally understood “to mean a two dimensional flat surface.” Def.’s Op. Br. 11. Because the word “substantially” is allegedly too indefinite, Harvest seeks to construe the claim term “plane” without modification to have its pure, mathematical meaning. Harvest then quotes another district court as follows: “The meaning of the term ‘plane’ can fairly be characterized as a flat, two-dimensional surface.” *Id.* (quoting *Freeman v. Gerber Prods. Co.*, 357 F. Supp. 2d 1290, 1299 (D. Kan. 2005)). Harvest contends that Brandt seeks to stretch the claim term “substantially the same plane” to mean “box.” Because “substantially” cannot be used to modify “plane,” and because a plane has no thickness, Harvest argues that Brandt’s construction of the term as “a rectangular cuboid” must fail. Def.’s Reb. Br. 18.

c. The final construction

The essence of the parties’ dispute over this claim term is in the words “located in substantially the same plane.” Harvest’s proposed construction attempts to hold Brandt to a geometric impossibility – first by arguing that “substantially” is too indefinite to modify “plane,” then by arguing that a plane is a two dimensional flat surface. Without considering theoretical physics, it is impossible for physical objects to have substance in only two dimensions. An item with two dimensions would not be considered an object in a three-dimensional reality by a person skilled in the art assigning a plain and ordinary meaning to the term “plane” in the context of the ‘511 Patent.

Brandt’s construction is confirmed by the patent specification. Figures 7 and 8, which illustrate Claims 11 and 12, each require that “right and left top plates are connected to form a substantially planar top plate” show that the apparatus has a width, length, and thickness. This illustration of a thickness dimension in Figures 7 and 8 show

that the '511 Patent does not contemplate that the apparatus exist in only two dimensions, that is, the dimensions of only length and thickness. Therefore, I adopt “in the same planar area, and the planar area has a width, length, and thickness” as my construction of the claim term “located in substantially the same plane.”

5. “*Belt envelope*”

a. *Proposed constructions*

Harvest’s proposed construction of this claim term is: “A space corresponding to the outer dimensions of the belt as defined by the remainder of the claim.” Brandt’s initial proposed construction was: “A space formed by the plates and the walls.” However, in response to my tentative claim construction, Brandt offered an amended claim construction: “wherein the right and left top plates, right and left bottom plates, and right and left walls form a belt envelope that defines a belt opening that substantially corresponds to a cross-section of the endless belt such that the endless belt can slide freely through the belt opening. . .” Brandt’s Claim Construction Presentation 72 (Doc. No. 70-1). This is a direct quote from the ‘511 Patent. ‘511 Patent Col. 6 ll. 43-47.

Harvest concedes that this is the unique case where a patentee actually defined the claim term in the specification and claims of the ‘511 Patent. RT Tr. 042/18-044/02. In response to Brandt’s amended construction, Harvest thus agrees that “belt envelope” is defined by the claims. *Id.*

b. *The final construction*

Brandt offers the exact text of the ‘511 Patent, which defines the claim term “belt envelope,” and Harvest likewise submits that the term should be construed by looking to the definition offered in the patent. As this claim term is now undisputed, and is defined by the text of the ‘511 Patent, I will not include “belt envelope” in the undisputed or disputed claim terms.

6. *“Configured to funnel the return run of the endless belt into the belt opening in a flat orientation”*

a. Proposed constructions

Brandt argues that this claim term should be construed as meaning “having angled, beveled, or rounded edges such as to guide the return run of the endless belt into the belt opening in a flat orientation.” Harvest disputes only the inclusion of the word “beveled” in Brandt’s proposed construction.

In response to my tentative claim construction, Brandt offers an amended claim construction of: “Having angled (by bending or grinding) or rounded edges so as to guide the return run of the endless belt into the belt opening in a flat orientation.” Brandt’s Claim Construction Presentation 78.

b. Arguments of the parties

Brandt initially argued that the meaning of this claim term includes a beveled configuration. To support this argument, Brandt noted that a funnel is a well-known household device with angled or beveled edges to guide items from a larger opening into a smaller opening. Brandt argued that this image is precisely what the claim term evokes, which is confirmed by the specification. Brandt argued that the ‘511 Patent describes and pictures two examples of the claimed funnel-shape: an edge that is bent upward, that is, angled or beveled, shown in FIGs. 2-4, 6, and a rounded edge, shown in FIG. 10. Brandt further argued that there is no limit on the amount of “bend” or “rounding” in the front entrance, so long as it suffices to funnel the return run of the endless belt into the belt opening in a flat orientation. Brandt noted that the specification indicates the edge can be formed by “grinding” or other means.

Harvest disputed the inclusion of the word “beveled” in Brandt’s construed meaning of this claim term. It argued that neither “bevel” nor “beveled” appear in the ‘511 Patent specification. Harvest argued that it was disingenuous for Brandt to argue that the figures display beveling when they clearly do not. Harvest contended that the

descriptions of these figures likewise lend no support to the use of the term “beveled.” Thus, Harvest argued that “configured to funnel the return run of the endless belt into the belt opening in a flat orientation” should be construed to mean “having angled or rounded edges such as to guide the return run of the endless belt into the belt opening in a flat orientation.”

Brandt has abandoned the use of the term “beveled” in its amended claim construction, but supplements its proposed construction with “(by bending or grinding)” from Column 4, lines 48-64 of the ‘511 Patent.

c. The final construction

The controversy over the word “beveled” appears to relate to the primary dispute in this case, which is whether the “plate” described by the ‘511 Patent can be construed as including the term “roller.” The word “bevel” does not appear in the intrinsic record of the ‘511 Patent’s history. The most detailed description of what is meant by “configured to funnel” is found in Column 4, lines 48-60 of the ‘511 Patent:

The front entrance [] of the belt envelope is configured to funnel the endless belt [] into the belt opening []. In the embodiment illustrated in FIGS. 2-4 and 6, the front entrance [] is formed by bending the top plate [] upward, the bottom plate [] downward, and the walls [] outward. FIG. 10 illustrates an alternative embodiment wherein edges of the top and bottom plates [] at the front entrance [] are rounded, either by welding a cylindrical rod along the edges, or by grinding or otherwise forming a rounded edge. Similarly the edges of the walls of [the] belt guide [] would be rounded.

Rounding or bending the edges of [the] front entrance [] to funnel the belt into the belt opening [] reduces wear on the edges of the endless belt [].

Id. (reference numerals used for identification on the illustrations omitted).⁷

⁷ This quotation uses “embodiment” to describe what is referred to as “version” throughout the opinion.

The parties' disagreement over the word "bevel" has been rendered moot by Brandt abandoning its argument to include that word in its proposed claim construction. Instead, Brandt proposes adding the parenthetical "(by bending or grinding)" after the word "angled." However, the '511 Patent makes clear that the "angled" embodiment of the description for "configured to funnel" is created by bending. '511 Patent FIGs. 2-6, Col. 4 ll. The '511 Patent is also clear that the "rounded edge" embodiment of the description for "configured to funnel" is created by "either [] welding a cylindrical rod along the edges, or by grinding or otherwise forming a rounded edge" '511 Patent FIG. 10, Col. 4 ll. 54-56. The parenthetical added in Brandt's amended claim construction seems to use both "bending" and "grinding" to modify only the angling of edges, and not the rounding of edges.

Therefore, I adopted, "having angled edges, by bending, or rounded edges, by grinding, so as to guide the return run of the endless belt into the belt opening in a flat orientation" as my construction of the term "configured to funnel the return run of the endless belt into the belt opening in a flat orientation."

7. *"To prevent at least the outer portion of the return run of the endless belt from moving vertically"*

To give this claim term context, the relevant section of Claim 1 is restated below:

. . . the belt envelope, when attached to the belt conveyor, is configured and oriented such that the belt opening is aligned with a desired flat path of the return run of the endless belt, and the walls are in proximity to the edges of the return run of the endless belt to prevent the return run of the endless belt from moving laterally and the right and left top and bottom plates are in proximity to corresponding right and left upper and lower surfaces of the return run of the endless belt *to prevent at least outer portions of the return run of the endless belt from moving vertically* while passing through the belt opening. . .

'511 Patent Col. 6, ll. 51-61 (Claim 1) (emphasis added).

a. *Proposed constructions*

The parties both agree that “vertically” means “up and down.” Additionally, the parties agree on the construction of the rest of the claim term except for the word “prevent.” Harvest contends that “prevent” means “keep,” where Brandt maintains that “prevent” should be construed according to the term’s plain and ordinary meaning.

b. *Arguments of the parties*

Brandt contends the patent claims contemplate that the belt envelope, and particularly the “plates,” may have openings, but this does not inhibit the “preventing” of the vertical movement contemplated by the claims: “While the central portion of the endless belt [] is not vertically restricted, it is contemplated that by restricting vertical movement of the outer portions of the endless belt [], the belt will be maintained in the desired location.” ‘511 Patent Col. 5, ll. 20-24. As a result, Brandt argues, this claim term should be given its plain and ordinary meaning.

Harvest argues that in the context of the claims “prevent” means “to keep” such that the belt is kept from moving side to side or up and down in the belt envelope. Harvest states it proposed to Brandt that the plain and ordinary meaning of “prevent” was “keep,” but Brandt disagreed. Harvest suggests Brandt may be concerned that the term “prevent” is an absolute, which Harvest argues that Brandt attempts to temper with use of the term “substantially” in claim 10. Harvest argues that because it is unclear how much movement up and down or side to side is within the scope of the claims, the claim is ambiguous.

Brandt responds that the word “prevent” is perfectly understandable in the context of the ‘511 Patent and needs no further construction. Additionally, Brandt argues that the ‘511 Patent language makes it clear that the word “prevent” does not require “absolutely” no movement of the belt. Brandt contends that such a narrow construction would render the device inoperable in the real world, where belts have laces and need enough room to move freely. Brandt argues that the claim language requires the walls

and plates be arranged such that they substantially correspond to the belt cross-section, but that the belt be able to slide freely through the opening. Although the claim requires some minor “play” to permit the belt to slide through the opening, this amount of “play” is sufficiently delimited. The “play” must be enough to allow the belt to slide freely, but not so much that the belt edges would curl upward and climb the guide rollers, allowing the belt to move out of alignment and causing damage to the belt, which the ‘511 Patent describes as the problems with prior art. Brandt argues that a person of ordinary skill in the art would know of such practical needs and would understand what was necessary to “prevent” movement, both laterally and vertically.

c. The final construction

Brandt has not acted as its own lexicographer or disavowed the full scope of the word “prevent” in either the specification or during prosecution. As such, the term “prevent” must be given its plain and ordinary meaning. Harvest argues that the term “substantially,” which Harvest concedes that Brandt uses to temper “prevent,” is too indefinite and that the term “prevent” should be construed to allow absolutely no movement. Thus, Harvest seeks to remove the word “substantially” as a modifier of the word “prevent” and argues that the remaining meaning should be construed to render the entire object of the patent inoperable. That is, Harvest argues that the claim term should be construed to disallow all movement of the conveyor belt.

At the Markman hearing, both parties conceded that “keep” was included in the plain and ordinary meaning of the term “prevent,” and that my tentative claim construction of the term was agreeable. RT Tr. 031/07-031/19, 044/03-044/07. I find that “to prevent at least the outer portion of the return run of the endless belt from moving vertically” should be given its plain and ordinary meaning. It is clear from the context of the ‘511 Patent the object of this claim is to keep a conveyor belt on track and prevent damage to the belt. As both parties have agreed to my tentative construction, I have

moved the claim construction from the disputed portion to the undisputed portion of claim terms in this Order and Opinion.

8. “Connected”

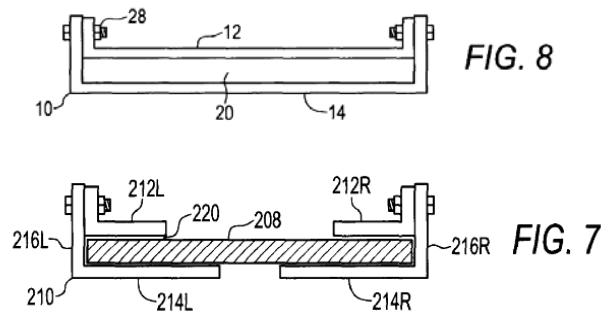
a. Proposed constructions

Brandt argues that the term “connected” should be given its plain and ordinary meaning.

In the Joint Claim Construction Statement, Harvest contended that “connected” should be construed to mean “joined together.” However, Harvest did not address its argument in either of its briefs.

b. Arguments of the parties

Harvest made no argument. Brandt argues that the term “connected” should be read in the context of the differences shown in FIG. 7 and FIG. 8 of the ‘511 Patent.



Brandt argues that FIG. 8 shows a left and right plate that are “connected,” while FIG. 7 shows plates that are not “connected.” The patent specification further explains:

In the belt guide 10 of FIGs. 2-4, and 6, as illustrated in cross section in FIG. 8, the plates 212R, 212L, 214R, 214L of FIG. 7 are simply connected to form a substantially planar top and bottom plates 12, 14 extending from the right wall to the left wall 16R, 16L.

‘511 Patent Col. 5 ll. 25-29. Thus, Brandt argues, claims 2, 3, 11, and 12, which each require that the claimed “plates” be “connected,” specifically claim the embodiment pictured in FIG. 8. Neither party addressed this claim term further at the Markman hearing.

c. The final construction

As noted above, the determination that a claim term “needs no construction” or has the “plain and ordinary meaning” may be inadequate when a term has more than one ordinary meaning or when reliance on a term’s ordinary meaning does not resolve the parties’ dispute. This does not mean, however, that a court must attempt the impossible task of resolving all questions of meaning with absolute, unambiguous finality. *Eon Corp. IP Holdings LLC v. Silver Spring Networks, Inc.*, 2015 U.S. App. LEXIS 3612, *9 (Fed. Cir. Feb. 29, 2016).

The term “connected” appears in Col. 1, ll. 14; Col. 5, ll. 27; and Claims 2, 3, 4, 11, and 12. In addition to the portion of the ‘511 Patent quoted above, the term is used in the sentence: “The ends of the belt are *connected* together by a belt lace or like device to form an endless belt mounted on end rollers at each end of the belt conveyor.” Col. 1, ll. 13-16. This term appears to have no more special meaning to a “person of ordinary skill in the art” than it would to a lay juror. When read in the context of the entire patent, construing the term to have the plain and ordinary meaning of “connected” or “joined together” would have no effect on the meaning, metes, or bounds of the claims in which the term is used.

Nothing in the intrinsic record suggests that this phrase has any special meaning to a person of ordinary skill in the art. *See Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014). I find that the plain and ordinary meaning of the term “connected” needs no construction. Additionally, assigning the term its plain and ordinary meaning in the table of undisputed claim terms merely draws undue attention to

the word, which does not affect the meaning of any of the claims in which the term is used. As such, I will not include “connected” in the table of undisputed claims.

III. CONCLUSION

Several claim terms, to which the parties agree have their plain and ordinary meanings, or that should be defined by the text describing the terms in the ‘511 Patent, have been omitted from the charts below. This is intentional, because the claims constructions below are, in a reformatted manner, what will be provided to the jury. I find that it would be needlessly confusing to instruct the jury to construe terms according to their plain and ordinary meaning, or by the exact language set forth in the ‘511 Patent. This would only indicate that the parties’ may have once had a disagreement over the term, which has been resolved. However, I have included the term “substantially” below, in recognition of Harvest’s vigorous objection to the term, to highlight that the term should be given special consideration. Based on the discussion above, I construe the “undisputed” and “disputed” claim terms at issue in this patent infringement action as shown in the following charts:

UNDISPUTED CLAIM TERMS/PHRASES			
No.	Claim Term/Phrase	Relevant Claim(s)	Agreed Construction
1	“top”	1, 2, 10	“located above the conveyor belt”
2	“bottom”	1, 3, 10	“located below the conveyor belt”
3	“right and left flat bottom plates oriented [] parallel to the right and left flat top plates”	1, 10	“Each top plate on each side is [] parallel to each bottom plate on the same side.”
4	“to prevent the return run of the endless belt from moving laterally”	1	The term has its plain and ordinary meaning, wherein “vertically” means “side to side”
5	“to prevent at least the outer portion of the return run of the endless belt from moving vertically”	1	The term has its plain and ordinary meaning, wherein “vertically” means “up and down”

DISPUTED CLAIM TERMS/PHRASES			
No.	Claim Term/Phrase	Relevant Claim(s)	Final Construction
1	“flat [] plates”	1, 10	“A smooth piece of material which has a continuous horizontal planar surface”
2	“end roller”	8, 10, 16, 17	“A revolving cylinder over or on which something is moved at either end of the conveyor”
3	“substantially”	1, 10	The term has its plain and ordinary meaning
4	“located in substantially the same plane”	1, 10	“In the same planar area, and the planar area has a width, length, and thickness”
6	“configured to funnel the return run of the endless belt into the belt opening in a flat orientation”	1, 10	“Having angled edges, by bending, or rounded edges, by grinding, so as to guide the return run of the endless belt into the belt opening in a flat orientation”

IT IS SO ORDERED.

DATED this 13th day of April, 2016.

LEONARD T. STRAND
UNITED STATES DISTRICT JUDGE