In the United States Court of Federal Claims

No. 02-255 C

(Filed: June 4, 2004) (Originally Filed Under Seal: December 5, 2003)

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TRITEK TECHNOLOGIES, INC.,

*

Plaintiff,

:

THE UNITED STATES,

Patent; claim constructionMail-sorting device

Defendant,

k

and

v.

NORTHROP GRUMMAN CORP.,

*

Third-Party Defendant,

*

and

*

SIEMENS DEMATIC CORP.,

k

Third-Party Defendant.

*

OPINION & ORDER ON CLAIM CONSTRUCTION

Plaintiffs filed a complaint for patent infringement on April 2, 2002, alleging the use or manufacture of the invention described in United States Patent 5,398,922 (hereinafter "the '922 patent") by the United States Postal Service ("USPS"), which teaches an improvement in a feeder system for a mail sorter. The '922 patent issued March 21, 1995 and is assigned to Tritek. Jurisdiction is proper under 28 U.S.C. § 1498. Defendants noticed third party Defendants, Northrop Grumman Corporation and Siemens Dematic Corporation, who entered this lawsuit pursuant to the Rules of the U.S. Court of Federal Claims ("RCFC") 14(b) and (c).

Pursuant to Paragraphs 12 and 13 of the Court's Standard Special Procedures Order, filed in this case on August 13, 2002, this case is presently before the Court on the parties' briefs regarding claim construction. A claim construction hearing was conducted on June 10 and June

11, 2003, where the Court considered the parties' arguments with respect to both intrinsic and extrinsic evidence, including expert testimony. The Court also allowed the parties to file post-hearing briefs. Now the matter is ripe for decision. After fully considering the record in this case with regard to claim construction, the Court's interpretation of the disputed claim terms and phrases follows.

I. BACKGROUND

The '922 patent teaches a feeder system for a mail sorter. The feeder system rapidly sorts flat mail, which is generally larger than a standard letter. Examples of "flat" mail are unbound magazines, catalogues, folded newspapers, and the like. Transcript ("Tr.") at 22-23. The feeder system described in the '922 patent is made up of a feed conveyor station, a singulation station, and a delivery station. '922 Pat., col. 2, ll. 50-52. Mail travels on a conveyor belt in a vertical stack to the singulation station. The singulation station includes an initial hold means and transfer means. By operation of the initial hold means and transfer means, the singulation station works to separate each item of mail and transport it to the delivery station. The feeder system is made up of 22 claims. Terms and phrases contained in claims 1, 4, 5, 9, and 13 of the '922 patent are at issue. Claims 1, 4, and 13 are the only independent claims at issue.

First, however, the Court would like to acknowledge the parties' dispute over whether claim terms must be construed in their context or merely in isolation without regard to the surrounding language of the claim itself. Plaintiff contends "Defendants' efforts to define phrases as opposed to words are incorrect as a matter of law." Plaintiff's Brief in Support of Its Claim Construction Arguments at 16 (hereinafter "Pl.'s Br. Cl. Constr."). As a result, the Court had a difficult time parsing out Plaintiff's arguments with respect to individual claim terms and phrases because Plaintiff refused to interpret the claims terms in their context. For example, the phrase "vertically-mounted belt," discussed *infra*, was defined by Plaintiff in isolation whereby each word was treated individually without regard to the next. *See* Joint Claim Construction Statement at 3 (hereinafter "Jt. Cl. Constr. Statement"). This technique was unhelpful. Claims are written in clauses or phrases. In the English language a term's placement in a clause or phrase gives it meaning. Consistent with this principle, Defendants contend that the claim terms

Plaintiff offered the expert testimony of Dr. Edward Cohen, who has a Ph.D. in computer science from the State University of New York at Buffalo, and who attests that he has been involved with "the research, design, and implementation of a number of mail sorting machines." Expert Report of Dr. Edward Cohen ("Cohen Report") at 1. Defendants offered the expert testimony of Dr. Thomas F. Camus, who has, *inter alia*, a doctoral degree in electronics from the University of Paris, and who has been "involved in the design, development, delivery and installation of postal systems including automatic mail feeders and sorters." Expert Report of Dr. Thomas F. Camus ("Camus Report") at 1, 2.

References to the "Transcript" or "Tr." refer to the Transcript of the claim construction hearing held on June 10, 2003 and June 11, 2003.

must be interpreted in context and in light of the intrinsic record. Defendants' Responsive Brief on Claim Construction at 9-10 (hereinafter "Def. Br. Cl. Constr."). Defendants' argument finds support in binding precedent. For example, the United States Court of Appeals for the Federal Circuit has explained that "[p]roper claim construction . . . demands interpretation of the entire claim in context, not a single element in isolation." *Hockerson-Halberstadt, Inc. v. Converse Inc.*, 183 F.3d 1369, 1374 (Fed. Cir. 1999); *see also Brookhill-Wilk 1, LLC v. Intuitive Surgical, Inc.*, 334 F.3d 1294, 1299 (Fed. Cir. 2003) ("While certain terms may be at the center of the claim construction debate, the context of the surrounding words of the claim also must be considered in determining the ordinary and customary meaning of those terms."). In short, because many of Plaintiff's definitions were incomplete or noncontextual, much of the claim construction proceedings were spent evaluating Defendants' construction of the claim terms and phrases, followed by Plaintiff's response and/or objections to Defendants' construction.

Second, although the Court listened to both intrinsic and extrinsic evidence during the claim construction hearing, the Court notes that it did not rely on most of the extrinsic record, such as expert testimony, to define the disputed claim terms and phrases discussed herein. Rather, the Court has largely based its construction on the plain language of the claims, the specification and the prosecution history. *See Texas Digital Sys., Inc. v. Telegenix, Inc.* 308 F.3d 1193, 1201-02 (Fed. Cir. 2002); *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366-67 (Fed. Cir. 2002). With regard to expert testimony, however, the Court notes for the record that Plaintiff filed a *Motion in Limine* seeking to preclude Defendants from offering the expert testimony of Dr. Camus. Plaintiff argued that under RCFC Rule 26(a)(2), Dr. Camus's report did not provide adequate disclosure on, *inter alia*, the ordinary and customary meaning of any of the disputed claim terms. The Court denied that motion during the claim construction hearing. Tr. at 17. Because the essence of Plaintiff's argument went toward the weaknesses in Dr. Camus's analysis, which could be addressed by Plaintiff on cross-examination, and Plaintiff failed to articulate a basis for the report's exclusion, the Court denied Plaintiff's *Motion in Limine*. Tr. at 11, 17.

The Court now turns to the individual claim terms in dispute. By virtue of the claim construction hearing and subsequent post-hearing briefing, the parties have narrowed the number of claim terms in dispute. A discussion of the remaining disputed terms follows.

II. APPLICABLE LAW

Claim construction is a question of law. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448,

Plaintiff's position, in contrast, is clearly unsupported by existing case law. In support of its position, Plaintiff cites *Altiris, Inc. v. Symantec Corp.*, 318 F.3d 1363, 1372 (Fed. Cir. 2003). But in that case, the Federal Circuit considered individual words only when the phrase at issue did not have a common meaning in the field of technology. *Id.* ("[s]imply because a phrase as a whole lacks a common meaning does not compel a court to abandon its quest for a common meaning and disregard the established meanings of the individual words.").

1456 (Fed. Cir. 1998). The Federal Circuit has instructed that, "when construing a claim, a court should look first to the intrinsic evidence, i.e. the claims themselves, the written description portion of the specification, and the prosecution history." *Bell & Howell Document Mgmt. Prods. Co. v. Altek Sys.*, 132 F.3d 701, 706 (Fed. Cir. 1997). There is "a 'heavy presumption' that the words of a claim 'mean what they say' and have the ordinary meaning attributed to them by someone of ordinary skill in the art." *Texas Digital*, 308 F.3d at 1202 (citations omitted).

The first step in construing disputed claim language is to look at the plain meaning of the language itself. *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). The Court's interpretation must "accord with the words chosen by the patentee to stake out the boundary of the claimed property." *Renishaw PLC v. Marposs S.P.A.*, 158 F.3d 1243, 1248 (Fed. Cir. 1998). "[U]nless compelled to do otherwise, a court will give a claim term the full range of its ordinary meaning as understood by an artisan of ordinary skill." *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001). A court must be careful not to limit the invention claimed to the preferred embodiment. *See Texas Digital*, 308 F.3d at 1204. Nevertheless, the heavy presumption that words in a claim "mean what they say" may be rebutted in certain circumstances. For example, the Federal Circuit has instructed that a court may narrow a term's ordinary meaning in at least one of four circumstances:

First, the claim term will not receive its ordinary meaning if the patentee acted as his own lexicographer and clearly set forth a definition of the disputed claim term in either the specification or prosecution history Second, a claim term will not carry its ordinary meaning if the intrinsic evidence shows that the patentee distinguished that term from prior art on the basis of a particular embodiment, expressly disclaimed subject matter, or described a particular embodiment as important to the invention. Third, a claim term also will not have its ordinary meaning if the term "chosen by the patentee so deprive[s] the claim of clarity" as to require resort to the other intrinsic evidence for a definite meaning. Last, as a matter of statutory authority, a claim term will cover nothing more than the corresponding structure or step disclosed in the specification, as well as equivalents thereto, if the patentee phrased the claim in step- or means-plus-function format.

CCS Fitness, 288 F.3d at 1366-67 (internal citations omitted).

The Federal Circuit has counseled that "[i]n most situations, an analysis of the intrinsic evidence alone will resolve any ambiguity in a disputed claim term. In such circumstances, it is improper to rely on extrinsic evidence." *Vitronics*, 90 F.3d at 1583. The Court has already explained that the intrinsic record is limited to the plain language of the claims themselves, both asserted and nonasserted, the specification and prosecution history. *Id.* at 1582. Nevertheless, dictionaries, encyclopedias, and treatises may "always" be used to assist the Court in determining a claim term's "ordinary and customary meaning." *Texas Digital*, 308 F.3d at 1202. Thus, these materials are not prohibited extrinsic evidence. *Id.* In fact they are "unbiased reflections of

common understanding not influenced by expert testimony . . . and not inspired by litigation." *Id.* at 1203.

Nevertheless, "[b]ecause words often have multiple dictionary definitions, some having no relation to the claimed invention, the intrinsic record must always be consulted to identify which of the different possible dictionary meanings of the claim terms in issue is most consistent with the use of the words by the inventor." *Texas Digital*, 308 F.3d at 1203 (citing *Dow Chem. Co. v. Sumitomo Chem. Co.*, 257 F.3d 1364, 1372-73 (Fed. Cir. 2001)); *Multiform Desiccants v. Medzam, Ltd.*, 133 F.3d 1473, 1478 (Fed. Cir. 1998)). If a dictionary definition is clearly inconsistent with the intrinsic record it must be rejected.⁴ *Id.* at 1204.

"Only if there were still some ambiguity in the claim, after consideration of all available intrinsic evidence, should the trial court . . . resort[] to extrinsic evidence, such as expert testimony, in order to construe [the claim]." *Vitronics*, 90 F.3d at 1584. Notably, the Court may and should consult extrinsic evidence, such as expert testimony, on the background technology generally, a practice which has been adopted by this Court in its claim construction procedures to better understand the basic technology behind the invention. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1309 (Fed. Cir. 1999).

III. DISCUSSION

Plaintiff argues that the Court should use a standard dictionary when interpreting the plain meaning of the disputed claim terms that have no specialized meaning in the art. Pl.'s Br. Cl. Constr. at 13-14. Defendants argue that technical dictionaries are still the preferred source. Def.'s Br. Cl. Constr. at 10-11. Both parties are correct in part. The Federal Circuit has explained that if a claim term has a specialized meaning in the field of art, then the Court should consult a technical dictionary in order to understand that meaning. *Inverness Med. Switz. v.* Princeton Biomeditech Corp., 309 F.3d 1365, 1369 (Fed. Cir. 2002). If the term has no specialized meaning in the field of art, the Court may consult a standard English dictionary. *Id.* As Defendants point out, the Federal Circuit has favored a technical dictionary definition when there is a difference between the common and technical meanings of a claim term and the term is used "in a technical context to describe a component of a mechanical apparatus." The Federal Circuit has said in this instance that "a technical dictionary is therefore a better source to inform the meaning of the term to a skilled artisan " See Transclean Corp. v. Bridgewood Servs., Inc., 290 F.3d 1364, 1375 (Fed. Cir. 2002). Thus, in order to determine which definition is more appropriate in a particular circumstance, the Court must consider the term's usage in the context of the claims and then consult the source a skilled artisan would likely rely upon. Ultimately a combination of both technical and non-technical dictionaries may well inform the Court's construction.

The Court turns to the individual claim terms or phrases in dispute. As already stated, claims 1, 4, 5, 9, and 13 of the '922 patent are at issue. Claims 1, 4, and 13 are the only independent claims in dispute.

A. "Horizontal Upper Run"

Claim 1 provides, "A feeder system for a mail sorter comprising a feed conveyor station . . . such feed conveyor section [sic] including a feed conveyor belt having a *horizontal upper run* with a feed end and a downstream discharge end." *See* '922 Pat., col. 8, ll. 12-13, 18-20 (emphasis added). Claims 4 and 13 recite a "[a] feeder system for a mail sorter comprising a feed conveyor station . . . said feed conveyor station including a feed conveyor belt having a horizontal upper run with a feed end and a downstream discharge end" '922 Pat., col. 9, ll. 7-9; col. 10, ll. 61-63.

Defendants interpret the phrase in context, whereas Plaintiff defines each word in isolation. See Jt. Cl. Constr. Statement at 3. (Tritek defining "Horizontal - Placed, operating or acting chiefly in the direction of the horizon" and "Upper - On a level above another" and "Run -A track along which something can travel."). Defendants define "horizontal upper run" as "[t]he portion of the upper surface of the feed conveyor belt that is oriented such that its face is parallel to the plane of the horizon and that is bounded by a feed end and a downstream discharge end." *Id.* Nevertheless, the area of the feeder system called the "horizontal upper run" is largely undisputed. Both definitions offered by the parties reflect the ordinary meaning of "horizontal;" it is "parallel to the plane of the horizon; at right angles to a vertical line." Hammond Barnhart Dictionary of Science 295 (1986). And also the term "horizontal" means "placed operating chiefly along a plane parallel to the horizon," Webster's Third New International Dictionary Unabridged 1090 (1961 ed.); or "being in a plane perpendicular to the gravitation field . . . perpendicular to the plumb line, at a given point on the earth's surface." McGraw-Hill Dictionary of Scientific and Technical Terms 903 (4th ed. 1989). Furthermore, a "run" (using the broader definition) is a slope or track along or down which something can travel. Everyone agrees that the run cannot be longer than the belt. Tr. at 108-109, 118; see, e.g., '922 Pat., col. 8, ll. 19-20, col. 9, ll. 8-9, col. 10, ll. 62-63.

Because Defendants properly interpret "horizontal upper run" in context, *see Hockerson-Halberstadt*, 183 F.3d at 1374, *Brookhill-Wilk 1*, *LLC v. Intuitive Surgical, Inc.*, 334 F.3d at 1299, and Defendants' construction is based on the ordinary and customary meaning of the words, the Court adopts its construction of this term. The "horizontal upper run" is "[t]he portion of the upper surface of the feed conveyor belt that is oriented such that its face is parallel to the plane of the horizon and that is bounded by a feed end and a downstream discharge end." *See* Jt. Cl. Constr. Statement at 3.

B. "Downstream Discharge End"

As set forth *supra*, claims 1, 4 and 13 require that the feed conveyor belt include "a

horizontal run with . . . a downstream discharge end." See '922 Pat., col. 8, ll. 19-20; col. 9, ll. 8-9; col. 10, ll. 62-63 (emphasis added). The claims also require the claimed invention to include "an initial hold means located juxtaposed partially across said discharge end" and a "transfer means extending juxtaposed across a remainder of said discharge end." '922 Pat., col. 8, ll. 24-27; col. 9, 13-16; col. 10, ll. 67-col. 11, ll 1-3.

The parties agree that the terms "downstream discharge end," "downstream end" and "discharge end" are used interchangeably throughout the claims. *See* Defendants' Proposed Findings of Law Regarding Claim Construction at ¶ 53 (hereinafter "Def.'s Proposed Findings); Plaintiff's Response to Defendants' Proposed Findings of Law Regarding Claim Construction at ¶ 53 (hereinafter "Pl.'s Resp."). For example, claim 13 requires that a "switch" be "located at said downstream end for controlling the operation of said feed conveyor belt." '922 Pat., col. 11, ll. 11-12. The parties further agree on the definition of "downstream," meaning "[i]n or toward the latter stages of a process," and they agree on the definition of "discharge," meaning "[t]o unload or empty." Jt. Cl. Constr. Statement at 3.

The parties do not agree on the meaning of "end." Plaintiffs define "end" as "[a]n area near or approximate to an extremity." *Id.* Defendants define "end" as "[t]he outside or extreme edge or limit of a space, form or area; a boundary." *Id.* Applying its definition of "end" to the terms "downstream" and "discharge," Defendants construe "downstream discharge end" as "[t]he edge of the upper run of the feed conveyor belt that forms the furthest downstream boundary of the horizontal portion of the upper run along which the downstream-most item of mail is removed from the stack." *Id.* Defendants call this the "functional end" of the horizontal run. Def.'s Proposed Findings at ¶ 55.

Plaintiff again defined in isolation each word making up the phrase "downstream discharge end." Jt. Cl. Constr. Statement at 3. Nevertheless, during oral argument, Plaintiff provided a somewhat more precise definition of the "downstream discharge end." Plaintiff argued that the discharge end is an area at the end of the horizontal belt. Tr. at 98-99. During oral argument, Tritek conceded that this area comprising the "downstream discharge end" of the horizontal run could not extend beyond the physical edge of the horizontal belt. Tr. at 127:16-128:4. This appears to be the only logical conclusion. Tr. at 109:3-13. Plaintiff further stated that the "downstream discharge end" is an area where there is unloading and emptying, but not also the *removal of mail* by the singulation station. Tr. at 172-73: 11-24. Defendants' definition, in contrast, includes both unloading and emptying and the removal of mail by the singulation station.

After considering the parties arguments, the Court adopts Defendants' construction. The claims themselves provide some guidance as to where the "downstream discharge end" is located. The initial hold means and transfer means are both located juxtaposed across the discharge end. *See, e.g.,* '922 Pat. col. 8, ll. 24-28; col. 9, ll. 13-16; col. 10, ll. col. 10, ll. 67-col. 11, ll. 1-3. Both the initial hold means and transfer means are part of the singulation station. *See, e.g.,* '922 Pat. col. 8, ll. 23-27. The singulation station is where the mail is "unloaded" or

removed from the stack. *See, e.g.*, '922 Pat. col. 8, ll. 28-31. Claims 1 and 4 further provide that the first vacuum chamber of the initial hold means includes "a first vacuum chamber having continuously exposed holes" that are "disposed toward said discharge end for drawing an item of mail in contact with said first vacuum chamber." '922 Pat. col. 8, ll. 33-36; col. 9, ll. 20-24. The second vacuum also has "holes disposed toward said discharge end." '922 Pat. col. 8, ll. 36-38; col. 9, ll. 24-26.

There is a significant problem with Tritek's definition. If the "downstream discharge end" were located in some imprecise area at the end of the horizontal run beyond the initial hold means and transfer means, Tritek's construction (as Defendants point out) would not encompass the preferred embodiment. This is so because the holes would be disposed away, rather than toward the discharge end. The preferred embodiment depicts the holes of the first vacuum chamber 71 and second vacuum chamber 77 as disposed toward the discharge end. See '922 Pat. Figs. 3-4. The holes in the first vacuum chamber 71 and second vacuum chamber 77 face the stack of items of mail rather than the physical end of the horizontal belt. Thus, the discharge end is depicted before the extreme edge of the horizontal belt and is situated where the mail is removed from the stack. Id. Under Tritek's construction of "downstream discharge end," in contrast, the disclosed embodiment would not have a first or second vacuum chamber with holes "disposed toward said discharge end." Thus, the ordinary meaning of the word "end" is clearly contradicted by the depiction of the "downstream discharge end" in the specification. Although the Court may not read limitations from the preferred embodiment into the claims, the claims must cover the preferred embodiment. Vitronics, 90 F.3d at 1583 (rejecting a definition where the a preferred embodiment in the specification would not fall within the scope of the patent claim and holding "such an interpretation is rarely, if ever, correct and would require highly persuasive evidentiary support . . . "); Invitrogen Corp. v Biocrest Mfg., 327 F.3d 1364, 1369 (Fed. Cir. 2003) (citing Vitronics for this principle); Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc., 2003 WL21920278 (Fed. Cir. August 13, 2003) ("Moreover, it is axiomatic that a claim construction that excludes a preferred embodiment . . . 'is rarely, if ever correct and would require highly persuasive evidentiary support." (quoting Vitronics, 90 F.3d at 1583)). Plaintiff provides no persuasive argument against this point.

Moreover, Defendants' definition finds further support in the specification. For example, the specification states that the "paddle may move the *full distance downstream* and contact the singulation station" '922 Pat., col. 3, ll. 19-20 (emphasis added). Thus, the specification suggests that "downstream" is located at the singulation station, which supports Defendants' construction of the term "downstream discharge end." In addition, the only disclosed embodiment depicts the switch (microswitch 40) at the face of the first vacuum chamber of the initial hold means, *i.e.* at "the functional end" of the horizontal run, not beyond the singulation station. Nevertheless, the Court is careful not to read limitations from the specification into the claims. It is most persuaded that Tritek's definition of "downstream discharge end" is incorrect because it excludes the preferred embodiment. Because Defendants' construction is consistent with the preferred embodiment in the specification and plain language of the claims, it prevails.

C. "Stack Maintaining Mechanism"

1. "Stack Maintaining Mechanism" in claims 1, 4, 5 and 9

Claims 1 and 4 provide for "a stack maintaining mechanism disposed over said horizontal run for maintaining the items of mail on said horizontal run in a vertical side by side stack" '922 Pat., col. 8, ll. 21-24; col. 9, ll. 9-12. By virtue of their dependency, claims 5 and 9 include this limitation. Plaintiff has conceded and the parties now stipulate that "a stack maintaining mechanism" as it appears in claims 1, 4 (5 and 9) is a means-plus-function limitation according to 35 U.S.C. § 112 ¶ 6. Tr. at 279: 13-23. The Court accepts this construction. "The use of the word 'means' to describe a claim limitation "gives rise to 'a presumption that the inventor used the term advisedly to invoke the statutory mandates for means-plus-function clauses." *Masco Corp. v. United States*, 303 F.3d 1316, 1326 (Fed. Cir. 2002) (citations omitted). But even when no "means" language is used, a limitation could be construed as a means-plus-function limitation if the claim fails to recite sufficient structure to perform the recited function. *See Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1213 (Fed. Cir. 1998) (claim did not have means language, but even though the "catch phrase" was not used, it was construed as a means-plus function-limitation). ⁵

When an element in a claim specifies a "function" to be performed without reciting the structure that will perform the specified function, the element is construed as limited to the corresponding structure described in the specification. *See, e.g., Mas-Hamilton Group*, 156 F.3d at 1212; *Chiuminatta Concrete Concepts, Inc. v. Cardinal Indus., Inc.*, 145 F.3d 1303, 1307 (Fed. Cir. 1998). Specifically the Patent Act states that "[the] claim shall be construed to cover the corresponding structure, material, or acts described in the specification and *equivalents thereof.*" 35 U.S.C. § 112 ¶ 6 (emphasis added). Notably, Tritek argues that Defendants have failed to present any evidence of statutory equivalents as required by the language of § 112 ¶ 6, and that, therefore, Defendants are now precluded from doing so. Defendants have argued that they need not provide the equivalent structures, rather just the exact structure that is set forth in the specification; evidence of equivalents is more properly dealt with during infringement proceedings. As a threshold issue, the difference between statutory equivalents and the doctrine of equivalents is that statutory equivalents must be in existence at the time of the patent application (so that the inventor actually thought of those equivalent structures when creating the

 $^{^5}$ 35 U.S.C. \S 112 \P 6 defines when "means-plus-function" language defines the element of a claim. It provides:

An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof.

invention and drafting the claims). Equivalents under the doctrine of equivalents can be after-acquired technology. *See Chiuminatta Concrete Concepts*, 145 F.3d at 1310. There are some similarities in the analysis; for example, "just as prosecution history estoppel may act to estop an equivalence argument under the doctrine of equivalents, positions taken before the PTO may bar an inconsistent position on claim construction under § 112 ¶ 6." *Cybor Corp.*, 138 F.3d at 1457; *see also Ballard Med. Prod. v. Allegiance Healthcare Corp.*, 268 F.3d 1352, 1360 (Fed. Cir. 2001).

Federal Circuit precedent suggests that statutory equivalents need not be determined during claim construction. For example, in Cybor Corporation supra, the Federal Circuit indicated "[u]nder § 112 ¶ 6, an accused device with structure not identical to the structure described in the patent will literally infringe the patent if the device performs the identical function required by the claim with a structure equivalent to that described in the patent. 138 F.3d at 1457 (emphasis added). The Federal Circuit's language does not suggest that all equivalent structures are predetermined at the claim construction phase. IMS Technology, Inc. v. HAAS Automation, Inc., cited by Defendants, supports this notion. "Claim construction of a § 112 ¶ 6 limitation includes identifying the claimed function and determining the corresponding structure or act disclosed in the specification, both of which are questions of law that this court reviews independently." IMS Technology, Inc. v. HAAS Automation, Inc., 206 F.3d 1422, 1430 (Fed. Cir. 2000) (emphasis added); see also Chiuminatta Concrete Concepts, 145 F.3d at 1308. The Federal Circuit did not instruct a district court to determine the structure or act and its equivalents. In IMS, the Court went on to say "the second step of an infringement analysis [of a means-plus-function limitation] begins with determining whether the accused device or method performs an identical function to the one recited in the claim." 206 F.3d at 1430. Then, the court instructed, "[i]f the identical function is performed, the next step is to determine whether the accused device uses the same structure, materials, or acts found in the specification, or their equivalents." Id. This process was recently followed by another district court which declined to determine the statutory equivalents during claim construction. The court likened a section 112 equivalents analysis to a doctrine of equivalents analysis, which is a question of fact. Mallinckrodt, Inc. v. Masimo Corp., 254 F. Supp. 2d 1140, 1146 (C.D. Cal. 2003) (citing Odetics, Inc. v. Storage Tech. Corp., 185 F.3d 1259 (Fed. Cir. 1999)). Based on the authority cited above, there is no reason to determine equivalent structures during claim construction.

With the aforementioned issue resolved, the Court can now begin by construing the function of the "stack maintaining mechanism." A determination of the claimed function is also a matter of claim construction. *See Chiuminatta Concrete Concepts*, 145 F.3d at 1308; *IMS Tech.*, *Inc.* v. *HAAS Automation*, *Inc.*, 206 F.3d 1422, 1430 (Fed. Cir. 2000). The parties agree that the function of this limitation is to "maintain items of mail as part of the vertical stack on the horizontal run of the feed conveyor belt." Tr. at 92. Defendants further argue that the "the stack maintaining mechanism" must maintain items of mail as part of the vertical stack "until the item of mail is removed from the stack by the motion of the transport belt." Jt. Cl. Constr. Statement at 5. Plaintiff disagrees with this part of Defendants' construction. During oral argument, Plaintiff argued that there is no temporal limitation required by the '922 patent. Tr. at 85;

Plaintiff's Proposed Conclusions of Law Regarding Claim Construction at ¶ 75 (hereinafter "Pl.'s Proposed Findings"). Defendants find support for their construction in the claim language. For example, Defendants argue the transfer means works to move the mail away from the hold means to the delivery station. Thus, they argue "items of mail are periodically removed from the stack of items of mail on the horizontal run of the feed conveyor belt and that "[t]he removed items of mail cannot be said to be indefinitely 'preserved or retained in an existing state." Def.'s Proposed Findings at ¶ 34. Rather they are "maintained" until they are removed from the stack. *Id.*

Contrary to Plaintiff's arguments, the Court finds some temporal relation in the claim language suggesting that the "stack maintaining mechanism" must include sufficient structure that will allow it to maintain the items of mail as part of the vertical stack until the last item of mail is removed from the stack and the stack no longer exists. For example, as Defendants point out, Claim 1 teaches that the transfer means is located adjacent to the initial hold means so that it can remove "the downstream-most item of mail away from [the] initial hold means and conve[y] [it] to [the] delivery station." *See, e.g.*, '922 Pat., col. 8, ll. 27-31. The first vacuum chamber of the initial hold means is what grabs the down-stream item of mail. '922 Pat., col. 8, ll. 24-26. Clearly, the down-stream most-item of mail is not maintained indefinitely. It is maintained until it is picked up by the first vacuum chamber of the device, the initial hold means. This process repeats until there is no down-stream-most item of mail. Therefore, the Court agrees with Defendants.

With regard to the structure of the "stack maintaining mechanism," the parties agree on some of the structure identified in the specification for maintaining items of mail in a vertical side by side stack, *see* col. 3, ll. 10-21, 31-37 and 51-59, which is depicted in Fig. 4 of the '922 patent. Tr. at 443: 7-22; Def.'s Proposed Findings at ¶ 39; Pl.'s Resp. at ¶ 39. The parties agree, and the Court finds, this structure includes a paddle, which is depicted in Fig. 7 of the '922 patent, a guide rail, and an arm with an offset extension. *Id.* The parties further agree, and the Court also finds, the paddle is "mounted perpendicular to the horizontal run of the feed conveyor belt that has a corner or projection in contact with the horizontal run and is configured to be in contact with the last (*i.e.*, upstream-most) item of mail in the stack so that the stack is sandwiched between the paddle and a singulation station." Def.'s Proposed Findings at ¶ 39 and Pl.'s Resp. at ¶ 39; Tr. at 443:18-22.

Accordingly, the Court finds that in light of the specification, the structure of the "stack maintaining mechanism" recited in claims 1, 4, 5 and 9 is as follows:

1) a paddle mounted so that it is perpendicular to the horizontal run of the feed conveyor belt, which has a corner or projection in contact with the horizontal run, and is configured to be in contact with the last item of mail in the stack so that the stack is sandwiched between the paddle and a singulation station; 2) an attachment arm with offset extensions; and 3) a guide rail.

See '922 Pat., col. 3, ll. 10-21, 31-37, 51-55. The Court also finds that the function of the stack maintaining mechanism is to maintain items of mail as part of the vertical stack on the horizontal run until the items of mail are removed from the stack and the stack no longer exists.

2. "Stack Maintaining Mechanism" in claim 13

Claim 13 provides that the feeder system has "a stack maintaining mechanism disposed over said horizontal run in a vertical side by side stack . . . [with] said stack maintaining mechanism including a paddle mounted across said horizontal run for contacting items of mail and maintaining the items of mail upright." '922 Pat., col. 11, ll. 7-10 (emphasis added). The issue in dispute is whether the language of claim 13 in italics provides sufficient structure so that the "stack maintaining mechanism" described in claim 13 is not a means-plus-function limitation. Plaintiff maintains there is sufficient structure in the claim language itself and thus resort to the specification is unnecessary. Claim 13 recites a "paddle" as part of the "stack maintaining mechanism." Defendants argue that claim 13 recites no definite structure for supporting the paddle or moving it with the stack of items of mail. Defendants argue that "because the 'stack maintaining mechanism' limitation in claim 13 lacks definite structure to perform the entire recited function, the limitation must be treated as a means-plus-function limitation in claim 13 as well." Def.'s Proposed Finding at ¶ 44 (quoting Altiris, 318 F.3d at 1376 ("Although 'commands' represent structure (in the form of software), it is not sufficient structure to perform the entirety of the function [of booting a digital computer].")).

The Court agrees with Defendants. The "stack maintaining mechanism" described in claim 13 is also a means-plus-function limitation. Because only the paddle is discussed in claim 13, the language of claim 13 itself does not provide sufficient structure for performing the required function of "maintaining the mail on said horizontal run in a vertical side by side stack" until the items of mail are removed from the stack and the stack no longer exists. ⁶ '922 Pat., col. 10, ll. 64-66.

Accordingly, the Court has held *supra* subpart 1, that the "stack maintaining mechanism"

Plaintiff argues that the doctrine of claim differentiation precludes such a finding. This doctrine provides that "claims should be presumed to cover different inventions . . . an interpretation of a claim should be avoided if it would make the claim read like another one." *Laitram Corp. v. Rexnord, Inc.*, 939 F.2d 1533, 1538 (Fed. Cir. 1991) (quoting *Autogiro Co. of America v. United States*, 181 Ct.Cl. 55, 384 F.2d 391, 404, 155 USPQ 697, 708 (1967)). The Federal Circuit has counseled that "[c]laim differentiation is a guide, not a rigid rule. If a claim will bear only one interpretation, similarity will have to be tolerated." *Laitram Corp.*, 939 F.2d at 1538. Likewise, the doctrine cannot be used to avoid § 112 ¶ 6. *Id.* The Court finds the doctrine is not appropriately applied in this case since the "stack maintaining mechanism" of claim 13, in accordance with § 112 ¶ 6, must be limited by the structure disclosed in the specification. Moreover, the argument that claim 13 does not have a different scope than claims 1, 4, 5 and 9 is unsupported.

includes: 1) a paddle mounted so that it is perpendicular to the horizontal run of the feed conveyor belt, which has a corner or projection in contact with the horizontal run, and is configured to be in contact with the last item of mail in the stack so that the stack is sandwiched between the paddle and a singulation station; 2) an attachment arm with offset extensions; and 3) a guide rail.

D. "Vertical"

Claims 1, 4, and 13 all require that the mail be maintained in a "vertical side by side stack." See, e.g., '922 Pat., col. 8, ll. 24-25; col. 9, ll. 12-13; col. 10, ll. 65-66. The term "vertically" also appears in claims 1 and 4 ("vertically mounted belt") and claim 13 ("vertically disposed transfer means"). Tritek contends that the ordinary meaning of "vertical" is "being in a position or direction perpendicular to the plane of the horizon," "upright;" "on-edge"; "plumb." Jt. Cl. Constr. Statement at 3; Pl.'s Resp. at ¶ 21. Defendants argue that the ordinary meaning of "vertical" is "perpendicular to the plane of the horizon;" "90 degrees," "straight up and down," "plumb." Jt. Cl. Constr. Statement at 3; Tr. at 375. Plaintiff relies on a standard dictionary of the English language, the Random House College Dictionary, Revised Edition (1988); while Defendants rely in part on a technical dictionary, The Hammond Barnhart Dictionary of Science (1986).

Both parties urge the Court to adopt the ordinary and customary meaning of the word vertical, but disagree on that meaning and the range of definitions that Plaintiff should be afforded. The Federal Circuit has instructed that "if more than one dictionary definition is consistent with the use of the words in the intrinsic record, the claim terms may be construed to encompass all such consistent meanings." *Texas Digital*, 308 F.3d at 1203 (citing *Rexnord*, 274 F.3d at 1343).

Defendants argue that to the extent the proposed definitions are synonyms, and not

Although not a disputed phrase focused on in their briefs, the parties define "side by side stack" differently in their Joint Claim Construction Statement. Jt. Cl. Constr. Statement at 4. Therefore, since the definitions differ, the Court will define the phrase now. Plaintiff defines the term as "an orderly pile of items of mail arranged next to each other or close together." In contrast, Defendants' definition is "an orderly pile of items of mail arranged so that the face surface of one item touches the face surface of its neighboring items." The phrase "side by side" suggests that the items of mail are more than merely "close together." Thus, a side by side stack is "an orderly pile of items of mail arranged next to each other."

Plaintiff appears to abandon the notion that all items "on-edge" are "vertical," recognizing that "once you get past the 45 [degree angle] . . . that becomes more horizontal than vertical." Tr. at 199. Later, Plaintiff's counsel removed "on-edge" from this Court's consideration with respect to the definition of "vertical" because it was not a part of any of the dictionary definitions relied on by the parties. Tr. at 376.

inconsistent with one another, Defendants agree that all definitions are to be used. Tr. at 375. According to the Random House College Dictionary (used by Plaintiff), Defendants point out that the definition of "upright" is synonymous with plumb, erect, vertical and perpendicular. Tr. at 141; Defendants' Appendix on Claim Construction at A623 (hereinafter "Def.'s App.").

Using the dictionary definitions offered by the parties and after an examination of the intrinsic record to determine which of the possible dictionary definitions are consistent with the words of Mr. Malatesta, the inventor, the Court construes "vertical" to mean "being in a position or direction perpendicular to the plane of the horizon;" "upright;" "plumb."

Thus, the Court agrees with Defendants. Words appearing in the same claim or multiple claims of the same patent should be interpreted consistently unless the specification and prosecution history clearly directs otherwise. In interpreting the terms "vertical" and "vertically," the Court will "begin with the presumption that the same terms appearing in different portions of the claims should be given the same meaning unless it is clear from the specification and prosecution history that terms have different meanings at different portions of the claims." Fin Control Sys. Pty, Ltd., v. OAM, Inc., 265 F.3d 1311, 1318 (Fed. Cir. 2001) (citing Phonometrics, Inc. v. N. Telecom, Inc., 133 F.3d 1459, 1465 (Fed. Cir. 1998)); see also Fonar Corp. v. Johnson & Johnson, 821 F.2d 627, 632 (Fed. Cir. 1987) (meaning of a claim term should be interpreted so it is consistent with its appearance in other claims of the same patent); Digital Biometrics, Inc. v. Identix, Inc., 149 F.3d 1335, 1345 (Fed. Cir. 1998) (reasoning "whatever interpretation we assign [to the word "array"] should encompass both uses because the same word appearing in the same claim should be interpreted consistently."); Acromed Corp. v. Sofamor Danek Group, Inc., 253 F.3d 1371, 1382 (Fed. Cir. 2001) (three uses of the term "engage" required a meaning broad enough to apply to each use as it appeared in the claims.); cf. EMI Group North Am., Inc. v. Cypress Semiconductor Corp., 68 F. Supp.2d 421, 431 (D. Del. 1999) (where term appeared repeatedly, but clearly had two discrete meanings, the district court declined to apply general rule); Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1311 (Fed. Cir. 1999) ("[W]here the language of the written description is sufficient to put a reader on notice of the different uses of a term, and where those uses are further apparent from publically available references in the patent file, it is appropriate to depart from the normal rule of construing seemingly identical terms in the same manner.")

In the present case, the specification does not suggest, nor does Plaintiff cite to any portion of the file history, which demonstrates there are different uses of the term "vertical" or "vertically." Thus, the term(s) should be interpreted consistently throughout the patent claims.

Notably, as Defendants point out, the definition of "upright" from the Random House College Dictionary, Revised Edition (1988), cited by Tritek originally to support its definition of "vertical," identifies "upright" as "erect or vertical" and synonymous with "perpendicular," "plumb," "erect," "vertical." Def.'s App. at A623.

Because the word "vertical" has multiple definitions, the Court turns to the intrinsic

record for guidance. *See Texas Digital*, 308 F.3d at 1203. The Court finds that "vertical," read in the context of the claims and specification, means "being in a position or direction perpendicular to the plane of the horizon; upright; plumb." An examination of the specification is illustrative. Although the parties dispute whether the mail is depicted as orientated perpendicular to the plane of the horizon, they cannot and do not dispute that the "*vertical* guide 42" (col. 3, 1. 10, Fig. 3-4, 7) and "*vertically* mounted belt 102" (col. 4, 1. 62, Figs. 3-6.) are depicted straight up and down. Def.'s Proposed Findings at ¶ 27; Pl.'s Resp. at ¶ 27.

Plaintiff argues that reliance on the only disclosed embodiment is improper. Pl.'s Resp. at ¶ 27. Nevertheless, not only does the intrinsic record inform the Court's interpretation, at least one unbiased prior art reference illustrates what a person of ordinary skill would interpret "vertical" to mean. United States Patent No. 4,701,094 ("the Courjaret patent") was cited by Defendants as prior art. Plaintiff's Appendix Submitted in Support of Its Brief in Support of Claim Construction at A158 (hereinafter "Pl.'s App."). The Courjaret patent similarly describes a mail sorting machine, wherein the items of mail are stacked at a non-perpendicular angle with respect to the horizontal bottom of the machine. Def.'s App. J at A631 (Fig. 9). The Courjaret patent explicitly states that the items of mail in that invention are oriented "slightly inclined from vertical." Def.'s App. J at A636; Courjaret Pat., col. 6, ll. 28-35. The Court finds the Courjaret patent to be an impartial prior art reference, *see Vitronics*, 90 F.3d at 1584, which demonstrates that persons of ordinary skill in the art interpret "vertical" to mean "perpendicular to the plane of the horizon" or "straight up and down;" "plumb."

Finally, Defendants' definition of "vertical" is based in part on an objective technical dictionary. The Court realizes that if the term "vertical" has no specialized meaning in the field of art, which neither party asserts it does, the Court may consult a standard English dictionary in order to determine its ordinary meaning. *Inverness Med. Switz. v. Princeton Biomeditech Corp.*, 309 F.3d 1365, 1369 (Fed. Cir. 2002). Nonetheless, the Court finds the use of a technical dictionary here not only appropriate but instructive, given that "vertical" is used to describe features of a *mechanical* device. *See Transclean Corp. v. Bridgewood Servs., Inc.*, 290 F.3d 1364, 1375 (Fed. Cir. 2002) (stating in this instance "a technical dictionary is therefore a better source to inform the meaning of the term to a skilled artisan"). The Hammond Barnhart Dictionary of Science (1986) defines "vertical" in part as both "perpendicular" and "upright" but also provides an example of the term's usage, "[t]he x-axis and all lines parallel to it are called horizontal; the y-axis and all lines parallel to it are called vertical." Def.'s App. at A626. This example supports Defendants' construction of the term "vertical." In contrast, as Defendants point out, Tritek's position that the term "vertical" need not be indicative of an exactly perpendicular angle relative to the horizon is more akin to a doctrine of equivalents argument and

Defendants correctly state that because the Courjaret patent was not considered by the PTO during prosecution of the '922 patent, it is treated by the Court as extrinsic evidence. *See Tate Access Floors, Inc. v. Interface Architectural Res., Inc.*, 279 F.3d 1357, 1371 n.4 (Fed. Cir. 2002) ("Prior art cited in the prosecution history falls within the category of intrinsic evidence. Prior art the examiner failed to consider is extrinsic.").

more befittingly before the Court during infringement proceedings.

For the reasons stated, the Court construes "vertical" to mean "being in a position or direction perpendicular to the plane of the horizon; upright; plumb."

E. "Juxtaposed"

The initial hold means and transfer means are located "juxtaposed" across "said discharge end." *See*, *e.g.*, '922 Pat. col. 8, ll. 24-28. Plaintiff argues that the ordinary and customary meaning of "juxtaposed" is "[t]o place close together or side by side." Defendants argue that "juxtaposed" means "situated side by side so that *no substantial separation* exists between the juxtaposed elements." Jt. Cl. Constr. Statement at 5 (emphasis added).

The ordinary meaning of "juxtaposed" is "placed side by side." Webster's Third New International Dictionary Unabridged 1229 (1961 ed., addenda 1993). (Also "to situate side by side; place together.") Def.'s App. F at A611 (The American Heritage Dictionary of the English Language 712 (1980)). The synonym for juxtaposed is "adjacent." Webster's Third New International Dictionary Unabridged 1229 (1961 ed., addenda 1993). "Adjacent" means to "lie near, border on." *Id.* at 26. Unlike adjacent, however, which in part means to "border on," there is nothing to suggest that two items "juxtaposed" must be so close that they are touching. But the definitions certainly suggest that "juxtaposed" items must be spatially close together.

Read in context of the claims and prosecution history, the term "juxtaposed" must mean "to place close together *and* side by side." The term "juxtaposed" describes the relationship of the initial hold means and the transfer means to each other relative to the discharge end. Tritek's definition fails because it is not consistent with the term's ordinary meaning. Based on the ordinary meaning of the term, the Court's construction of "juxtaposed" must recognize both that items which are juxtaposed are in a side by side relationship and in close proximity to one another. Indeed, unbiased dictionaries have consistently defined the term "juxtaposed" as "placed side by side" or "side by side; place together." Webster's Third New International Dictionary Unabridged 1229 (1961 ed.); The American Heritage Dictionary of the English Language 712 (1980). Under the "side by side" definition, which both parties essentially agree on, both elements are represented. Tr. at 183:12-22. Furthermore, there is nothing in the patent that suggests the patentee acted as his own lexicographer.

Notably, Defendants argue that Tritek's definition of "juxtaposed" to mean "close together" contradicts statements during prosecution of the '922 patent that distinguished its invention from the Takeda reference (Japanese Patent Application No. Sho 63-71037). Def.'s App. O at A827-28. The Takeda reference disclosed a postal sorting system in which the transport belt and second vacuum chamber were separated from the horizontal run of a feed conveyor belt by an initial hold vacuum chamber. Thus, the chambers were situated one above the other. In an Amendment dated May 10, 1993, the patentee made the following statement:

If the main chamber and sub-chamber of Takeda are interpreted by the Examiner as corresponding to the initial hold means and transfer means of Claim 1, herein, then the main chamber and sub-chamber do not structurally correspond nor function in the same manner as the initial hold means and transfer means of Claim 1. For example, the sub-chamber at 23 is disposed substantially across the entire horizontal run of the belt 9, 9' and the main chamber 21 is disposed above and not juxtaposed the horizontal run of the conveyor.

Def.'s App. O at A827-828 (emphasis added). Tritek argues this is not a clear disavowal of the entire scope of the definition of "juxtaposed," thus it is entitled to either proposed definitions, "close together" or "side by side."

The Court finds the patent applicant's statement relevant to some extent, as the Court cannot simply ignore Tritek's statement made during prosecution. "[S]tatements to an examiner during prosecution before the United States Patent and Trademark Office (PTO) may also illuminate the scope of the claims." *Invitrogen Corp. v. Biocrest Mfg.*, 327 F.3d 1364, 1367 (Fed. Cir. 2003) (citation omitted). Nevertheless, the patentee must disclaim claim scope "with reasonable clarity and deliberateness." *See e.g., Northern Telecom, Ltd. v. Samsung Electronics Co., Ltd.*, 215 F.3d 1281, 1294 (Fed. Cir. 2000). Tritek is correct in part; the only meaning of "juxtaposed" that would have been disclaimed during prosecution is that "juxtaposed" could not include instances where one item is situated *above* the other.

For the reasons stated, read in context of the claims and prosecution history, the Court construes the term "juxtaposed" to mean "to place close together *and* side by side."

F. Downstream-Most Item of Mail

Each of the asserted independent claims, 1, 4, and 13, require an "initial hold means ... for holding a downstream-most item of mail" and a "transfer means . . . for removing the downstream-most item of mail away from said initial hold means." *See, e.g.*, '922 Pat., col. 8, Il. 24-31. The parties dispute whether the downstream-most item of mail has to be located in the stack on the horizontal run or alternatively somewhere beyond the stack. Both parties agree that the ordinary meaning of "downstream" is "in or toward the latter stages of a process." Jt. Cl. Constr. Statement at 3. For purposes of construing "downstream most item of mail," Tritek contends that the entire "process" is the entire process of sorting the mail. Tr. at 322:4-12. Thus, plaintiff defines "downstream most item of mail" as "that piece of a plurality of pieces of mail which is furthest along in the direction of travel." Jt. Cl. Constr. Statement at 5. In contrast, Defendants contend that the process to which the meaning of "downstream" refers should be

The Court notes that this is one of the few definitions where Plaintiff construed the phrase "downstream most item of mail" rather than defining each term in isolation. Such a construction made it much easier for the Court to evaluate Plaintiff's position on the appropriate construction. Unfortunately, most of Plaintiff's definitions were lacking in context.

limited to the process of feeding items of mail to the singulation station. Tr. at 313:8-13. Hence, Defendants define the term as "[t]he item of mail *in the stack* that is closest to the downstream discharge end of the horizontal run." Jt. Cl. Constr. Statement at 5.

Nevertheless, the parties agree that the downstream-most item of mail is the piece of mail closest to the initial hold means. Jt. Cl. Constr. Statement at 5; Tr. at 323:16-24. Because in claim 13, the "initial hold means" and "transfer means" are means-plus function limitations, the parties also agree that based on the specification, the downstream-most item of mail is part of the stack closest to the initial hold means. Def.'s Proposed Findings at ¶ 63; Pl's Resp. at ¶ 63. In contrast, in claims 1 and 4, the "initial hold means" and "transfer means" are not means-plus-function claims, so the Court will not look at the specification for guidance before considering the plain language of the claim and the terms' ordinary and customary meaning. Therefore, the first issue to be addressed is whether the downstream-most item of mail referred to in claims 1 and 4 is also part of the stack of mail on the horizontal run (and not somewhere past the singulation station, in other words, not beyond the feed end and discharge end on the run). The second issue is whether in claim 13, the mail must be in the stack on the horizontal run. Plaintiff says it need only be in the stack and not also on the run.

After careful consideration of the parties' arguments, Defendants' construction prevails. First, Plaintiff concedes the "downstream-most item of mail" is the item of mail closest to the initial hold means. Therefore, the "downstream-most item of mail" cannot be a piece of mail that has traveled past the initial hold means to the delivery station or beyond. Tr. at 322: 4-9. The only place it could be therefore is in the stack. Plaintiff's own definition says the "downstream-most item of mail" is "furthest along in the direction of travel" and closest to the initial hold means. Jt. Cl. Constr. Statement at 5; Tr. at 323: 16-24. Furthermore, the claims focus on the pieces of mail in the stack and how they are separated by the singulation station, which is made up of an initial hold means and transfer means, and how the items of mail in the stack are moved toward the delivery station. The whole purpose of this invention is concerned with the mail in the stack and not the mail that has already traveled to the delivery station or beyond that point (to your mailbox, etc.).

Furthermore, of the two constructions proffered, Defendants' construction is the only one that is consistent with the claim language itself. The claim language requires that the initial hold means and transfer means act on the downstream-most item of mail at the discharge end and move it toward the delivery station. The invention works so that mail in the stack is moved toward the discharge end while it is supported by the stack maintaining mechanism. According to claims 1 & 4, the stack maintaining mechanism maintains the items of mail "on [the] horizontal run. '922 Pat., col. 8, ll. 20-24; col. 9, ll. 9-12 (emphasis added). Because the stack maintaining mechanism is a means-plus-function limitation, the specification tells us that its structure is in part a paddle that is able to move "the full distance downstream and contact [the] singulation station." '922 Pat., col. 3, ll. 19-20. Claim 1 says the singulation station is made up of the initial hold means, which holds "a downstream-most item of mail." See e.g., col. 8, ll. 24-25. Thus, read in context of the claims, "a down-stream most item of mail" is a piece of mail in the stack

on the horizontal run of the feed conveyor belt that is closest to the initial hold means and discharge end of the run. The same construction holds true for claim 13 where the claim language itself says the items of mail are maintained on the run and the parties agree the downstream-most item of mail is in the stack closest to the initial hold means. '922 Pat., col. 10, ll. 65-66; Tr. at 322:16-21; 323:1-12; 324:20-24.

G. "Transfer means extending across a remainder of said discharge end "

All three of the asserted independent claims provide that the initial hold means be "located juxtaposed partially across said discharge end" and provide for a "transfer means extending juxtaposed across a remainder of said discharge end" *See* '922 Pat., col. 8, ll. 24-27; col. 9, ll.13-16; col. 10, l. 66- col. 11, ll. 1-2.

As a threshold issue, the parties agree that the "transfer means" of claims 1 and 4 is not a means-plus-function limitation because it recites sufficient structure (unlike the transfer means in claim 13). This is not a means-plus-function limitation because structure is found in the claim language, which recites a "second vacuum chamber" and "vertically mounted belt." See, e.g., '922 Pat., col. 8, 11. 36-40; col. 9, 11. 23-26. The question is to what extent the transfer means extends across the discharge end. Claims 1, 4 and 13 say that the transfer means extends "across a remainder of said discharge end." The claim language originally said "the remainder," but was amended to say "a remainder" after the examiner rejected the phrase for lack of antecedent basis. Def.'s Proposed Findings at ¶ 85; Plaintiff's Resp. at ¶ 85; Def.'s App. at A830-31. Plaintiff says the amendment broadened the claim, while Defendants argue that the amendment was in response to a rejection based on lack of antecedent basis and did not change the scope of the claim. Defendants contend that the claims require that the initial hold means and the transfer means span the entire length of the discharge end (i.e. the entire width of the horizontal run). Under Defendants' construction, if the initial hold means is juxtaposed across a portion of the discharge end, then the transfer means must be juxtaposed across the rest of the discharge end. Tr. at 312: 6-14. In contrast, Tritek asserts that based on the phrase "a remainder," the claims merely require that the transfer means be juxtaposed across some portion of the entire remainder of the discharge end. Tr. at 317:21-318:3.

Again the Court begins its analysis with consideration of the ordinary and customary meaning of the term "remainder." Remainder means "not taken, used or gone: leftover." Webster's Third New International Dictionary at 1919. Plaintiff defines remainder as "something that remains or is left; a remaining part." Pl.'s Proposed Definitions at ¶ 21 (citing The Random House College Dictionary, Revised Edition (1988)). Defendants contend that "remainder" means "something that is left over after other parts have been taken away; the rest." (citing The American Heritage Dictionary of the English Language (1980)). Def.'s Proposed Findings at ¶ 83. Plaintiff contends that Tritek is entitled to all the above-stated definitions. Nevertheless, the Court must consider the intrinsic record to determine whether all dictionary definitions are consistent with all customary meanings of the claim term. *See Texas Digital*, 308 F.3d at 1204.

The only disclosed embodiment of the invention describes the transfer means as located across "the remaining distance across belt 24 and a portion therebeyond." *See* Figs. 3,5; col. 4, ll. 14-15. Plaintiff argues that the claimed invention should not be limited by the preferred embodiment. Defendants, however, point to a statement in the prosecution history where Tritek distinguished its invention over prior art, the Takeda reference, by arguing that the initial hold means extends only partially across the discharge end and the transfer means extends across the whole remainder:

For example, the subchamber 23 [of Takeda] is disposed substantially across the entire horizontal run of belts 9,9 and the main chamber 21 [of Takeda] is disposed above and not juxtaposed the horizontal run of the conveyor. In contrast Claim 1 defines the initial hold means as extending only partially across the discharge end of the conveyor and the transfer means extends across the remainder of the discharge end."

Def.'s App. at A828 (emphasis added).

After careful review of the claim language, the ordinary and customary meaning of the term "remainder," and in light of the prosecution history and preferred embodiment, Defendants' construction prevails. Although the Court should not read limitations from the specification and preferred embodiment into the claims, the Court may and should use the intrinsic record to interpret the claim terms. "It is well-settled that, in interpreting an asserted claim, the court should look first to the intrinsic evidence of record, i.e., the patent itself, including the claims, the specification and, if in evidence, the prosecution history . . . such intrinsic evidence is the most significant source of the legally operative meaning of disputed claim language." Vitronics, 90 F.3d at 1582; see also Bell Atl. Network Serv. v. Covad Communications, 262 F.3d 1258, 1267 (Fed Cir. 2001) (citing Vitronics). Both the prosecution history and preferred embodiment support Defendants' construction. Plaintiff argues that the inaccurate statements of the patentee made during prosecution cannot override the claim language; however, this argument fails. Plaintiff cites Storage Tech. Corp. v. Cisco Sys., Inc, 329 F.3d 823 (Fed. Cir. 2003) for this proposition. In that case, the patentee's statements were obviously inaccurate in light of the claim language itself and the Federal Circuit held that an erroneous statement made during prosecution cannot override the claim language. 11 Storage Technology Corp., 329 F.3d at 832.

11 The Federal Circuit explained:

During prosecution, the patent applicants stated that in the invention as recited in claims 1, 11, and 18, the instance of network policy and the policy identification information are both cached. While on its face this statement appears to limit claim scope, it cannot do so absent some claim language referring to the caching of the instance of network policy. The prosecution history statement describes generally the features of the claimed invention and erroneously suggests that the

In the present case, Tritek's statement is clearly not inaccurate, rather the prosecution history is consistent with the disclosed embodiment and claim language.

Nevertheless, Plaintiff urges that the scope of the claims was not limited by the statements the patentee made during prosecution because the alleged disavowal was not clear and unambiguous. See Plaintiff's Mot. for Leave to Supplement the Record Regarding Claim Construction at 3-4 (relying on Cordis Corp. v. Medtronic AVE, Inc., 339 F.3d 1352 (Fed. Cir. 2003)). This argument again raises the issue of whether the doctrine of prosecution disclaimer can be used to narrow the possible meanings of the phrase "a remainder." "As a basic principle of claim interpretation, prosecution disclaimer promotes the public notice function of the intrinsic evidence and protects the public's reliance on definitive statements made during prosecution." Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1324 (Fed. Cir. 2003) (citation omitted). The Federal Circuit has held that if a statement made during prosecution is amenable to "multiple reasonable interpretations," then it does not constitute "a clear and unmistakable" surrender. Cordis Corp., 2003 WL2190747 at *5; see also Omega Eng'g Inc., 334 F.3d at 1324. For example, in instances where the remarks were "so ambiguous," or where the history was clearly inclusive, the Court simply could not determine that they signified surrender. See, e.g., Omega Eng'g Inc., 334 F.3d at 1324 (quoting Northern Telecom Ltd. v. Samsung Electronics Co., 215 F.3d 1281, 1293-94 (Fed. Cir.2000) (citing Rexnord Corp. v. Laitram Corp., 274 F.3d 1336, 1347 (Fed. Cir.2001)).

In the present case, the prosecution history is clear and unmistakable. During prosecution, the patent applicant distinguished its invention over the Japanese mail sorting system referred to herein as "the Takeda reference." The applicant was specifically describing the placement of the initial hold means and transfer means in its invention in comparison to the position of the main chamber and subchamber of Takeda, which the patentee said in relevant part "do not *structurally* correspond" to the initial hold means and transfer means described in the invention at issue. Def.'s App. at A827-28 (emphasis added). Then the applicant went on to describe how the two inventions are structurally different. Because the main chamber in Takeda was disposed above, the patentee distinguished its invention, "In contrast Claim 1 defines the initial hold means as extending only partially across the discharge end of the conveyor *and the transfer means extends across the remainder of the discharge end*." Def.'s App. at A828 (emphasis added).

The patentee's remarks during prosecution are consistent with the only disclosed embodiment of the invention, which describes and depicts the transfer means as located across "the remaining distance across belt 24 and a portion therebeyond." *See* Figs. 3, 5; col. 4, ll. 14-

independent claims include a cache for the instance of network policy. The applicants' inaccurate statement cannot override the claim language itself, which controls the bounds of the claim.

15. The intrinsic record is clearly contrary to the definition advanced by Plaintiff, therefore the Court rejects Plaintiff's definition. While erroneous statements made during prosecution will not change the claim language, see Storage Technology, 329 F.3d at 832, statements that are consistent with the ordinary meaning of the term, the written description, and the preferred embodiment should not be ignored. "The words used in the claims are interpreted in light of the intrinsic evidence of record, including the written description, the drawings, and the prosecution history, if in evidence." See Teleflex, Inc. v. Ficosa N. Am. Corp., 1324-299 F.3d 1313, 1324-25 (citing Interactive Gift Express, Inc. v. Compuserve, Inc., 256 F.3d 1323, 1331 (Fed. Cir.2001)). The intrinsic record is examined "in every case to determine whether the presumption of ordinary and customary meaning is rebutted." Texas Digital, 308 F.3d at 1204. Indeed, "[i]ntrinsic evidence may provide context and clarification about the meaning of claim terms." Teleflex, Inc., 299 F.3d at 1325 (citing York Prods., Inc. v. Cent. Tractor Farm & Family Ctr., 99 F.3d 1568, 1572, 1622 (Fed.Cir.1996)).

Because Tritek relies on a definition of the phrase "a remainder" that is clearly inconsistent with the intrinsic record, including the prosecution history and the disclosed embodiment, the Court adopts Defendants' construction. Defendants' construction is consistent with an ordinary meaning of the term "remainder" and the intrinsic record. The Court finds that "remainder," read in light of the intrinsic record, means "something that is left over after other parts have been taken away; the rest."

H. "Vertically mounted belt"

The transfer means is in part made up of a "vertically mounted belt." Asserted claims 1, 4, 5 and 9 (with claims 5 and 9 dependent on claim 4) provide "said transfer means including . . . a vertically mounted belt mounted for movement around said second vacuum chamber." '922 Pat., col. 8, 11. 36-40; col. 9, 11. 23-27. The belt has "a plurality of holes disposed for cyclical registration with said holes in said second vacuum chamber " '922 Pat., col. 8, 11. 40-42; col. 9, 11. 27-30. Claims 1, 4, 5 and 9 require that the transport belt "extend[] to at least the longitudinal center line of said horizontal run." '922 Pat., col. 8, 11. 52-54; col. 9, 11. 42-44. Claim 1 further requires that the transport belt be "mounted at a non-perpendicular angle with respect to a longitudinal center line of said horizontal run . . . " '922 Pat., col. 8, 11. 47-49. Claims 1, 4, 5 and 9 require that the transport belt be "disposed inwardly of said first vacuum chamber where said transport belt is juxtaposed said first vacuum chamber " '922 Pat., col. 8, ll. 50-52; col. 9, ll. 40-42. Although Defendants define "vertically mounted transport belt" as "[a] belt mounted with its face at an orientation perpendicular to the horizon and identical to the orientation of the stack of items of mail on the horizontal run of the feed conveyor belt," Jt. Cl. Constr. Statement at 8, Defendants contend that the term should be construed to mean "only that portion of the belt that is in contact with the downstream-most item of mail." Tr. at 337:18-338:15; Def.'s Proposed Findings at ¶ 92. Defendants argue that its construction is the correct one because a "whole belt" construction of "transport belt" cannot be consistently applied to and meet all the claim limitations cited above; specifically that, (1) the belt is mounted at a

nonperpendicular angle; and (2) the holes in the belt align in cyclical registration with the holes in the vacuum chamber. In contrast, Tritek contends that the term "transport belt" should be construed according to its ordinary and customary meaning to mean the entirety of the vertically mounted belt that is used to remove items of mail from the stack. Tr. at 345:2-7; Jt. Cl. Constr. Statement at 8.

The issue is whether the ordinary and customary meaning of the term "belt," which as Plaintiff contends, is "an endless flexible band," can be adopted in light of plain language of the limitations on transport belt set forth in the claims. Defendants point to two limitations that would not be met if the Court were to adopt Tritek's "whole belt" construction, specifically requiring that (1) the plurality of holes in the belt must align with the holes in the second vacuum chamber and that (2) the whole belt be mounted at a nonperpendicular angle with respect to the longitudinal center line of the feed belt. Tr. at 332:9-333:5.

With respect to the limitation that the belt has "a plurality of holes disposed for cyclical registration with said holes in said second vacuum chamber," Defendants argue that under Tritek's "whole belt" construction of "transport belt," the only disclosed embodiment of the invention would not meet the "cyclical registration" requirement, which requires that "said holes of said transport belt and said holes of said second vacuum chamber are aligned" when an item of mail is removed from the initial hold means. *See* '922 Pat., col. 8, ll. 44-46. Defendants rely on Figures 5 and 6, which depict the transport belt 102 as including at least two sets of holes 120 and 122 that are spaced apart. Defendants argue that both sets of holes cannot be aligned with the holes 82 and 84 in the second vacuum chamber. Thus, Defendants contend that if the whole transport belt is represented in the definition, then all of "said holes of said transport belt" are never aligned with the holes in the second vacuum chamber in accordance with the disclosed embodiment. Tr. at 333:18-334:20; 380:14-386:6.

Defendants construction assumes, however, that all the holes of the transport belt must align with the holes in the second vacuum chamber. As Plaintiff points out, nowhere in the claim language does it say that all the holes of the transport belt must be aligned with the second vacuum chamber. Rather, the claims recite a vertically mounted belt "having a plurality of holes disposed for cyclical registration with said holes in said second vacuum chamber" '922 Pat., col. 8, ll. 40-42; col. 9, ll. 27-30. If the claims required that all the holes in the belt were to be aligned, then the claims would so provide, (*e.g.*, "when all said plurality of holes of said transport belt . . . are aligned . . ." or "when all said holes of said transport belt . . . are aligned . . ."). Although the preferred embodiment depicts two sets of holes in the transport belt that correspond to the holes in the second vacuum chamber (Fig. 6 depicting holes 120 and 122), the specification explains that this is one example where the belt includes a set of holes:

As best shown in FIGS. 5-6 belt 102 [vertically mounted transport belt] includes a set of, for example, sixteen holes 120 and a second set of eight holes 122 spaced from holes 120. The number and location of these sets of holes is selected to correspond to holes 82 and 84 in the front face of vacuum chamber 71.

'922 Pat., col. 5, ll. 1-6. Thus, the specification teaches that the holes must be placed so that they will align with the holes of the second vacuum chamber when they meet the holes of the second vacuum chamber. *Id.* It does not rule out the possibility that there could be multiple sets of holes which are arranged to align with the holes of the second vacuum chamber as they meet the chamber. Simply, the holes must be arranged so that they align. Thus, the Court rejects the notion that only if the "transport belt" is construed to mean only the portion of the belt in contact with the downstream-most item of mail, would the cyclical registration limitation be met by the disclosed embodiment of the invention.

Second, Defendants contend that the "whole belt" construction cannot meet the limitation requiring the belt to be mounted at "a nonperpendicular angle" with respect to "the longitudinal center line" of the feed belt. Defendants contend that because the belt is an "endless" belt it has some points where it will be mounted perpendicular to the longitudinal center line. Tr. at 336:11-25. Thus, they argue that the transport belt should be limited to the only a portion of the belt in contact with the downstream-most item of mail. Notably, Defendants conceded in oral argument that a larger portion of the vertical belt (than the portion of the belt that is in contact with the downstream-most item of mail) is mounted at a nonperpendicular angle; specifically the part of the belt that is mounted between roller 108 and 110. Tr. at 362:23-363:11; see, e.g., Fig. 3.

With respect to the belt being mounted at a nonperpendicular angle, Plaintiff argues that the belt need only be nonperpendicular to the center line of the feed belt at some point, not every point, as illustrated in the preferred embodiment. *See, e.g.*, Fig. 3. Plaintiff further contends that this angle need only be slight.

Although Defendants are correct in stating that not every position of the belt is mounted at a non-perpendicular angle to the longitudinal center line of the feed belt (see the area between rollers 104 and 106), a review of the specification informs the Court's analysis and persuades the Court that Plaintiff's construction is the correct one. The Federal Circuit has counseled that resort to the specification is always necessary "to determine whether the inventor has used any terms in a manner inconsistent with their ordinary meaning. The specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." *Vitronics*, 90 F.3d at 1582 (citation omitted). Thus, "[c]laims must be read in view of the specification, of which they are a part." *Id.* at 1582 (citing *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995).

In the present case, the specification explains that two rollers (108 and 110) (on which the vertical belt is mounted) are "arranged at a slight angle off perpendicular to the longitudinal center line of flat belt 24 as best seen in Fig. 3." '922 Pat., col. 6, ll. 9-12. The specification explains that this slight angle facilitates the movement of mail away from the first vacuum chamber and toward the delivery station:

In order to assure sufficient contact with the item of mail and vertical belt 102

while the item of mail is still on the horizontal flat belt 24, roller 108 is located at least midway across the transverse direction to create an angle on belt 102, as shown in FIG. 3.... One of the features of this invention is that rollers 108 and 110 and vacuum chambers 71 and 78 are arranged at a slight angle off perpendicular to the longitudinal center line of flat belt 24.... As a result of this arrangement, when the item of mail 66 is initially held by vacuum chamber 72, 74 it is angled parallel to the face of vacuum chamber 78,80.... Then mail piece 66 is contacted by belt 102. As a result a complete surface contact of the item of mail 66 is angled towards delivery station 22 thereby facilitating the removal of mail away from vacuum chamber 72,74.

Id., col. 5, ll. 15–19; col. 6, ll. 9-20. Read in context with the specification, the vertical belt must be mounted at an angle so that it facilitates travel of the mail. The Court's interpretation is in agreement with Plaintiff's construction, that the angle need not be non-perpendicular to the horizontal center line at every direction. The relationship of the transport belt to the longitudinal center line of the feed belt is illustrated by Fig. 3, where belts 108 and 110 are arranged so that they position the belt at a nonperpendicular angle to longitudinal center line of feed belt 24, but the belt is mounted perpendicular at rollers 104 and 106.

Each of claims 1, 4, 5 and 9 require that "said transport belt extend[] to at least the longitudinal center line of said horizontal run." The parties agree, and the Court also finds that the term "longitudinal center line" is "the line bisecting the horizontal run lengthwise." Def.'s Proposed Findings at ¶ 120, Pl.'s Resp. at ¶ 120.

For the reasons stated, the Court finds that the "vertically mounted transport belt" is an endless flexible band mounted, and consistent with this Court's construction of the term "vertical" *supra*, its face must be at an orientation perpendicular to the horizon.

I. Non-Perpendicular Angle in Claim 1

Claim 1 requires that "said transport belt b[e] mounted at a non-perpendicular angle with respect to a longitudinal center line of said horizontal run" '922 Pat., col. 8, ll. 47-49. Tritek contends that the ordinary meaning of a "non-perpendicular angle" is any angle that is "not at an exact 90 degree angle relative to two adjacent surfaces." Jt. Cl. Constr. Statement at 9. Defendants' definition differs to some extent. Defendants contend that a "non-perpendicular angle" is "an angle that is nominally not equal to ninety degrees." *Id*.

The term "non-perpendicular" used in claim1 "bears a heavy presumption" that it means what it says and has the ordinary meaning that would be attributed to it by persons skilled in the relevant art. *Texas Digital*, 308 F.3d at 1202. The parties have offered two competing definitions of "nonperpendicular," thus the Court turns to the specification for guidance to determine which, if not all, possible meanings are "consistent with the use of the words of the inventor."

The specification describes the purpose for having a "non-perpendicular angle." It explains:

One of the features of this invention is that rollers 108 and 110 and vacuum chambers 71 and 78 are *arranged* at a slight angle off perpendicular to the longitudinal center line of flat belt 24 as best seen in FIG. 3. As a result of this arrangement, when the item of mail 66 is initially held by vacuum chamber 72,74 it is angled [sic] parallel to the face of vacuum chamber 78,80 by the forward pull of belt 24 and vacuum from chamber 78,80. Then mail piece 66 is contacted by belt 102. As a result a complete surface contact of the item of mail 66 is angled towards delivery station 22 thereby facilitating the removal of the item of mail 66 away from vacuum chamber 72,74.

'922 Pat., col. 6, ll. 9-20 (emphasis added). Defendants argue that the non-perpendicularity of the angle at which the transport belt is mounted must be "sufficiently large" in order to accomplish the task of contacting the mail angling toward the delivery station and thereby facilitating its transfer. The Court disagrees. Both definitions of "nonperpendicular angle" offered by the parties are consistent with the language in the specification. Thus, the Court finds Plaintiff is entitled to both definitions of "non-perpendicular" cited above. *See Texas Digital*, 308 F.3d at 1203 (citing *Rexnord*, 274 F.3d at 1343.)

J. "Cyclical registration"

The "vertically mounted belt" recited in asserted claims 1, 4 has "a plurality of holes disposed for cyclical registration with said holes in said second vacuum chamber whereby the item of mail is drawn to said vertically mounted transport belt when said holes of said transport belt and said holes of said second vacuum chamber are aligned " '922 Pat. col. 8, 11. 40-45; col. 9, 11. 28-33. Plaintiff defines "cyclical" and "registration" in isolation without regard to how the phrase is used in the context of the asserted claims. Plaintiff cites the ordinary meaning of "registration," which is "[a] condition of correct alignment or proper relative position." Jt. Cl. Constr. Statement at 8-9. Both parties agree upon the meaning of "cyclical" ("Moving or occurring in cycles"). Def.'s Proposed Findings at ¶ 100; Pl.'s Resp. at ¶ 100; Jt. Cl. Constr. Statement at 8. But they disagree on the phrase "cyclical registration." Plaintiff did not define the limitation "cyclical registration" at all. Defendants contend the phrase means more than the aligning of the holes with the belt, or "periodic alignment" as Plaintiff's definitions, taken together, might suggest. Defendants argue that "cyclical registration" cannot mean "periodic alignment" because, if it did, there would be no need for the phrase "cyclical registration" in light of the claim language indicating that "said holes of said transport belt and said holes of said second vacuum chamber are aligned" See, e.g., '922 Pat., col. 8, 11. 44-45. Thus, Defendants construe this limitation to mean "[t]he alternate, complete covering and exposing of the holes in the second vacuum chamber by the correspondence of holes in the second vacuum chamber with holes in the transport belt." Jt. Cl. Constr. Statement at 8.

The Court begins its analysis by focusing on the claim language. The Federal Circuit has instructed that claim language should be central to the Court's analysis because "it is that language that the patentee chose to use to 'particularly point[] out and distinctly claim[] the subject matter which the patentee regards as his invention." *Texas Digital*, 308 F.3d at 1201-02 (citations omitted). The issue presented by the parties is whether "cyclical registration" means more than the periodic alignment of the holes. If registration means a condition of alignment, introducing the word "cyclical" informs the reader that the condition of alignment occurs periodically or in a cycle. Both parties agree on the definition of cycle, which is in part "a periodically repeated sequence of events." Jt. Cl. Constr. Statement at 8.

Next, the Court examines the rest of the intrinsic record to determine if the patentee used the phrase inconsistent with the phrase's ordinary meaning and if the presumption of ordinary meaning is rebutted. The specification describes the preferred embodiment, which says the vertically mounted belt is "provided with holes for *selective registry* with the holes in the second vacuum chamber so that the vertically mounted belt alternatively [sic] *covers and exposes* the second vacuum chamber holes and thereby provides a sufficient force for removing each item of mail away from the first vacuum chamber and transferring it toward the delivery station." '922 Pat., col. 2, ll. 5-11 (emphasis added).

The specification is consistent with the Plaintiff's construction of this limitation, which the Court construes to mean "periodic alignment." The Court sees no reason to include the additional limitation that requires the "complete covering and exposing of the holes in the second vacuum chamber by the correspondence of holes in the second vacuum chamber with holes in the transport belt," as Defendants urge it to do. This would be a classic example of reading limitations from the specification into the claims.

For these reasons, the Court construes the limitation" cyclical registration to mean "periodic alignment."

K. "Disposed Inwardly"

Claims 1,4, 5 and 9 require that the transport belt is to be "disposed inwardly of said first vacuum chamber where said transport belt is juxtaposed said first vacuum chamber " '922 Pat., col. 8, ll. 50-54; col. 9, ll. 40-44. Defendants argue this term is invalid because "inwardly" could mean several things: "(a) toward the center of the chamber itself (*i.e.*, inside the chamber); (b) closer to the items of mail than the chamber; and (c) closer to the center of the entire machine than the chamber." Def.'s Br. Cl. Constr. at 40. Defendants further argue that there is no help in the specification, and Defendants contend that resort to extrinsic evidence is futile because the experts cannot provide a definition for the term, given its many possible meanings. Thus, Defendants claim that the claim is invalid for indefiniteness. See 35 U.S.C. § 112 ¶ 2. "A claim is indefinite if, when read in light of the specification, it does not reasonably apprise those skilled in the art of the scope of the invention." Amgen, Inc. v. Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1342 (Fed. Cir. 2003) (citations omitted). Nevertheless, Defendants admit that gleaning

something from the specification is certainly preferable to holding a claim invalid. Tr. at 396:7-21. Indeed, "[a] patent shall be presumed valid. The burden of establishing invalidity of a patent or any claim thereof shall rest on the party asserting such invalidity." *ACS Hosp. Sys., Inc. v. Montefiore Hosp.*, 732 F.2d 1572, 1575 (Fed. Cir.1984).

Plaintiff says that nothing in the specification contradicts the ordinary meaning of the two terms. Unfortunately, Plaintiff defines each word ("disposed" and "inwardly") in isolation without regard to the language in the claims. Plaintiff defines "disposed" as "[t]o put in a particular or suitable place; and, "inwardly" as "[t]owards the inside, interior or center as of a place, space or body." Jt. Cl. Constr. Statement at 10. Looking at the specification, the placement of the transport is clearly depicted at Fig. 3. Figure 3 shows that the transport belt is "disposed" "inwardly" of the first vacuum chamber and toward the transfer means, which is closer to the center of the machine than the first vacuum chamber. Defendants argue that the Court cannot construe inwardly to mean toward the center of the machine because of the descriptions of the "inner flap" (124 in Figure 3) and "outer flap" (128 in Figure 3) in the specification. The specification states that the "[i]nner flap is mounted generally perpendicular to belt 102 . . . " '922 Pat., col. 5, 11.31-35. Based upon the illustrated embodiment of the invention in Fig.3, Defendants suggest that the relative positions of these flaps suggest that the "inward" direction could be either down (i.e., in the opposite direction of the mail transfer) or towards the edge of the feed conveyor belt (24) closer to the delivery station and toward the transfer means. Tr. at 390:16-25.

The Court rejects Defendants' construction. "Inwardly" is a relative term and depends on the context in which its used. Here the claims specifically state that the belt is "inwar[d] of said first vacuum chamber" and the specification depicts its exact positioning as inward of the first vacuum toward the direction of travel of the mail. *See*, *e.g.*, '922 Pat., col. 8, ll. 50-51. Hence, "disposed inwardly" read in light of the specification, means toward the transfer direction and closer to the center of the machine than the first vacuum chamber. The prosecution history also informs the Court's construction. During prosecution, the patent applicant said, "a key feature in the effectiveness of the invention is the ability to separate the downstream-most item of mail from its adjacent item. This is accomplished in part by having the transport belt *mounted inwardly* of the initial hold down means so as to avoid a complete surface to surface contact of that item of mail with the initial hold down means." Pl.'s App. J at A398-99. The Court finds that because the applicant was remarking on the efficient separation and transfer of the downstream most item from the rest of the stack, the statement suggests that the belt is located inwardly of the first vacuum chamber toward the direction of travel of the mail.

Accordingly, the Court finds that this limitation is not invalid for indefiniteness. Defendants have not met their burden to establish that the limitation in each of claims 1, 4, 5, and 9, requiring the transport belt to be "disposed inwardly of said first vacuum chamber where said transport belt is juxtaposed said first vacuum chamber" is indefinite, and that, as a result, these claims 1, 4, 5 and 9 are invalid under 35 U.S.C. § $112 \, \P \, 2$. Thus, "disposed inwardly," construed in light of the intrinsic record, means toward the direction of travel of the mail and closer to the

center of the machine than the first vacuum chamber.

L. "Initial Hold Means" (Claim 13)

Claim 13 simply states the singulation station includes an "initial hold means located juxtaposed partially across said discharge end for holding a downstream-most item of mail" '922 Pat., col. 10, l. 67- col. 11, l.1. Unlike claims 1 and 4, claim 13 does not describe the structure of the initial hold means, which we know from claims 1 and 4, includes the first vacuum chamber. In contrast, in claim 13, we look to the specification for structure. *See* 35 U.S.C. § 112 ¶ 6. The specification describes the vacuum chamber as having "constantly exposed holes" in a face disposed toward the discharge end of the horizontal run. '922 Pat., col. 4, ll. 5-7. Because this limitation is expressed in "means for" language, it is presumptively interpreted as a means-plus-function limitation pursuant to 35 U.S.C. § 112 ¶ 6. *Sage Prods., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1427 (Fed. Cir. 1997).

The issue presented is how much the Court should limit the structure by the specification. The parties dispute whether the specification implies that vacuum pressure is continuously applied through the constantly exposed holes to catch the mail. The parties do not dispute, however, that this is a means-plus-function limitation and furthermore agree that the limitation does not recite any structure for performing the function of "holding a downstream-most item of mail." Tr. at 279:4-11, 22-23; 281:12-282:4.

The parties agree that the corresponding structure includes a vacuum chamber having continuously exposed holes in a face disposed toward the discharge end of the horizontal run. Tr. at 450:11-451:2. Tritek disputes that the corresponding structure is also limited insofar as vacuum pressure is continuously applied in the vacuum chamber. Tr. at 452:4-453:15. On this point, Plaintiff is correct – the specification does not specifically say that the vacuum pressure is continuously applied. Defendants concede this point. '922 Pat., col. 3, l. 64 -col. 4, l. 13; Def.'s Proposed Findings at ¶ 77. The specification language, at best, suggests that the vacuum remains on while the sorter is working: "as an item of mail 66 is moved into contact with the exposed wall of chamber 71, the suction slits 76 initially hold the item of mail in its vertical position against the wall of chamber 71." '922 Pat., col. 3, ll. 7-10. Defendants argue, however, that the specification does not describe any structure whereby the vacuum pressure can be controlled or varied or where the vacuum source is otherwise prevented from applying vacuum pressure within the vacuum chamber.

Because the Court must look to the specification to define the structure of this meansplus-function limitation, and because the specification does not state that the vacuum pressure of the initial hold means must be continuously applied, the structure should not be so limited. After a review of the specification, the Court interprets the structure for performing the function of "holding a downstream-most item of mail" as "the structure of a vacuum chamber having continuously exposed holes in a face disposed toward the discharge end of the horizontal run in which vacuum pressure is applied."

M. "Vertically Disposed Transfer Means" (Claim 13)

Because "vertically disposed transfer means" is expressed in "means for" language, it is presumptively interpreted as a means-plus-function limitation pursuant to 35 U.S.C. § 112 ¶ 6. Sage Prods., 126 F.3d at 1427. The parties agree that this is a § 112 ¶ 6 limitation. Similar to the initial hold means of claim 13, the structure of the transfer means is not disclosed in the claim itself and thus the Court must look to the specification for guidance. The function of the transfer means is "for removing the downstream-most item of mail away from said initial hold means and conveying the downstream-most item of mail to said delivery station" '922 Pat., col. 11, ll. 4-7.

The parties agree that the corresponding structure includes "a vacuum chamber having a plurality of holes in its face and a vertically mounted transport belt having a plurality of holes along a portion (less than the entirety) of its length, such that the transport belt rotates around the vacuum chamber." Def.'s Proposed Findings at ¶81; Pl.'s Resp. at ¶81; Tr. at 455:8-17. The parties dispute whether the aligning of the holes is part of the structure of the transfer means in claim 13 (in which case the Court could use the structure to define the claim) or if it is functional language and only a description of the preferred embodiment. Plaintiff argues that the language regarding the aligning of the holes is functional, not structural language.

Defendants contend that the structure must include holes in the transport belt and the holes in the vacuum chamber that cyclically register allowing vacuum pressure to be periodically applied to the downstream-most item of mail. Tr. at 458:3-460:21; Pl.'s App. at A189. Defendants cite the specification, col.4, Il. 14-30, which provides in relevant part:

A second vacuum chamber 77 is juxtaposed first chamber 71 and extends the remaining distance across belt 24 . . . Second vacuum chamber 77 also is in the form of two compartments 78,80. Each compartment 78, 80 is provided with a number of enlarged holes 82 . . . Downstream from holes 82 are smaller holes 84 . . . As indicated the holes 84 are of smaller size than the main or gripping holes 82 and function to supplement the mail transportation after pickoff from chamber 71.

Id., col.4, ll 14-30. Later, the specification explains "holes 120 and 122 cyclically align with the large gripping holes 82 and the smaller relief holes 84..." '922 Pat., col. 5, ll. 6-8. Thus, the holes must be of correct size and shape and thus configured to align with the holes of the transport belt. Nevertheless, Plaintiff disagrees with this construction, stating that Defendants define more structure than is necessary to perform the function of "removing the downstream most item of mail away from said initial hold means and conveying the downstream-most item of mail to said delivery station." *See* '922 Pat., col. 11, ll. 4-7.

Based on its review of the claims and specification, the Court rejects Plaintiff's argument and finds that the holes must be configured in order to perform the agreed upon function. To perform the function of "removing the downstream-most item of mail away from said initial hold

means and conveying the downstream-most item of mail to said delivery station," the transfer means must include: (1) a vacuum chamber having a plurality of holes in its face; (2) a vertically mounted transport belt having a plurality of holes along a portion (less than the entirety) of its length and configured to rotate around the vacuum chamber; and (3) the holes in the transport belt and the holes in the vacuum chamber configured to cyclically register so that vacuum pressure is periodically applied to the downstream-most item of mail.¹²

N. "Paddle"

Claim 5 provides that the "stack maintaining mechanism of claim 4 includes a paddle mounted across and in contact with said horizontal run." '922 Pat., col. 11, ll. 7-8; *see also* Fig. 7. Claim 13 in relevant part says the "paddle" is for "contacting the items of mail and maintaining the items of mail upright" '922 Pat., col. 11, ll. 8-10. Claim 8 (not at issue) describes the paddle as being attached to the arm of an offset bracket. The parties dispute whether the "paddle" includes an attachment arm or whether it is just a flat plate. Plaintiff defines paddle as a "[m]ovable surface and attachment arm located relatively upright for maintaining mail in a pre-determined orientation or direction." Jt. Cl. Constr. Statement at 16. Defendants define the "paddle" to mean "[a] flat plate having a pair of inclined lower edges which form a lowermost corner, the plate being in contact with an upstream-most item of mail in the stack and configured to sandwich the stack between it and the singulation station and push the stack toward the discharge end." *Id*.

The Court begins its analysis with the ordinary meaning of the term "paddle." Claim terms are presumptively given their ordinary and customary meaning to a person of ordinary skill in the relevant art. See Texas Digital, 308 F.3d at 1202. The ordinary meaning of the word "paddle" is "any of various implements consisting of a shaft with a broad, flat blade or blade-like part at one or both ends." See, e.g., McGraw-Hill Dictionary of Scientific and Technical Terms 1355 (4th ed. 1989). Claims 5 and 13 discuss the "paddle" element. Claim 5 says the stack maintaining mechanism of claim 4 includes a "paddle." Claim 13 provides similarly. When construing the '922 patent, the Court considers both the non-asserted claims of the '922 patent in addition to the asserted claims. See Vitronics, 90 F.3d at 1582 ("First, we look to the words of the claims themselves, both asserted and non-asserted, to define the scope of the patented invention."). Claim 8 provides further guidance by stating the paddle is attached to an arm of the offset bracket. '922 Pat., col. 9, 11. 60-66. The term "paddle" should be construed consistently throughout the claims. See, e.g., Phonometrics, 133 F.3d at 1465 (consistently construing the reappearing term "substantially instantaneously" across four clauses of the same claim); Fonar Corp. v. Johnson & Johnson, 821 F.2d 627, 632 (Fed. Cir. 1987) (meaning of a claim term should be interpreted so it is consistent with its appearance of other claims in the same patent and

It's important to note that *all* the holes in the transport belt need not cyclically register with the holes in the second vacuum chamber at the same time. This is a limitation that Defendants attempted to add to the vertically mounted belt limitation in claims 1 and 4. *See* discussion *supra*, Part II.H.

the specification).

Defendants argue that "construing 'paddle' to include an attachment arm would be inconsistent with unasserted claim 8 of the patent." Def.'s Proposed Findings at ¶ 50, citing Tr. at 431:16-432:24. Defendants say "Claim 8 depends indirectly from claim 5, which recites a 'paddle." *Id.* Claim 8 requires that the sorting system include "a guide rail, an offset bracket being mounted to said guide rail, said offset bracket having a pair of arms, one of said arms being slidably mounted on said guide rail and the other of said arms being secured to said paddle." '922 Pat., col. 9, ll. 60-64. Claim 8 also provides that the paddle is "mounted for movement selectively toward and away from said singulation station." *Id.*, col. 9, ll. 65-66. Defendants persuasively argue that "[i]f the term 'paddle' already include[s] an attachment arm, then the recitation of an 'attachment arm' as a separate component in claim 8 would be redundant and ambiguous." Def.'s Proposed Findings at ¶ 50. Defendants contend "[n]o such redundancy or ambiguity arises if the term "paddle" is construed to mean only a flat surface." *Id.*

Plaintiff's construction, in contrast, ignores the context in which claims are written. The appropriate starting point in any claim construction analysis is the claim language itself. Phonometrics, 133 F.3d at 1464 (citations omitted). Defining the term "paddle" to include a shaft or attachment arm, although consistent with the ordinary definition of "paddle," would be illogical because the paddle is attached to an attachment arm according to non-asserted claim 8. Nonasserted claim also uses the word "paddle" in a manner more consistent with the specification, which is depicted as a flat plate. See Fig. 7. As Defendants contend, flat plate 52 is consistently identified as the paddle by the specification. The specification separately describes the attachment arm 46, offset extensions 48 and 50, and guide rail 44. '922 Pat., col. 3, 11. 10-21. Likewise, Defendants' construction is consistent with the specification, which depicts the paddle as a flat plate. See Fig. 7. Thus, the Court finds that Plaintiff's definition is unsupported by first, the plain language of the claims, and second, by the specification. Thus, the Court declines to adopt Plaintiff's construction. Cf. Fonar Corp., 821 F.2d at 632-33 (declining to adopt Plaintiff's interpretation of the claim when it was inconsistent with the claim language, both asserted and nonasserted, and the specification). However, the Court cannot accept Defendants' complete definition as it too is incorrect. The language in Defendants' definition, "having a pair of inclined lower edges which form a lowermost corner," is too precise. Jt. Cl. Constr. Statement at 16. This definition is a classic example of improperly reading limitations from the specification (see e.g., Fig. 7) into the claims. See Tr. at 436:24 - 438:25. Neither party asserts this paddle itself is a means-plus-function limitation. Rather, according to claim13, col. 11, 11. 7-8, the paddle is part of the "stack maintaining mechanism," which the Court has found to be a means-plus-function limitation. See supra Part C. Hence there is no reason to limit the paddle by the specification in this instance. See Tr. at 438: 1-25. Thus, a paddle is "a flat plate in contact with an upstream-most item of mail in the stack and configured to sandwich the stack between it and the singulation station and push the stack toward the discharge end."

O. "Switch"

Claim 13 describes a "switch." The switch is located at the "downstream end" of the conveyor and is located so that it senses an item of mail and the paddle. '922 Pat., col. 11, ll.1112. Claim 13 also provides that the invention include "a switch . . . for controlling the operation of said feed conveyor belt whereby said feed conveyor belt is halted in its movement when said switch senses an item of mail and continues its movement upon removal of the item of mail, said switch being located for sensing said paddle in said path of movement of said paddle." *Id.*, ll.1117. The parties agree that a single "switch" element senses both the paddle and the items of mail. Tr. at 476:1-7. The parties also agree that no matter how many components the "switch" element has, all of the components of the "switch" must make up the entire "switch" element and its limitations. Tr. at 477:23-478:8. The first issue is whether the term "switch" is defined by its ordinary meaning or whether it was redefined by the patentee by virtue of the claims and specification. The second issue is where the switch is located, Tr. at 476:4-7, which will be discussed *infra* at "Path of Movement."

Plaintiff defines "switch" to mean "[a] device for turning on or off or directing an electrical current or making or breaking a circuit." Jt. Cl. Constr. Statement at 20. Defendants define "switch" to mean "a sensing device." *Id.* We first look to the claim language to determine this invention's scope and thereby the meaning of the word "switch." *Vitronics*, 90 F.3d at 1582. As stated, claim 13 provides for a "a switch located at said downstream end for *controlling* the operation of said feed conveyor belt whereby said feed conveyor belt is halted..." '922 Pat., col.11, ll. 11-13. At first blush, the word "controlling" suggests Plaintiff's definition is correct. "Control" is defined in relevant part as a "means or method of controlling," such as "a hand operated or automatic mechanism used to regulate or guide the operation of a machine or an apparatus." Webster's Third New International Dictionary Unabridged 1090 (1961 ed.). "A sensing device" would not necessarily "control." Nevertheless, claim 13 does not say that the switch "controls," rather it says the switch is "located... *for* controlling whereby said... belt is halted." '922 Pat., col. 11, ll. 11-13 (emphasis added). From the claim language itself, the switch does not directly "halt" or "control."

Next, the Court consults the specification for guidance. Although there is a heavy presumption that words in a claim bear their ordinary and customary meaning, "it is always necessary to review the specification to determine whether the inventor has used any terms in a manner inconsistent with one or more of their ordinary meaning." *Vitronics*, 90 F.3d at 1582. The specification states that:

"[W]hen pressure is applied to microswitch 40 as for example from contact by an item of mail, torque motor 32 is inactivated and belt 24 momentarily stops. Once the item of mail is removed from contact with microswitch 40 the microswitch 40 returns to its normal position wherein torque motor 32 is again activated and belt 24 is moved another increment until the next item of mail contacts microswitch 40.

'922 Pat., col. 2, l. 67 - col. 3, l. 6. Defendants point out that while the electrical operation of the switch is not described, the specification does describe that the microswitch 40 senses the

presence of both the items of mail and the paddle. While Defendants' definition is consistent with the specification, Plaintiff's definition, although it may represent the ordinary meaning of the term "switch," is clearly inconsistent with specification, which suggests the "switch" is more of a sensing device. Thus, based on a review of the claim language and the specification, the Court finds that Defendants' definition of "switch," as a "sensing device," prevails.

L. "Path of Movement"

Claim 13 requires that the switch be "located for sensing said paddle in said path of movement of said paddle . . ." '922 Pat., col.11, ll. 15-17. This language raises the issue of where the "switch" is located because Defendants contend that claim 12 requires that *the switch* is located in the *paddle*'s path of movement. Tr. at 465:18-466:2. In contrast, Plaintiff argues that this limitation merely requires that the *paddle* be located in its own path of movement when it is sensed by the switch. Tr. at 470:15-20. Defendants further point out that Plaintiff's original Claim Chart interpreted this limitation as Defendants interpret it now. In comparing the accused device, Plaintiff's claim chart provides "[t]he attached Exhibit L shows the mechanical component of the switch located in the path of the paddle movement . . . this mechanical component of the switch is located in the path of part of the paddle." Def.'s App. R at A901.

The Court again begins its analysis with the language of claim 13. The claim itself supports Defendants' construction. The parties agree that the "path" has a path of movement. Defendants argue persuasively that the paddle is always necessarily in its own path of movement and to this Plaintiff does not object. Defendants further argue that Tritek's construction is irrational because it would be redundant to say that the paddle is sensed in its own path of movement, "in said path of movement of said paddle," and thus, claim 13 must be referring to the switch.

The Court must interpret the phrase "path of movement" in the context in which it is written. Although Plaintiff argues that the switch need only be located so as to be able to sense the paddle in its own path of movement, the Court finds reading the claim this way would make the whole limitation "located for sensing said paddle in said path of movement of said paddle" superfluous, as Defendants contend. This circumstance is so because, as argued by Defendants, by definition the paddle is always going to be located in its own path of movement. Hence, the claim drafter must have been referring to the switch because its location would not be obvious absent this limitation. Therefore, claim 13 provides a location for the switch: "said switch being located for sensing said paddle in said path of movement of said paddle" '922 Pat., col. 11, ll. 15-17.

Furthermore, in consulting the rest of the intrinsic record, the Court finds Defendants' definition is consistent with the embodiment of the invention described in the specification. The specification describes microswitch 40 as located in the path of movement of paddle 52: "Ultimately, when the last item of mail is discharged paddle 52 itself contacts microswitch 40 to inactivate motor 32" '922 Pat., col. 3, ll. 60-62; *see also* Fig. 3.

Based upon the language of claim 13 itself and the guidance provided in the specification, the Court construes this limitation to require that the switch be located in the path of movement of the paddle.

III. CONCLUSION

The Court has construed the claims of the '922 patent as discussed herein. The parties are hereby ORDERED to file a joint status report within 10 days of the filing of this opinion indicating how they would like to proceed in this case in light of the Court's claim construction. The parties shall discuss whether they would like to supplement the briefing with respect to Defendants' Motion for Summary Judgment on Noninfringement, and if so, shall suggest a time schedule for such additional briefing.

EDWARD J. DAMICH Chief Judge