United States District Court,
S.D. Indiana, Indianapolis Division.

STANT MANUFACTURING, INC,
Plaintiff.
v.
GERDES, GMBH,
Defendant.

No. 1:02-CV-01653 RLY WT

Sept. 27, 2004.

Donald E. Knebel, Helen K. Geib, Lynn C. Tyler, Paul B. Hunt, Indianapolis, IN, for Plaintiff.

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ENTRY ON CLAIM CONSTRUCTION

YOUNG**, J.**

The Plaintiff, Stant Manufacturing, Inc. ("Stant"), filed this case against the Defendant, Gerdes, GmbH ("Gerdes"), on October 28, 2002, alleging that Gerdes' products infringe on five patents held by Stant. This matter now comes before the court on the issue of claim construction. On April 6, 2004, the court held a claim construction hearing in this matter. After considering the parties' arguments at the hearing as well as those presented in their briefs previously submitted to the court, the court now finds as follows.

I. Factual Background

At this point in the litigation, the case involves four patents held by Stant-U.S. Patent Nos. 4,678,097 B1 (the "reexamined '097 patent"), 5,449,086 (the " '086 patent"), 5,480,055 (the " '055 patent"), and 5,794,806 (the " '806 patent"). FN1 Each of these patents relate to fuel caps used on vehicles.

FN1. Copies of the patents at issue are found as a part of the Exhibit Appendix to Stant Manufacturing Inc.'s Opening Brief on Claim Construction Exhibits 1-5 ("Stant Ex. ____").

Briefly, the history of these patents began with the development of the breakaway gas cap in the 1970s after government regulations and original equipment manufacturer specifications made it necessary for a fuel system to experience minimal leaking following a crash. U .S. Patent No. 4,678,097 (the " '097 patent") represented an improvement in the breakaway gas cap technology. FN2 In brief, this cap contained two flanges-an upper and a lower-designed so that in the event of a crash, the upper flange would break off and leave the lower flange to seal the filler neck and prevent fuel spillage. Despite this technology, the caps

continued to leak and during the mid-1980s, Robert Harris ("Harris"), a Stant employee, developed the idea for a "lost motion," "delayed actuation," or "free spin" fuel cap. Harris' first design for this type of cap was the subject of U.S. Patent No. 4,765,505 (the " '505 patent"), which Stant originally asserted against Gerdes in its complaint in this case, but later withdrew. The key feature of the "lost motion" fuel cap is that it allows the cap's handle to rotate a certain number of degrees, determined by how the cap is built, before the cap begins to unseal from the filler neck. In other words, this fuel cap design allows for a certain degree of play when one turns the fuel cap before the lugs within the cap are engaged and the fuel cap begins to unseal from the filler neck thus minimizing the likelihood of accidental removal and fuel spillage.

FN2. Following two requests, the Patent and Trademark Office ("PTO") reexamined the '097 patent. On September 7, 1999, the PTO issued the reexamined '097 patent that is at issue in this case.

The process of reexamination begins with any person submitting to the PTO a request for reexamination of a patent's claims based on prior art patents or printed publications pursuant to 35 U.S.C. s. 302; 37 C.F.R. s. 1.510. If the PTO determines that reexamination is warranted, it then follows the procedures for initial examination of a patent. At the end of the reexamination, the PTO issues certificate canceling any claim in the patent it determines to be unpatentable, confirming any claim in the patent determined to be patentable, and incorporating any proposed amended or new claim that it determines to be patentable. *See Chisum on Patents,* 11.07[4].
After obtaining the '505 patent, Stant altered the "lost motion" fuel cap design and created the cap it then patented in the '086 patent. Finally, the '055 patent and the '806 patent, a continuation of the '055 patent, also represent further changes to Stant's lost motion fuel cap designs. Specifically, these designs contain a lost motion mechanism that is biased by a spring in the cap-installation direction such that there is no lost motion when the cap is installed-instead, the cap can be directly inserted and tightened without play in the handle-but the lost motion remains when the cap is removed.

According to Stant's complaint, Gerdes has made, used, sold, and/or offered for sale fuel caps that embody the patented inventions of and infringe certain claims of the reexamined '097 patent, the '086 patent, the '055 patent, and the '806 patent. Gerdes admits that it is in the business of designing, manufacturing, and/or selling fuel caps for vehicles, however, denies Stant's allegations of infringement. Further, Gerdes filed a counterclaim seeking the court to declare that it did not infringe on the asserted patents, that the asserted patents are invalid, and that this case constitutes an exceptional case under 35 U.S.C. s. 285.

II. The Law of Claim Construction

A. Generally

Claims are the component of a patent that "define the scope of the right to exclude." Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248 (Fed.Cir.1998). Construction of the claims is "the process of giving proper meaning to the claim language." Abtox, Inc. v. Exitron Corp., 122 F.3d 1019, 1023 (Fed.Cir.1997).

The meaning of patent claims is always a matter of law to be determined by the court. Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed.Cir.1995) (*en banc*), *aff'd,* 517 U.S. 370, 116 S.Ct. 1384, 134 L.Ed.2d 577 (1996). In analyzing the terms, the court looks at them from the vantage point of a person of ordinary skill in the art at the time of the invention. Id. at 986. This process always "begins and ends in all cases with the actual words of the claim." Teleflex, Inc. v. Ficosa North America Corp., 299 F.3d 1313, 1324 (Fed.Cir.2002) (quoting Renishaw PLC v. Marposs Societa' per Azioni, 158 F.3d 1243, 1248

(Fed.Cir.1998). Generally, in the absence of evidence of contrary intent, the court must give the words of the claims their ordinary and customary meaning. *Id*. at 1325; Johnson Worldwide Assoc., Inc. v. Zebco Corp., 175 F.3d 985, 989 (Fed.Cir.1999) ("[A] court must presume that the terms in the claim mean what they say, and, unless otherwise compelled, give full effect to the ordinary and accustomed meaning of claim terms.").

The court's analysis of the claim language is aided by the intrinsic evidence of record, including the specification, and, if in evidence, the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). In particular, the Federal Circuit has found that the patent specification "is the single best guide to the meaning of a disputed term." *Id*. Through the patent specification, a patentee may define terms in a manner other than their ordinary meaning so long as the patentee's special definition is clear in the specification. *Id*. Despite the rule that a claim must be read in light of its specification, the court must be careful to avoid reading the particular formulations and examples of the specification into the claims themselves. Advanced Cardiovascular Sys., Inc. v. Scimed Life Sys., Inc., 261 F.3d 1329, 1338-39 (Fed.Cir.2001); *see also* Liebel-Flarsheim Co. v. Medrad, Inc., 358 F.3d 898, 904 (Fed.Cir.2004) (recognizing "the fine line between reading a claim in light of a specification, and reading a limitation into the claim from the specification."). In fact, "[e]ven when the specification describes only a single embodiment, the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using 'words or expressions of manifest exclusion or restriction." Liebel-Flarsheim, 358 F.3d at 906. Similarly, the court may not read the specification to extend the scope of the claim beyond its plain language. Novo Nordisk of N. Am., Inc. v. Genentech, Inc., 77 F.3d 1364, 1369 (Fed.Cir.1996).

Another source of intrinsic evidence relevant to claim interpretation is the prosecution history of the patent, if it has been made part of the record.

This history contains the complete record of all proceedings before the Patent and Trademark Office, including any express representations made by the applicant regarding the scope of the claims. As such, the record before the Patent and Trademark Office is often of critical significance in determining the meaning of claims.

Vitronics, 90 F.3d at 1582.

If necessary, the court may also examine extrinsic evidence to assist in determining the meaning of the disputed claim language. Id. at 1583. The court's reliance on extrinsic evidence such as expert testimony, inventor testimony, and articles must, however, be reserved for cases in which there is ambiguity in the claims after the court considers the intrinsic record. Id. at 1582-83. Without such a reservation, the right of a competitor to examine the intrinsic evidence in the public record in order to determine the scope of the patented invention, so that he or she may attempt to design around the protected invention, would be meaningless because it would too easily allow the patentee to alter the public record with additional evidence at trial. Id. at 1583.

While dictionaries, encyclopedias, and treatises technically fall within the definition of extrinsic evidence, the Federal Circuit as held that these sources are treated differently. Id. at 1584. The court has specifically found that "[d]ictionaries, encyclopedias and treatises, publically available at the time the patent is issued, are objective resources that serve as reliable sources of information on the established meanings that would have been attributed to the terms of the claims by those of skill in the art." Texas Digital Sys. Inc. v.

Telegenix, Inc., 308 F.3d 1193, 1202-03 (Fed.Cir.2002). Thus, the court may examine technical treatises and dictionaries "at any time" in order to better understand the underlying technology and can rely on this evidence to construe the claims so long as it does not contradict the patent documents. Vitronics, 90 F.3d at 1584, n. 6.

Once the court has determined the meaning of a term in one claim, the court must continue to apply that interpretation to the term when used in other claims, as well as the specification, unless there is a clear indication that the term is used differently in different contexts. Southwall Tech., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1579 (Fed.Cir.1995). The court must also consider, however, the doctrine of claim differentiation which presumes that different claims have different scopes in at least one aspect such that, if possible, none of the claims are superfluous or meaningless. *See* Comark Communications, Inc. v. Harris Corp., 156 F.3d 1182, 1187 (Fed.Cir.1998).

B. Means Clauses

The concept of "means-plus-function" claim drafting as governed by 35 U.S.C. s. 112, paragraph 6 (" s. 112, para. 6") is very important in this case. According to s. 112, para. 6, an element in a combination claim may be described simply as the means for performing function without specifically setting out the structure or material necessary to perform the function. s. 112, para. 6. If this is the case, then the claim will be construed to cover "the corresponding structure, material, or acts described in the specification and equivalents thereof." *Id*. When the word "means" is used in a claim limitation, the court must presume that the patentee intended s. 112, para. 6 to apply. Greenberg v. Ethicon Endo-Surgery Inc., 91 F.3d 1580, 1584 (Fed.Cir.1996). This presumption may be rebutted if the claim provides a sufficient structure to perform the function. Envirco Corp. v. Clestra Cleanroom, Inc., 209 F.3d 1360, 1365 (Fed.Cir.2000). Where the term "means" is not used, however, there is a rebuttable presumption that s. 112, para. 6 does not apply. Watts v. XL Sys., Inc., 232 F.3d 877, 880 (Fed.Cir.2000). This presumption may also be rebutted with a showing that the claim sets forth a function, but not a sufficient structure to perform that function. *Id*.

With this legal background in mind, the court may proceed to resolve the meanings of the disputed terms in this case.

III. Discussion

As stated above, this case involves four patents. Within these patents, the parties dispute the meaning of over 30 terms. The court will discuss each patent and each disputed term of the particular patent separately and only to the extent necessary to resolve the controversy. *See* Vivid Techs., Inc. v. Am. Science & Eng'g, Inc., 200 F.3d 795, 803 (Fed.Cir.1999).

A. The Reexamined '097 Patent

The '097 patent and the reexamined '097 patent claim a breakaway gas cap as described above.

1. Housing

The patentee uses the term "housing" throughout the reexamined '097 patent including specifically in asserted Claims 11, 21, 24, 25, 27, 32, 34, 35, 36, 39, 40, 41, and 42. The parties agree that the proper construction of this term begins with the dictionary definition. Webster's New Universal Unabridged Dictionary defines "housing," in relevant part as "anything that covers or protects" and "a fully enclosed

case and support for a mechanism." Webster's New Universal Unabridged Dictionary (1996) ("Webster's Universal"), Stant Ex. 103, p. 928. Stant argues that nothing in the specification or prosecution history adds anything to this definition and thus, the court should give the term this simple definition. Stant's Opening Brief on Claim Construction ("Stant Br."), p. 11. Gerdes argues, on the other hand, that the claims and specification dictate that external protrusions, including flanges, threads, and vent strips, are not part of the housing and that the definition of housing should reflect this exclusion. Brief in Support of Gerdes GMHB's Claim Construction ("Gerdes Br."), p. 6.

The ordinary definition of the term "housing" does not itself exclude any other structures from being a part of the structure that "covers or protects." Thus, the court must look to the manner in which the patentee used the term in claims and specification of the reexamined '097 patent. The parties each point to independent claim 11 for support of their positions. In that claim, the patentee refers to the "housing having a radially outwardly extending first flange on an axially upper portion of said housing." Reexamined '097 patent, Stant Ex. 2, col. 1, ll. 49-51. This usage, however, even with its use of the word "having," does not clearly indicate a specialized meaning for "housing" that either includes or excludes the flange as a part of the housing. In other claims, for example, the patentee refers to the "first flange attached to the housing." Id. at col. 3, ll. 19, 39. Thus, in the claims the patentee uses the term in a variety of manners, none expressing the clear intent of the patentee to deviate from the ordinary meaning of the term by either excluding any structures from being a part of the "housing" or by requiring any particular structures to make up the "housing."

Further, in the specification the patentee also uses "housing" as a general term to describe the outer covering of the fuel cap. *See* '097 patent, Stant Ex. 1, col. 1, ll. 34-47. In order to overcome the presumption that the intention of the patentee was to use "housing" in its ordinary and customary manner or in order for the patentee to disavow or disclaim scope of coverage, he or she must use "words or expressions of manifest exclusion or restriction, representing a clear disavowal of claim scope." Int'l Rectifier Corp. v. IXYS Corp., 361 F.3d 1363, 1370 (Fed.Cir.2004). The court finds that in the claims and specification of the '097 patent and the reexamined '097 patent, the patentee has not expressly indicated that the term "housing" has a specialized meaning. For this reason, there is nothing that suggests to a person of ordinary skill in the art that he or she is to read "housing" to mean anything other than its ordinary definition. Thus, the term "housing," as used in the reexamined '097 patent, means a case covering, protecting, or enclosing other parts of the fuel cap.

2. Flange

The patentee also uses the term "flange" throughout the claims of the reexamined '097 patent and specifically in asserted claims 11, 19-22, 24, 26-28, 31-40, 42. Again, the court begins with the ordinary meaning of "flange" as set forth in the dictionary. Webster's Universal defines "flange" in relevant part as, "a projecting rim, collar, or ring on a shaft, pipe, machine housing, etc., cast or formed to give additional strength, stiffness, or supporting area or to provide a place for attachment of other objects" or "a broad ridge or pair of ridges projecting from the edge of a rolled metal shape generally at right angles, in order to strengthen or stiffen it." Webster's Universal, Stant Ex. 103, p. 729. Similarly, the dictionary definition advanced by Gerdes states that a "flange" is "a rim or edge projecting at right angles, to provide strength or means of attachment to another part." Webster's Third New International Dictionary, Unabridged (1993) ("Webster's Third"), Gerdes Exhibits for Opening Markman Brief ("Gerdes Ex. __") 226.

To arrive at the definition of "flange" in this context, the court must refine these possible dictionary

definitions in light of the patent's claims and specification. *See* Texas Digital Sys., Inc. ., 308 F.3d at 1205 (holding that by examining the dictionary definition of a term in combination with the "intrinsic record to select from those possible meanings the one or ones most consistent with the use of the words by the inventor, the full breadth of the limitations intended by the inventor will be more accurately determined and the improper importation of unintended limitations for the written description into the claims will be more easily avoided."). This is also precisely what the court in Warner v. Ford Motor Co., 331 F.3d 851 (Fed.Cir.2003), did in arriving at the definition of "flange" as used in the context of the patent at issue in that case. In that case, the court determined that the proper definition of flange was a simple one-"a raised or projecting edge." Because the patent at issue before this court is not the same as that in *Warner,* this court may not simply accept that court's definition, but must engage in a similar analysis to determine the meaning of "flange" as used in the context of the '097 patent and the reexamined '097 patent.

One of the refinements of the definition that Gerdes urges the court to adopt is to limit "flange" to only disc-shaped structures. Gerdes Br., p. 10. Nothing in the actual claim language clearly expresses an intention to so limit the definition. In support of its argument, Gerdes points to the specification and drawings of the '097 patent where the patentee uses only examples of disc-shaped flanges and describes the flange in the drawings using "disc portion" interchangeably with "flange." *See* '097 patent, Stant Ex. 1, figures 1, 3, 5; col. 2, ll. 41-43; col. 3, ll. 64-66. The drawings and references to the flange in the specification, however, are simply illustrations of the preferred embodiment of this invention. The fact that the patentee describes only disc-shaped flanges in the preferred embodiment does not prohibit the patent from covering other types of flanges. *See e.g.,* Teleflex Inc. v. Ficosa North America Corp., 299 F.3d 1313, 1328 (Fed.Cir.2002) ("To the extent that the district court construed the term 'clip' to be limited to the embodiment described in the specification, rather than relying on the language of the claims, we conclude that the district court construed the claim term 'clip (28)' too narrowly."). The court sees nothing in the actual claim language that indicates the clear intention of the patentee to have these limitations read into the definition of the flange claimed in the actual claims. Thus, the court may not import this limitation. *See* Liebel-Flarsheim Co., 358 F.3d at 906-07 (listing cases in which the court found specific reason in the patent's specification to restrict the claim to only what was described in the preferred embodiment); Texas Digital Sys., Inc., 308 F.3d at 1204-05.

Under its ordinary meaning, the word "flange" may consist simply of an edge that functions as a flange. Webster's Third, Gerdes Ex. 226. Throughout the specification and claims, the patentee refers to the first and second "flanges" generally without any indication that he or she intended the term include any particular design for the flange. The preferred embodiment, as described in the specification and depicted in the figures, includes only one type of flange-the disc-shaped structure with an upper, lower, and outer edge-as stated above, although the court cannot not simply import these limitations on the structure of the flange into the claims without finding that the patentee intended this outcome. *See* Liebel-Flarsheim Co., 358 F.3d at 906-07. Thus, although the court finds that it is important to include an edge as a possible flange structure along with rim, collar, or ring, the court finds that logically even an edge must still include boundaries-that is, an upper, lower and outer surface. This finding does not, however, limit the structure of the flange in any way-it is a projecting rim, ring, collar, or edge-other than by requiring it to include its outer boundaries made up of an outer, lower, and upper edge.

One of the dictionary definitions for the word "flange" includes the requirement that the rim or edge projecting from the other structure be attached at a right angle. It is clear to the court that if the definition of "flange" included attachment at a right angle, that Claim 19's requirement that the two flanges be "substantially parallel" would be meaningless because two flanges attached to the same structure at right angles will always be parallel. Reexamined '097 patent, col. 2, ll. 20-22. Under the doctrine of claim

differentiation, this outcome should be avoided. Comark Communications, 156 F.3d at 1187. Further, nothing in the specification dictates that any particular attachment angle be included in the definition of the word "flange." Thus, the court finds that the dictionary definition of "flange" which includes the requirement of attachment at a right angle is not consistent with the definition of the word that the patentee intended in the '097 patent and therefore the court will not use this definition either. *See* Warner, 331 F.3d at 854 (finding that because one dictionary definition "most adequately represents what the inventor intended to claim in his invention," the court began with that definition rather than another).

From this discussion, the court concludes that in the context of the '097 patent and the reexamined '097 patent, the term "flange" means: a projecting rim, ring, collar, or edge attached to a structure to provide additional strength, stiffness, or supporting area or to provide a place for attachment of other objects.

3. Frangible Portion

The term "frangible portion" appears throughout the '097 patent and the reexamined '097 patent and specifically in asserted claims 11, 24, 25, 27, 32, 34, 35, 39, and 40-42. While used as a single term, this phrase is better defined by its parts. First, Webster's Universal defines "frangible" as, "easily broken; breakable" or, as in Webster's Third, "capable of being broken." Webster's Universal, Stant Ex. 103, p. 761; Webster's Third, Gerdes Ex. 228. Portion is defined, in relevant part, as "a part of a whole." Webster's Universal, Stant Ex. 103, p. 1768.

In claims of the reexamined '097 patent, the patentee describes a fuel cap in which "an impact will fracture said frangible portion of said first flange leaving said housing and said second flange intact to seal said neck." Reexamined '097 patent, col. 1, ll. 58-61. In the dependent claims, the patentee further describes this frangible portion as "positioned to lie between the first and second housing" and formed by a "groove in the axially upper portion of the housing to weaken the axially upper portion of the housing to form the frangible portion of the housing." Id. at col. 2, ll. 43-49. Similarly, in Claims 34, 35, and 42, and their dependent claims, the frangible portion is carefully described as "formed in the housing to lie between the first and second flanges," id. at col. 3, ll. 51-52, or "between the outer cover and the second flange," id. at col. 3, ll. 62-63. These claims, in combination with the specification which describes a "frangible portion" of the first flange designed "to allow the cover to break away due to an impact without breaking the housing itself," evidence a clear intention to use "frangible portion" in its ordinary manner-that is, to describe a part of the structure that is able to be broken.

Nothing in the claims or specification suggests that the patentee gave the term an extraordinary meaning such as that advanced by Gerdes. The court disagrees with Gerdes' suggestion that the definition should reflect the patentee's intent in including a "frangible portion" in the invention. When it is necessary to do so, the patentee adequately describes the term such that its purpose, that is, the reason it was included and its function in the invention, is clear to the reader of the claims and the specification. Thus, the court does not believe that it was the patentee's intent to have any limitation on the purpose of the "frangible portion" read specifically into the definition of the term itself. Thus, the court finds no reason to do so either. *See* International Rectifier Corp., 361 F.3d at 1370.

The court also disagrees with Stant's argument that the ordinary meaning of "frangible" requires qualification as "*easily* breakable." The term "easily" is imprecise and indefinite. If the court adopted Stant's position, people with ordinary skill in the art may read this term very differently depending on how "easily" one determines that the structure must break. For example, nothing in the claims or the specification makes

clear the amount of force required to break the structure. Under this definition, a potential competitor would have to determine whether his or her invention breaks too easily, not easily enough, or with just the right amount of ease to constitute an infringement of the claimed fuel cap. This certainly does not provide the potential competitor with the required precise definition that would allow the competitor to know whether he is infringing. *See* Morton Int'l, Inc. v. Cardinal Chem. Co., 5 F.3d 1464, 1470 (Fed.Cir.1993).

For these reasons, the court finds that the definition of "frangible portion" is a part of a whole that is capable of being broken.

4. Attached

The term "attached" is also used by reference throughout the claims of the reexamined '097 patent and explicitly in asserted Claims 11, 27, 32, 34, 35, and 42. The dictionary definition advanced by Stant defines "attached," in relevant part, as "joined, connected; bound." Webster's Universal, Stant Ex. 103, p. 133. Similarly, Gerdes contends that the dictionary definition of "attached" is "to make fast or join." Webster's Third, Gerdes Ex. 214.

The patentee used the term "attached" in the claims of the reexamined '097 patent to describe the connection between the first flange and the outer cover and/or the housing. Nothing in the way the term is used in the claims indicates any intention to give "attached" a meaning other than its ordinary meaning. Neither of the parties dispute this finding.

In the specification of the '097 patent, however, the patentee describes the connection between the outer cover and the first flange somewhat differently. Specifically the specification states that "[t]he outer shell 14 engages the frangible portion 60 of the disc...." The dictionary defines the term "engage," in relevant part" to mean "come into contact or to interlock with." Webster's Third, Gerdes Ex. 225. As Gerdes points out, this definition is somewhat broader than that of the term "attached" in that it encompasses more possibilities for the connection between the two structures described. Similarly, during the prosecution of the reexamined '097 patent, the patentee attempted to substitute the phrase "an outer cover engaging said first flange" for the phrase "an outer cover attached to said first flange" in one claim. *Compare* Prosecution History for the Reexamined '097 patent, Gerdes Ex. 250, p. GE 3391 *with* Prosecution History for Reexamined '097 patent, Gerdes Ex. 250, p. GE 3546a. The PTO specifically held the claim with the changed language invalid because the new phrase, "an outer cover engaging said first flange" was broader than the old language and therefore was impermissible under 35 U.S.C. s. 305. FN3 Prosecution History of the Reexamined '097 patent, Gerdes Ex. 250, p. GE 3597. As a result, the claim remained "an outer cover attached to said first flange." Reexamined '097 patent, col. 1, l. 53.

FN3. 35 U.S.C. s. 305(a) provides that "[n]o proposed amended or new claim enlarging the scope of a claim of the patent will be permitted in a reexamination proceeding...." In its Office Action in Reexamination of the '097 patent, the PTO explained that,
A claim presented in a reexamination "enlarges the scope" of the patent claim(s) where the claim is broader than any claim of the patent. A claim is broader in scope than the original claims if it contains within its scope any conceivable apparatus or process which would not have infringed the original patent. A claim is broadened if it is broader in any one respect, even though it may be narrower in other respects.

Prosecution History of the Reexamined '097 patent, Gerdes Ex. 250, p. GE 3597.

Gerdes correctly uses this exchange to argue that the court must give the terms "engage" and "attach" different meanings-with "attach" being narrower than "engage." The court agrees, however, this does not mean that the court must adopt the definition of "attached" advanced by Gerdes. To the contrary, the court finds nothing in the claims, specification, or prosecution history to indicate that the patentee intended a definition as restricted as that advanced by Gerdes. If the court were to adopt Gerdes' position that something attached must be immovable, as Stant argues, it is difficult to imagine how the outer cover could be "attached to the housing in such a manner as to allow the outer cover to rotate the housing." Reexamined '097 patent, col. 4, ll. 28-31. Instead, the court finds that the ordinary meaning of the term "attached" is more narrow than that of the term "engaged," in that "attached" requires some type of joint or bond where "engaged" allows for any type of contact, with or without attachment, between the structures. Thus, applying the ordinary meaning of the term is consistent with the prosecution history of the patent.

For these reasons the court finds that the meaning of the term "attached" is "joined, connected, or bound," but not necessarily immovable.

5. Spaced Axially Downwardly, Spaced Axially Below, Spaced Apart

These terms are used throughout the reexamined '097 patent and are sufficiently related that the court finds it appropriate to address them jointly. Specifically, the patentee uses "spaced axially downwardly" in asserted claims 11, 27, 32, 34, and 35; "spaced axially below" in asserted claim 42, and "spaced apart" in asserted claims 19 and 28.

In the patent's claims the patentee uses each of these phrases in the same way to describe the positioning of the first and second flanges. That is, in each of the independent claims, the patentee describes the "second flange spaced axially downwardly from said first flange" or "spaced axially below said first flange." Reexamined '097 patent, Stant Ex. 2, col. 1, ll. 55-56; col. 2, ll. 59-60; col. 3, ll. 22-23; col. 3, ll. 42-43; col., ll. 60-61; col. 4, l. 39. The patentee uses "spaced apart" in two of the dependent claims to further describe the position of the two flanges.

Again the court begins with the dictionary definitions of the words of the phrases. "Axial" means "or, pertaining to, characterized by or forming an axis." Webster's Universal, Stant Ex. 103, p. 145. "Downward," when used to indicate a relation, means "from a higher to a lower place or condition." The parties seem to agree that "below" has a similar meaning in scope to "downward." The meanings of these terms do not appear to be in dispute.

The resolution of the parties' dispute appears to turn on the word "spaced." In relevant part, "spaced" means "to place at intervals" or "to arrange with spaces between" Webster's Third, Gerdes Ex. 239. The court finds nothing in the text of the specification to indicate the patentee's intention that this word be given an alternate meaning. Based on this definition, Gerdes argues that the two flanges must be "arranged with spaces between" and "not be directly attached, i.e., directly firmly fixed, to each other." Gerdes Br., p. 14. Stant argues that the definition of "spaced axially downwardly" and "spaced axially below" does not provide any limitation on the space between the flanges, rather the phrase "spaced apart" is the only term that requires actual physical separation of the flanges and under the doctrine of claim differentiation "spaced apart" cannot have the same meaning as the other phrases.

Both parties point to Judge Dillin's Markman Entry in *Stant Manufacturing, Inc. v. Tesma International, Inc.,* IP 96-1325-C-D/F, to support their positions. Entry *Stant Mfg, Inc. v. Tesma Int'l Inc.,* Gerdes Ex. 204

("*Tesma* Entry"). Although that case involved the '097 patent and not the reexamined '097 patent, *Tesma* advocated a position similar to that taken by Gerdes here while Stant advanced similar arguments to those it makes in this case. The court found,

This Court does not find their positions to be in complete conflict. Clearly, the claims require two flanges, each attached to the housing at a different location. Furthermore, the two flanges must function independently of one another. However, the flanges could be abutting and still remain separately functioning structures. Such an interpretation is consistent with the claim language and specification, and it would preserve claim differentiation. Claim 1 requires two flanges, while claim 7 requires the two flanges to be spaced apart. Therefore, we conclude that a "second flange spaced axially downwardly from said first flange" and "a second flange spaced axially below said first flanges" of claims 1, 9, and 10 require the fuel cap to have two flanges, both of which are attached to the housing but not attached to each other. The second flange must be located axially below or downwardly from the first flange, but there is no limitation on the amount of space between the flanges.

Tesma Entry, pp. 20-21. The same reasoning applies in this case. First, the specification clearly indicates that the invention consists of two flanges, rather than the compound flange that appeared in the prior art. *See e.g.,* '097 patent, col. 1, ll. 25-31. And, as Judge Dillin found, these two flanges must act independently of one another in order to achieve the desired result-that is, the first flange breaking during an impact with the second flange remaining intact to seal the filler neck. Id.; *Tesma* Entry, p. 20. Further, as Judge Dillin discussed with respect to Claims 1 and 7 of the '097 patent, Claim 11 of the reexamined '097 patent requires only two flanges, while Claim 19 requires that they be spaced apart. Therefore, the court must interpret "spaced axially below" and "spaced apart" to have meanings so as not to render Claim 19 meaningless and therefore violate the doctrine of claim differentiation.

With this reasoning and the ordinary meaning of the words at issue in mind, the court agrees with the definition set forth by Judge Dillin in the *Tesma* Entry. Specifically, "spaced axially downwardly" and "spaced axially below" require that the invention have "two flanges, both of which are attached to the housing but not attached to each other. The second flange must be located axially [situated along the same axis] below or downwardly from the first flange, but there is no limitation on the amount of space between the flanges." *Tesma* Entry, p. 21. As Judge Dillin stated, this means that the flanges could be abutting-that is, touching or bordering-so long as they remain independently function and not attached-that is, joined, connected, or bonded-to one another. Spaced apart, however, requires at least some physical space between the flanges.

6. Leaving Said Housing and Said Second Flange Intact to Seal Said Neck

This term appears in asserted Claim 11. The definition of this phrase depends greatly on the definition of the term "housing" as it is used in the patent and as the court set forth in Section A(1). In that discussion, the court found that the term "housing" in the context of this patent means "a case covering, protecting, or enclosing other parts of the fuel cap." The court declined to read into this basic definition any of the limitations proposed by Gerdes, instead finding that nothing in the patent's claims or specification dictated the structures that were, or were not, a part of the housing.

This definition of the term "housing" in turn affects the meaning of the phrase "leaving said housing and said second flange intact to seal said neck." Taking into consideration this definition, in its simplest form, Claim 11 claims a fuel cap on which an impact to the outer cover fractures the breakable portion of the first

flange and leaves the "case covering, protecting or enclosing other parts of the fuel cap" as well as the second flange intact to seal the fuel fill neck. Reexamined '097 patent, col. 1, ll. 58-61. Next, the court must also take into account other important terms in this phrase including: "leaving" and "intact." The most pertinent dictionary definition of the term "leave" is "to cause to be or remain in some specified condition," in this case "intact to seal said neck." *See* Webster's Third, Gerdes Ex. 233. "Intact" is defined, in part, as "untouched" or "left complete or entire." Webster's Third, Gerdes Ex. 232.

Both the claims and the written description of the invention in the patent make clear that in order for this invention to accomplish its purpose, a portion of the cap must break at the time of impact. *See* reexamined '097 patent, col. 1, ll. 58-60; '097 patent, col. 1, ll. 38-47. It is equally clear that when this break occurs the second flange, and at least a portion of the housing, must remain in place to seal the filler neck and prevent fuel spillage. *See* reexamined '097 patent, col. 1, ll. 60-61; '097 patent, col. 1, ll. 43-47. In order to accomplish these functions, the cap consists of a breakable first flange or a breakable portion of the housing itself. Reexamined '097 patent, col. 1, ll. 58-60; col. 2, ll. 43-49.

Dependent Claims 24 and 25 specifically discuss the frangible portion of the housing itself. The court agrees with Gerdes in that nothing in these two claims dictates that the frangible portion of the housing break in every impact. That is, "an impact on the outer cover of the fuel cap may fracture the frangible portion of the first flange (as recited in claims 11 and 24) without fracturing the frangible portion included in the housing and leave the housing with its frangible portion intact to seal the neck." Gerdes Reply Brief on Claim Construction, p. 22. Contrary to Gerdes' argument, however, Claims 24 and 25 aid the court in interpreting the phrase at issue here. Specifically, if the patentee claimed the cap of Claim 11, and incorporated by reference into Claim 24, "wherein the housing includes a frangible portion," then it simply does not make sense to hold that the housing of the cap in Claim 11 must always remain unbroken. This does not mean that the breakable portion of the housing-formed as is claimed in Claim 24-must break in every impact, but rather that it may break in certain instances. Thus, regardless of whether the first flange is a part of the housing, the housing must at least in certain situations be capable of breaking at a designated point; something a housing that *must* remain unbroken clearly cannot do.

For this reason, in order to give meaning to Claims 24 and 25, the court finds that "leaving said housing and said second flange intact to seal said neck" cannot require that the housing must remain untouched or complete as the ordinary meaning of the term "intact" suggests. Instead, the housing must remain only as complete as necessary to, in combination with the second flange, seal the neck. Under this definition, the cap may fracture at either the breakable portion of the first flange or the breakable portion of the housing in response to the impact and, as a result, the housing may or may not break so long as the housing and second flange continue to seal the filler neck. This finding is consistent with both the claims of the reexamined '097 patent as well as the specification of the '097 patent and the reexamined '097 patent.

Therefore, the court finds that the definition of "leaving said housing and said second flange intact to seal said neck" means that after the impact the "case covering, protecting, or enclosing other parts of the fuel cap" and the second flange must remain complete enough to perform their function of sealing the filler neck to prevent fuel spillage.

7. Groove

The term "groove" appears specifically in asserted Claims 25, 32, 41, and 42. With this term, the parties agree that nothing in the specification or prosecution history suggests that the patentee intended to use the

term other than according to its ordinary definition. The dispute is instead, what is included in this definition. A "groove" may be defined as a "long narrow cut or indentation in a surface," Webster's Universal, Stant Ex. 103, p. 842, or as "a long narrow hollow or channel in a surface," Webster's Third, Gerdes Ex. 229, or even as "[a] channel or hollow, cut by artificial means, in metal, wood etc." as the court noted in Beckson Marine Inc. v. NFM, Inc., 292 F.3d 718, 723-24 (Fed.Cir.2002).

While the court agrees with the parties that nothing in the claims, specification, or prosecution history suggests deviating from one of these ordinary meanings, the court also does not see any evidence that the definition should be limited as to width, length, or means of cutting. Like the court in *Beckson Marine,* this court has reviewed the evidence bearing on the meaning of the term as it is used in the patent. Nothing in that evidence limits the groove to only those indentations or cuts that are long and narrow and created by artificial means. Therefore, the court finds that the definition asserted by Gerdes, although technically a dictionary definition of the term, is too restrictive based on the use of the term in this particular patent. *See* Warner, 331 F.3d at 854. For this reason, the court finds that the definition of "groove" is more properly any channel, hollow, cut, or indentation in a surface.

8. Outer wall

"Outer wall" is used in asserted Claims 20, 21, 26, and 34-38. Both parties agree, however, that the patent's specification provides an explicit definition of the term when it states, "[t]he radially outer edge 214 and radially outer portion 222 of axially upper surface 210 comprise an outer wall 216 of the first flange 50." Reexamined '097 patent, col. 1, ll. 20-23. This statement provides the patent's reader with a specific definition of the meaning of "outer wall" in the context of the reexamined '097 patent and therefore this is the meaning that the court must also give to the term. *See* Texas Digital Sys., 308 F.3d at 1204 (holding that the presumption that a word is given its ordinary meaning is overcome if the patentee explicitly sets forth an alternative meaning). Further, some of the patent's dependent claims evidence a similar definition by stating that "the outer wall includes the radially outer edge of the first flange and a radially outer portion of the upper surface of the first flange."

As the definitional statements from the specification and dependent claims indicate, and the parties agree, the "outer wall" of the first flange is made up of the outer edge and the outer portion of the upper surface of that flange. Reexamined '097 patent, col. 1, ll. 20-23. The parties dispute, however, whether this is the entire definition of the term or whether it may also include the lower surface of the flange. The Federal Circuit has explicitly held that the word "comprises" in the context of a claim indicates that the "body of the claim is open." Crystal Semiconductor Corp. v. Tritech Microelectronics, Inc., 246 F.3d 1336, 1348 (Fed.Cir.2001). Although that case dealt specifically with the terms used in the patent's claims, the court finds that similarly the patentee's use of the word "comprises" in the specification here also "creates a presumption that the recited elements are only a part of the device, that the claim does not exclude additional unrecited elements." *Id*. The intention that the "outer wall" include more than the upper and side surfaces of the flange is further evidenced by the use of the word "includes" in the dependent claims when describing the components that make up the "outer wall." The term "includes," like "comprises" indicates to the reader that the two listed components are a part of the whole structure, the "outer wall," but not the exclusive parts of this whole. Thus, the court agrees with Stant that nothing in the claims or the specification prohibits the lower surface of the flange from also being a part of the "outer wall."

For these reasons, the court finds that the term "outer wall" means, as it is defined in the patent's specification, a structure that includes the outer edge and the outer portion of the upper surface of that

flange, but is not limited solely to these two elements.

B. '086 Patent

The '086 patent concerns a "Delayed Actuation Fuel Cap" also known as the "lost-motion fuel cap."

1. Top Wall or Handle Formed on the Top Wall

This term is used specifically in Claim 1 of the '086 patent in which the patentee claims "a cap comprising ... a handle formed on the top wall for rotating the handle means." '086 patent, Stant Ex. 3 (" '086 patent"), col. 6, ll. 50-52. In its ordinary sense, a "wall" is a "material layer enclosing space." Webster's Collegiate Dictionary 1329 (10th Ed.1999). The word "top" indicates that this wall is "the uppermost or upper part, surface, etc., of anything." Webster's, Stant Ex. 103, p.1996. Thus, at least in its ordinary meaning, the "top wall" of this cap is the uppermost material layer enclosing the cap structure. In defining this term, the parties specifically ask the court to determine whether the "top wall" as claimed in the patent includes the handle or whether that structure is separately formed and thus not part of the wall itself. The crux of the issue is the patentee's use of the word "on" when describing the relationship between the handle and the "top wall" in Claim 1 and use of the word "in" when describing the same relationship in the patent's specification.

The ordinary meaning of the term "on" is not as instructive in this case as Gerdes argues. As Gerdes contends "on" may be used to indicate "position over and in contact with that which supports it from beneath" as in, the book is on the table. Webster's Third, Gerdes Ex. 236. It may also be used, however, to indicate "presence within" such as, he rode on a train. Id. Similarly, "in" may be used to indicate "location or position in space or in some materially bounded object" as in, the key is in the lock or he was wounded in the leg. Webster's Third, Gerdes Ex. 231. From these examples it is clear that there are situations in which "in" and "on" may be used interchangeably without changing the meaning of the sentence. For example, regardless of whether the sentence reads "he was wounded in the leg" or "he was wounded on the leg," the meaning is the same. Thus, the court does not find that simply the patentee's use of the word "on" in Claim 1 resolves whether the handle is a part of the top wall or a separate structure.

The ordinary meaning of the term "top wall" suggests that this structure is a continuous layer that encloses the uppermost portion of the cap, thus because of its position the handle is necessarily included as a part of the wall. To determine if the patentee intended to deviate from this meaning and exclude the handle as a part of the wall, the court must look at the patent's specification.

The specification confirms that the patentee intended this as the meaning of the "top wall." Specifically, in describing the preferred embodiment as depicted in the illustrations, the patentee states "[t]he shell 14 includes a top wall 20 with a handle grip 22 formed in the top wall 20." '086 patent, col. 3, ll. 9-10. While, as described above, the patentee's use of the word "in" is not conclusive, it also does not contradict the ordinary meaning of "top wall." Further, Figure 1 provides an illustration of the preferred embodiment and does not in any way indicate any breaks in the plastic piece which includes the handle and forms the "top wall ." Finally, contrary to Gerdes' assertion, the fact that "[t]he handle grip 22 bisects the top wall 20 to create semicircular portions 32, 34," does not preclude the "top wall" from being a single unitary piece. A wall encloses a space. If in this case the "top wall" included only the two semi-circular pieces and not the handle there would be no wall at all because there would be a space between the two pieces and thus no enclosure. This simply does not make sense.

For these reasons, the court finds that the "top wall" of the fuel cap described in the '086 patent is a continuous layer at the uppermost point of the cap that serves to enclose the cap structure. Thus, the "top wall" must include the handle.

2. Lug

The term "lug" is used in both asserted Claims 1 and 6. The parties agree that the relevant ordinary meaning of the term "lug" is "a small projecting part of another member." Webster's Third, Gerdes Ex. 235. Gerdes argues that based on the specification and figures included in the '086 patent this definition should be qualified by requiring that the lug must be joined to the larger member "at one end or side and projecting unattached at the opposite end or side." Gerdes Brief in Support, p. 22.

Nothing in the plain language of Claims 1 or 6 suggests such a limitation. Thus, the court is permitted to look to the specification to determine if the patentee intended to give the term a specialized meaning. Vitronics, 90 F.3d at 1582. The court is not, however, permitted to read the particular formulations and examples in the specification into the claims themselves. Advanced Cardiovascular Sys., Inc., 261 F.3d at 1338-39. This is exactly what Gerdes is asking the court to do. The court cannot find any language in the specification that demonstrates the patentee's intention to give "lug" a specialized meaning, nor could Gerdes provide any such citation to the court. Instead, Gerdes points only to Figure 1 in which two driven lugs are attached to a certain ring at only one end and asks the court to read this limitation into the term "lug" itself. This is clearly an improper use of the preferred embodiment. Thus, the court finds that the term "lug" should be given its ordinary meaning, that is, a "a small projecting part of another member."

3. Terminal Portion

This term is used in asserted Claim 1 in reference to "the driven lug engaging a terminal portion of the appendage during rotation of the handle means about the axis of rotation." '086 patent, col. 6, ll. 61-64. In relevant part, "terminal" means "of or relating to an end, extremity, boundary, or terminus." Webster's Third, Gerdes Ex. 241. The ordinary definition of "portion" is "a part of a whole." Webster's Third, Gerdes Ex. 237. Thus, the ordinary meaning of "terminal portion" is the part of the whole at the end, extremity, or boundary of the whole.

Again, Gerdes contends that the court should restrict the definition of this term based on the depiction in Figure 2. Specifically, Gerdes states that in that drawing one can see that the lug contacts the lower unattached portion of the appendage, including the unattached end point of the appendage. Thus, Gerdes urges that the "terminal portion" should specifically include the unattached end point of the appendage. As with the term "lug," however, Gerdes provides the court with no reason to import such a limitation from the specification into the terms of the claims themselves. *See* Texas Digital Systems, Inc., 308 F.3d at 1204 (finding that the presumption that a term is given its ordinary meaning is only overcome if in the specification the patentee "clearly set[s] forth an explicit definition of the term different from its ordinary meaning"). Gerdes also attempts to use the prosecution history to support its argument that "terminal portion" should be given special meaning, but admits that the remarks to the amendment provide no reasoning for why the term was added to the claim. Thus the court is unable to derive anything about the meaning of the term from this amendment.

As stated above, absent an explicit reason to do so the court cannot read into the claim terms a limitation found only in the preferred embodiment of the patent. Advanced Cardiovascular Sys., Inc., 261 F.3d at 1338-39. Therefore, because the court finds no such explicit directions in the specification of the '086 patent

to deviate from the ordinary definition of the term "terminal portion," the term, when used in Claim 1, must be used according to its ordinary meaning. Thus, the "terminal portion" means the part of the appendage at the end, extremity, or boundary of the appendage.

4. Closure Means for Closing the Filler Neck

This term is used in asserted Claim 1 when the patentee specifically claims a "cap comprising closure means for closing the filler neck." '086 patent, col. 6, ll. 44-46. Gerdes argues that because the word "means" appears in this phrase, this is a means-plus-function claim covered by s. 112, para. 6. As discussed in Section II(B), the court must presume that the patentee intended s. 112, para. 6 to apply and therefore that the claim will be construed to cover only the structure and material described in the specification. *See* Greenberg, 91 F.3d at 1584. This presumption may, however, be rebutted if the claim sets forth a structure sufficient to perform the listed function. Envirco Corp., 209 F.3d at 1365. Stant argues that such is the case with this phrase-that is, that "closure" is an adequate structure to perform the listed function, closing the filler neck and thus s. 112, para. 6 is inapplicable.

After considerable hesitation, the court finds that despite the patentee's use of the term "means," Stant has rebutted the presumption that s. 112, para. 6 applies. The term "closure" itself is a structural term. The ordinary meaning of the term "closure" is "something that closes or shuts." Webster's, Stant Ex. 103, p. 390. Thus, the use of the term "closure" itself connotes a structure that will perform the articulated function. *See e.g.,* Envirco Corp., 209 F.3d at 1365 (holding that because the term "baffle" imparted a structure-something that deflects air-"baffle means" was sufficiently structural to overcome the presumption that s. 112, para. 6 applied). It is true, as Gerdes argues, that the term "closure" is somewhat generic. It is also clear, however, that it does provide the reader with an indication of the type of structure to be used to complete the function. Further, while not conclusive, the court finds it instructive that throughout Claim 1 as well as the specification of the '086 patent the term "closure means" is used without further explanation to indicate structure. For example, in the written description, the patentee refers to the "closure or housing for closing the filler neck" and in the preferred embodiment states that the fuel cap includes a shell or handle used to rotate a closure or housing to close the filler neck. '086 patent, col. 1, ll. 36-38; col. 2, l. 67-col. 3, l. 1. If "closure" did not connote a structure to the reader, the patentee could not have used it in this manner without significant confusion. Therefore, the court finds that "closure" is a sufficiently structural element to overcome the presumption that s. 112, para. 6 applies.

Because the court has determined that "closure means for closing the filler neck" is not a means-plus-function element, the construction analysis is the same that the court used with the previous terms. As stated above, the ordinary meaning of the term "closure" is "something that closes or shuts." Nothing in the patent's claims or in the specification indicate that the term is used in a way other than its ordinary sense. Thus, the court finds that the "closure means for closing the filler neck" means a mechanism that closes or shuts the filler neck.

C. '055 Patent

The '055 patent also covers a lost-motion fuel cap. Specifically, the cap is a quick-on fuel cap with removal delay mechanism.

1. Control means for providing a lost-motion driving connection between the handle means and the closure means during rotation of the handle means about the axis of rotation relative to the filler neck in a cap-removal direction and for urging the handle means against the closure means to provide a direct-drive

driving connection between the handle means and the closure means during rotation of the handle means about the axis of rotation in a cap-advancing direction

This lengthy phrase appears in asserted Claim 1. The parties do not dispute that this phrase is a means-plus-function element that invokes s. 112, para. 6. Under this doctrine, the element, the "control means" must function to provide for a "lost-motion driving connection between the handle means and the closure means during rotation of the handle means about the axis of rotation relative to the filler neck in a cap removal direction" and also urge "the handle means against the closure means to provide a direct-drive driving connection between the handle means and the closure means during rotation of the handle means about the axis of rotation in a cap-advancing direction." The element is thus limited to only the "corresponding structure, material, or acts described in the specification and equivalents thereof" that are necessary to accomplish these functions.

s. 112, para. 6.

In determining the scope of this phrase, the court must begin with a few preliminary definitions relevant to the functions of this element. First, in this context the parties largely agree that "lost-motion driving connection" in this context is given its ordinary definition and thus means a configuration in which the driver, the handle, is allowed to rotate freely relative to the follower, the cap closure, thus causing a delay between the movement of the two structures when the driver is rotated in the cap-removal direction. *See* Stant's Br., pp. 22-23; Gerdes Br., p. 25. Conversely, a "direct drive driving connection" in this context means a straight connection, that is, one without intervening influences, between the driver and follower when the mechanism is turned in a cap-advancing or installation direction. FN4

FN4. The patentee also describes the "direct drive driving connection" that is established in when the cap is turned in a cap-removal direction through the lost-motion angle. This connection is the same type of connection that occurs when the cap is turned in a cap-advancing direction.

With these definitions in mind, the court must determine the structure described in the specification that corresponds to accomplishing the stated functions. It is self-evident that the specification need not describe in detail every aspect of the structure required to carry out the function. *See* Atmel Corp. v. Information Storage Devices, Inc., 198 F.3d 1374, 1382 (Fed.Cir.1999). Instead, it is permissible for the court to use outside material to establish the "corresponding structure" because "it makes no sense to encumber the specification of a patent with all the knowledge of the past concerning how to make and use the claimed invention." *Id*. Clearly, "[o]ne skilled in the art knows how to make and use a bolt, a wheel, a gear, a transistor, or a known chemical starting material" and thus requiring a patentee to "literally reinvent and describe the wheel" in every patent would cause the specification to "be of enormous and unnecessary length." *Id*. With this principle in mind, however, the court must be cautious to limit the "corresponding structure" to only the structure that "the specification or prosecution history clearly links or associates that structure to the function recited in the claim." Northrup Grumman Corp. v. Intel Corp., 325 F.3d 1346, 1352 (Fed.Cir.2003) (quoting B. Braun Med., Inc. v. Abbott Labs., 124 F.3d 1419, 1424 (Fed.Cir.1997)).

It is clear that lost-motion gas caps existed in the industry prior to the '055 patent. In the '055 patent the patentee makes specific reference to the prior art of lost-motion fuel caps including the '505 patent and the application that became the '086 patent. '055 patent, col. 1, ll. 63-64. FN5 The parties agree, however, that the inventions disclosed in these patents differ from that which is disclosed in the '055 patent in that nothing

in the prior art provides for a structure that creates a direct driving connection when the cap is turned in a cap-advancing direction. Consequently, while these patents do help the court and the reader of the '055 patent understand the relevant art, they do not resolve the question of what structure constitutes the "control means" that functions to create a lost-motion driving connection between the handle and the closure means during rotation of the handle means in a cap removal direction" *and also* to urge the handle against the closure means to provide a direct-drive driving connection between the handle and the closure means during rotation of the handle in a cap-advancing direction as claimed in the '055 patent.

FN5. Stant also argues that U.S. Patent No. 4,676,390, U.S. Patent No. 4,887,733, U.S. Patent No. 5,108,001, and U.S. Patent No. 5,520,300 also contribute to the field of knowledge of lost-motion fuel caps. Of these four patents, only one is specifically mentioned in the '055 patent, that is U.S. Patent No. 4,887,733, and even this patent is mentioned with respect to particular cam lugs on fuel caps. Thus, while these patents certainly were the background in the field at the time the PTO issued the '055 patent, there is little or nothing that would direct the reader of the '055 patent to these patents as sources of information to be used in reading the '055 patent.

As Stant argues, under Amtel Corp., 198 F.3d at 1382, clearly one with skill in this art would know based on prior art and experience in the field what generally constitutes a lug or an arm. This does not convince the court, however, that one would be able to reproduce the structure that corresponds to the "control means" claimed in the '055 patent, which performs a function not covered by any prior art, from simply a generic description of "lugs, arms, projections, edges, or surfaces coupled to each of the handle and closure for creating a lost motion connection between the handle and closure in the cap removal direction" as Stant contends. Stant's Opening Brief, p. 24. Thus, the court finds the structure that corresponds to the "control means" must be more detailed in order to satisfy the requirements of s. 112, para. 6. *See* Amtel Corp., 198 F.3d at 1378-80 (holding that in order to comply with the requirements of s. 112, para. 6 when using means-plus-function language, the patentee must adequately disclose what is meant by the claim language).

In the '055 patent, the patentee gave a very detailed description of the "control means" claimed in Claim 1. This is the adequate description of structure required by s. 112, para. 6 and thus the court will limit the "corresponding structure" of the "control means" to that which is explicitly described in the specification. Generally the "control means" includes "a torsion spring mounted inside the cap and coupled to the closure means and the handle means" as well as "a drive lug coupled to the handle means and a driven lug coupled to the closure means." '055 patent, col. 2, ll. 31-35. Specifically, the patent provides that the "control means" that accomplishes the functions described in Claim 1 includes at least one C-shaped drive lug appended to the underside of the handle cover that has a first and second arm separated by an elongated angular body, with the spacing between these arms controlling the amount of lost motion generated by the cap. Id., col. 7, ll. 22-24, ll. 29-31, ll. 44-47. It also includes at least one cylindrical driven lug appended to the upper plate in such a way as to ensure that it is engaged by the arms of the C-shaped drive lug at a certain point and provides the drive means between the handle and closure means as the control means is required to do. Id., col. 7, ll. 22-24, ll. 31-43. Finally, it also includes a torsion spring, depicted in Figure 9 as 324, that functions to turn the core relative to the handle cover when the cap is removed to reset the cap automatically so that a direct drive relationship between the handle and the core is established for cap-installation.FN6 Id., col. 7, ll. 49-54. These components make up the structure that corresponds to the "control means" claimed in claim 1 and thus the patent is limited in coverage to this structure and its equivalents. s. 112, para. 6.

FN6. Stant argues that the addition of Dependent Claims 2 and 14 during prosecution of the patent evidence

the patentee's intent that a variety of types of springs could be used for biasing the handle, rather than only a torsion spring as stated in the specification. In Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1538 (Fed.Cir.1991), the court held that "[a] means-plus-function limitation is not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure." The court found that the doctrine of claim differentiation, providing that a dependent claim and an independent claim must, if possible, not be interpreted to have the same meaning, cannot override the requirement of s. 112, para. 6 that the structure that corresponds to the recited function appear in the specification. Thus the court concluded that "one cannot escape that mandate [of s. 112, para. 6] merely by adding a claim or claims specifically reciting such structure or structures." *Id*. Similarly, under this holding, Stant cannot argue that the structure recited in Claims 2 and 14 overrides the description of the structure given in the specification-specifically the structural requirement that the spring used for biasing the handle is a torsion spring.

2. "Control means for providing a lost-motion driving connection between the handle means and the closure means during rotation of the handle means about the axis of rotation relative to the filler neck in a cap removal direction and providing a direct-driving connection between the handle means and the closure means during rotation of the handle means about the axis of rotation in a cap-advancing direction"
This phrase appears in asserted Claim 10 of the '055 patent and appears very similar to the means-plus-function element discussed in the previous section. The only difference between this phrase and that in the previous section is that nothing in this "control means" specifically functions to "urge" the handle means against the closure means to provide the direct driving connection. Instead, Claim 10 states that the "control means" simply functions to provide for a direct-drive driving connection between the handle means and the closure means during rotation of the handle in the cap-advancing direction as well as to provide a lost-motion driving connection between the handle means and the closure means during rotation of the handle in the cap removal direction. '055 patent, col. 14, l. 65-col. 15, ll. 5. It does not, however, further discuss the actual mechanics of the direct-drive driving connection until later in the claim when it specifically discusses the "spring means."

Because of the similarities between the "control means" in Claim 1 and the "control means" in Claim 10, both parties agree that the structures that correspond to these means are very similar. In fact, both parties agree that the structures are described in the same portion of the specification. The court agrees and finds that the corresponding structure for the "control means" in Claim 10 is the same as the court set forth for the "control means" in Claim 1 with one small omission. Because Claim 10 does not claim that the "control means" performs the function of "urging the handle means against the control means," as in Claim 1, the court finds that the structure that corresponds to the "means" in Claim 10 cannot include the torsion spring that urges the handle means against the control means that was a part of the structure that corresponded to the "control means" in Claim 1. The court recognizes that later in Claim 10, the patentee claims that the "control means" includes a "spring means for yeildably biasing the handle means to the first position" and thus the court will discuss the patentee's inclusion of a spring as part of the "control means" claimed in Claim 10 in section C(3).

3. "Means for limiting relative movement of the closure means and the handle means to establish first and second positions of the handle means relative to the closure means so that the handle means is mounted for limited rotation through a predetermined angle relative to the closure means between the first and second positions to establish said lost-motion driving connection"

This phrase is found in Claim 10 and clearly invokes s. 112, para. 6. This phrase concerns the "means" that functions to limit "the relative movement of the closure means and the handle means to establish first and second positions of the handle means relative to the closure means so that the handle means is mounted for limited rotation through a predetermined angle relative to the closure means between the first and second positions to establish said lost-motion driving connection." '055 patent, col. 15, l. 7-14. In other words, this element functions to create the lost-motion driving connection by establishing the first and second positions of the handle means relative to the closure means.

The parties agree that fuel caps that included the "lost motion driving connection" existed in the art prior to the '055 patent. In fact, the '055 patent itself specifically refers to other "lost motion" fuel caps in the prior art, specifically the '505 patent and the '086 patent. '055 patent, col. 1, ll. 63-64. As discussed above as well as in the '055 patent itself, however, the inventions in these patents do not function in the same way as does that in the '055 patent. *See* id., col. 1, ll. 61-67. In addition, the relevant inquiry for the court is the structure disclosed in the specification to perform the function at issue, prior art is not necessarily a part of this consideration. See Intel Corp. v. United States Int'l Trade Comm'n, 946 F.2d 821, 842 (Fed.Cir.1991). This is especially true in a case such as this in which, by agreement of the parties, this is the first fuel cap to function in precisely this manner. As discussed above, the court recognizes the necessity of viewing patents in light of the background one skilled in the art has with respect to the manufacture and use of the claimed invention so as to not require tedious recitations in which the patentee "reinvents the wheel" in each patent. *See* Amtel Corp., 198 F.3d at 1382. The court believes, however, that a "lost motion driving connection" is much different than "a bolt, wheel, a gear, a transistor, or a known chemical starting material," the examples specifically cited by the court in *Amtel* as not requiring explanation in every patent specification. That is, while one with skill in the art would have an understanding of how to create and use a typical "lost motion driving connection" based on prior work in this field, a patentee cannot simply rely on this knowledge to avoid describing the structure that corresponds to the particular function-limiting the relative movement of the closure means and the handle means to establish first and second positions of the handle means relative to the closure means so that the handle means is mounted for limited rotation through a predetermined angle relative to the closure means between the first and second positions to establish said lost-motion driving connection-which the element claimed in this portion of Claim 10 is required to perform. Thus, as dictated by the statute, the court must determine the corresponding structure, disclosed in the specification, for accomplishing this function.

The court agrees with Gerdes that this phrase appears to be part of that which the court discussed in the previous section. That is, the "control means" for providing the "lost-motion driving connection between the handle means and the closure means" claimed in Claim 10, necessarily includes the "means for limiting the movement of the closure means and handle means" that creates the first and second positions of the handle means and thus the lost-motion driving connection. Therefore, the court also agrees that the structure that corresponds to this structure is effectively already present in the definition of "control means" as the court set forth in the previous section. Specifically, as described in the previous section, the "means" required to create this lost-motion driving connection consists of at least one cylindrical driven lug, a C-shaped drive lug with a first and second arm in which the second arm engages the cylindrical driven lug at a predetermined point during rotation of the handle cover in the cap removal direction, with the spacing between the arms determining the predetermined rotation angle and thus limiting the movement of the closure means relative to the handle means.

4. "Spring means for yieldably biasing the handle means to the first position"

This phrase also appears in asserted Claim 10. Gerdes argues that it is written in means-plus-function format and therefore s. 112, para. 6 applies. Stant, on the other hand, argues that because the term "spring" connotes sufficient structure to perform the function of biasing the handle means to the first position, it has overcome the presumption that the "means for" language requires the application of s. 112, para. 6.

This phrase requires that the court begin by presuming that the patentee intended s. 112, para. 6 to apply. Greenberg, 91 F.3d at 1584. Stant may only overcome this presumption by demonstrating that Claim 10 recites a sufficient structure to perform the function required of "spring means" in the claim-that is, biasing the handle means to the first position. *See* Envirco Corp., 209 F.3d at 1365. The court finds that Stant has not met this burden.

The term "spring" is clearly a structural term. *See* Unidynamics Corp. v. Automatic Products Intern., Ltd., 157 F.3d 1311, 1319 (Fed.Cir.1998). As the court found in *Unidynamics,* however, the simple inclusion of a structural term is not sufficient to take this phrase outside the coverage of s. 112, para. 6. *Id*. In Claim 10, the patentee specifically claims that the "spring means" must function to "bias[ ] the handle means to the first position." '055 patent, col. 15, ll. 14-15. The patentee does not, however, provide any recitation of the structure required to perform this function other than the word "spring" itself. Nothing in the claim further describes the location or extent of the structure, the claim simply recites the function of the element "spring." *See* Unidynamics Corp., 157 F.3d at 1319. In addition, in contrast to the "closure means" discussed in Section B(4), nothing in the specification provides evidence that the term "spring" alone connotes a sufficient structure to enable one with skill in the art to determine the exact element required to perform the stated function. Further, while not conclusive, the court finds persuasive the fact that the court in *Tesma* found this particular element to be a means-plus-function element. *Tesma* Entry, p. 19.

Thus, the court finds that "spring means" for "biasing the handle means to the first position" is a means-plus-function element and must be limited to the corresponding structure set forth in the specification of the '055 patent. 35 U.S.C. s. 112, para. 6. Specifically, this "spring means" consists of a torsion spring connected to the top spring mount on the handle cover and the bottom spring mount on the core as is described in the specification and pictured in Figure 9. *See* '055 patent, col. 7, ll. 26-28, Fig. 9.

5. "Handle means urged to a position so as to apply a direct driving force to move the closure means relative to the annular lip of the filler neck in a cap-advancing direction from the gasket means-releasing position breaking said seal to the gasket means-tightening position establishing said seal during installation of the closure means in the filler neck"

This phrase appears in asserted Claim 13. Again the parties dispute whether s. 112, para. 6 applies. While the patentee chose to use the word "means" in this phrase, the actual phrase does not contain the typical "means for" format. Instead, this element is recited in terms of a structure-a handle-and its position relative to the other parts of the invention. Thus, the court agrees with Stant that this element is not covered by s. 112, para. 6 because it does not express a means for performing a particular function. Rather, in this portion of Claim 13, the patentee mistakenly uses the term "means" when referring to only a structural element of the invention.FN7

FN7. Gerdes argues that the fact that this claim originally claimed "a handle means for applying a direct driving force" and was changed to the present language to overcome a prior art rejection, is evidence of the patentee's intent that this element be read as a means-plus-function element. The court disagrees. The court believes that rather than expressing any such intent, the patentee's decision to change the language reflected

a effort to distinguish this invention from prior inventions by making clear that in this invention the handle was positioned in such a way as to intentionally create the direct drive force as described in the claim.

The court construes this structural element as it did other elements that did not invoke s. 112, para. 6, beginning with the ordinary meanings of the relevant words. In construing this element, the most important term is "handle." A "handle" is, in relevant part, "a part of a thing made specifically to be grasped or held by hand." Webster's Universal, Stant Ex. 103, p. 866. Nothing in the specification or prosecution history of this patent provides the court with any evidence that the patentee intended to give the term "handle" a meaning other than its ordinary meaning. The remainder of this phrase is a description of how this particular handle is to be positioned as a part of this invention. Neither the court, nor the parties, could find anything in the specification or prosecution history of this patent to suggest that the patentee intended that this portion of the element mean something other than its ordinary meaning. Thus, the court finds that this phrase means a part of the fuel cap "made specifically to be grasped or held by hand" that is positioned in such a way as to apply a direct driving force to the closure means in the cap-advancing direction, to seal the filler neck during cap installation.

6. "The closure means and the handle means cooperating to provide means for permitting relative movement between the closure means and the handle means to delay establishment of a driving connection between the closure means and the handle means during movement of the handle means in a cap removal direction"

This clause also appears in asserted Claim 13. Again the parties dispute whether this element should be analyzed under the framework of s. 112, para. 6. The parties disagreement begins, however, with the wording of this element. Stant argues that it is important to begin consideration of this element with the words "the closure means and the handle means." Gerdes, on the other hand, argues that this is simply prefatory language and the proper focus of this element is on the "means for" language it believes marks the beginning of the element.

The court agrees with Gerdes that the key to construing this element is the "means for" language. That is, the element claims a "means for permitting relative movement between the closure means and the handle means to delay establishment of a driving connection between the closure means and the handle means during movement of the handle means in a cap removal direction" and thus presumptively invokes s. 112, para. 6. Greenberg, 91 F.3d at 1584. When the court takes into consideration the prefatory language on which Stant relies it becomes clear that the "means" that is to perform this recited structure is made up of the handle means and the closure means cooperating in some manner. While the terms handle means and closure means may in fact be structural, the "means" at issue involves the structures working together in an unidentified manner to perform the recited function. Without any description of the extent or location of this structure or structures the patentee has not described this element sufficiently to overcome the presumption that s. 112, para. 6 applies. *See* Unidynamics, 157 F.3d at 1319.

Because s. 112, para. 6 applies to this element, this element is limited to the corresponding structure described in the patent's specification. s. 112, para. 6. Thus, the court follows Gerdes' argument and again refers to the specification in '055 patent at column 7 for guidance. The function of creating relative movement between the closure means and the handle means to delay creating a direct drive connection between the closure means and the handle means during cap removal appears very similar to the lost-motion creation functions of the elements described above in Sections III(C)(1) and III(C)(2). Specifically, just as

the court described in those previous sections, the structure contains at least one C-shaped drive lug appended to the underside of the handle cover that has a first and second arm separated by an elongated angular body, with the spacing between these arms controlling the delayed establishment of the direct-drive connection. '055 patent, col. 7, ll. 22-24, ll. 29-31, ll. 44-47. It also includes at least one cylindrical driven lug appended to the upper plate in such a way as to ensure that it is engaged by the arms of the C-shaped drive lug at a certain point and to provide the direct-drive connection between the handle and closure means. Id., col. 7, ll. 22-24, ll. 31-43.

7. Lug

The parties agree that this term as it is used in the '055 patent has the same meaning as it did in the context of the '086 patent. The court finds no reason to disagree with this conclusion. Therefore, the court finds that, like in the '086 patent, the term "lug" is used according to its ordinary meaning, that is, "a small projecting part of another member." *See* Section III(B)(2) for a more complete discussion.

D. '806 patent

The '806 patent also concerns a quick-on lost-motion fuel cap. The patentee presented this patent as a continuation-in-part of the '055 patent discussed in the previous section. A continuation-in-part application results from "an application that is filed during the pendency of the original or parent application of the same inventor, disclosing and claiming some subject matter common to the parent application, as well as some subject matter not common to and not supported by the parent." Reynolds Metals Co. v. Continental Group, Inc., 525 F.Supp. 950, 970 (N.D.Ill.1981).

1. "Means for turning the filler neck closure member relative to the handle about the axis of rotation each time the filler neck closure member is removed from the filler neck to reset the handle automatically to a predetermined position relative to the filler neck closure member about the axis of rotation"

This phrase appears in asserted Claim 32 and clearly invokes s. 112, para. 6. Accordingly, the scope of this claim must be limited to the structure, and its equivalents, that correspond to the recited function, as that structure is set forth in the patent specification. 35 U.S.C. s. 112, para. 6.

The court begins by determining the recited function of this "means." In Claim 32 the patentee provides that the "means" at issue functions to turn "the filler neck closure member relative to the handle about the axis of rotation each time the filler neck closure member is removed from a filler neck to reset the handle automatically to a predetermined position relative to the filler neck closure member about the axis of rotation." '055 patent, col. 29, ll. 29-34. In other words, the structure must function to turn the "filler neck closure member" relative to the cap handle each time the closure member is removed from the filler neck so that the handle is automatically returned to a predetermined position and the structure of the "means" must enable it to perform this entire function.

The court disagree with Gerdes, however, that a part of this function includes creation of the "predetermined position." While the court recognizes that the predetermined position is important to the function of this "means," nothing in the language of this claim suggests that the "means for turning the filler neck closure member relative to the handle" must *create* the predetermined position to which the handle resets. Instead, the function of this "means" is simply to ensure that the handle arrives in this position when the cap is removed. Thus, the actual structure that creates the "predetermined position" must be provided in other

claims and is not a concern to the court in construing this element.

Generally, the patentee describes the structure and the function of the means at issue here as follows:

Each time the quick-on cap is removed from a filler neck it instantly and automatically "resets" itself so that a direct-drive driving connection between the handle and the closure is established to facilitate reinstallation of the quick-on cap on the filler neck. This reset function is achieved by automatic operation of a torsion spring provided between the closure and the handle to rotate the closure relative to the handle.

'806 patent, col. 3, ll. 6-13. Elsewhere in the written specification, the patentee extensively details the structure that accomplishes this resetting function. Specifically, the patentee describes the "torsion spring 144 [ ] positioned inside the cap to interconnect top spring mount 156 on the handle cover and bottom spring mount 158 on the upper housing." Id., col. 12, ll. 7-11. Figure 5, and its accompanying description, depicts the first finger or end of this torsion spring inserted into a slot on the handle cover and the second finger or end of the torsion spring inserted into a slot on the upper part of the closure body. Id., col. 6, ll. 56-61, Fig. 5. This "torsion spring 144 functions to turn upper housing 62 relative to handle cover 54 each time cap 50 is removed from filler neck 52 to 'reset' lost-motion mechanism 58 of cap 50 automatically so that a direct-drive relationship between handle cover 54 and upper housing 62 is established before and during each cap-installation activity." Id., col. 12, ll. 55-61.

From these and further descriptions of the "resetting" function of this "means" the court finds that it is clear that the structure that accomplishes this function is a torsion spring that specifically interconnects the top spring mount on the handle cover and the bottom spring mount on the upper housing through one finger or end of the spring inserted into a slot on the handle cover and the second finger or end of the spring into a slot on the upper part of the closure body. "Once the cap [ ] is withdrawn, the wound torsion spring [ ] 'unwinds' and rotates the upper and lower housings [ ] of the closure body [ ] relative to the handle cover [ ]," thus accomplishing the recited function. Id., col. 13, l. 66-col. 14, l. 2. Finally, the court finds that the specification limits the spring that accomplishes this function to specifically a *torsion* spring. For reasons discussed in footnote 6 above in connection with the '055 patent, the fact that the patentee attempted to alter the structure claimed in this claim by including the broader claim of only a "spring" in the dependent claims in the '055 patent is of no avail. The patent sets forth structure that corresponds to this function only as a torsion spring and therefore the court must also so limit the structure to that described above, including the torsion spring.

2. "A lost-motion mechanism configured to provide a driving connection between the closure member and the handle"

This element appears in asserted Claim 38. During the Markman hearing, the parties spent considerable time arguing about whether this particular term invoked s. 112, para. 6 or not and provided the court with expert testimony to support their opposing positions. Stant asserts that because this element is not written in the traditional "means for" format and also does not recite a function, but rather a structure that one with skill in the art could determine simply from the term "lost motion mechanism," the court should not interpret it under s. 112, para. 6. Gerdes, on the other hand, contends that the wording of this element is of no consequence because it clearly recites a function rather than any structure understood by those with skill in the art. After carefully considering the parties' arguments, the court concludes that this element is properly considered a means-plus-function element subject to the requirements of s. 112, para. 6.

As has been discussed with many of the previous terms, when a patentee specifically uses the familiar "means for" language in his claim, the court presumes that he intended to state a means-plus-function element under s. 112, para. 6. *See* Sage Products, Inc. v. Devon Industries, Inc., 126 F.3d 1420, 1427 (Fed.Cir.1997). This does not mean, however, that when a patentee chooses not to use this particular language, a claim can never trigger s. 112, para. 6. *See* Greenberg, 91 F.3d at 1584. In fact, both the PTO and the Federal Circuit have rejected the contention that only the specific use of the term "means" will invoke s. 112, para. 6. *Id*. Thus, even when a patentee chooses not to draft a claim using the "means for" language, the court must consider whether the element in question technically falls within coverage under s. 112, para. 6 because it "is drafted as a function to be performed rather than definite structure or materials." Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1213 (Fed.Cir.1998).

The term "lost motion" describes a function rather than a structure. "Lost motion" specifically means "the lag between the motion of a driver and that of a follower in a mechanism due to yielding or looseness. Webster's Third, Gerdes Ex. 234. Even in the definition asserted by Stant, "lost motion" is defined as "[t]he delay between the movement of a driver and the movement of a follower." MCGRAW HILL DICTIONARY OF SCIENTIFIC AND TECHNICAL TERMS 1172 (5th ed.1994). Nothing in either of these definitions dictates any particular structure, rather they describe a result of the operation of, or the function of, some unidentified structure.

Further, as a matter of semantics, the term "lost motion" is not the name of anything. That is, when discussing a structural element one would not refer to simply a "lost motion" in the way that someone may refer to a "detent," as in Greenburg, 91 F.3d at 1583-84, a "baffle," as in Envirco Corp., 209 F.3d at 1365, a "detector," as in Personalized Media Communications LLC v. Int'l Trade Comm'n, 161 F.3d 696, 703-04 (Fed.Cir.1998), or a even a "closure," as in Section III(B)(4) above. Instead, as the experts did in this case, one would call the overall structural element, a "lost motion mechanism." In so doing, it is clear that the term "lost motion" adds only a functional feature of the generic "mechanism"-that is, a delay between the movement of a driver and the movement of a follower.

During the Markman hearing both Mr. Harris and Gerdes' expert, Mr. Jones, testified that there are many different structures that may be considered "lost motion mechanisms." *See e.g.,* Markman Hearing Transcript, p. 84, l. 20-p. 85, l. 2; p. 169, ll. 5-10. However, the fact that prior to the '806 patent other patents referred to "lost motion mechanisms" or even that one with ordinary skill in the art, such as Mr. Harris and Mr. Jones, knew what was meant by the term "lost motion" in connection with a structure does not conclusively establish that a "lost motion mechanism" itself has a structural meaning. This case differs from the holding in *Personalized Media* because in that case while the term "detector" did not correspond to a particular structure, the court found that "it does convey to one knowledgeable in the art a variety of structures known as 'detectors." ' Personalized Media Communications, 161 F.3d at 705. As described above, however, "lost motion" does not connote a structure, or group of structures, but rather a feature of a structure, in this case a "mechanism," which like "element" or "means" or even "widget" provides no guidance regarding structure. *See also* Greenburg, 91 F.3d at 1583 (finding that " 'detent' denotes a device with a generally understood meaning in the mechanical arts," that is, "a mechanism that temporarily keeps one part in a certain position relative to that of another, and can be released by applying force to one of the parts."). *Compare Linear Tech. Corp. v. Impala Linear Corp.,* 371 F.3d 1364, 1375 (Fed.Cir.2004) (finding, while discussing a term within a description of the structure corresponding to a means-plus-function element, that a "PWM circuit," although not a specific circuit structure, "references a discrete class of circuit structures that perform known functions.").

Thus, because a "lost-motion mechanism" is not a definite structural term, the meaning of the phrase must be determined under s. 112, para. 6. Looking at the entirety of this phrase, the court finds that it describes a structure, a "lost-motion mechanism," that functions "to provide a driving connection between the closure member and the handle." Contrary to Gerdes' position, and a misleading reference in the patent, the court finds that the lost motion mechanism itself does not, however, function to reset the cap so that a direct-drive driving connection is established between the handle cover and closure body during cap installation. *See* '806 patent, col. 9, ll. 46-51. Instead, this function is clearly performed by a separate structure, a spring as described in the previous section. *See id.,* col. 12, ll. 31-34 ("A torsion spring is provided ... so that the lost-motion mechanism resets."); col. 12, ll. 54-57 ("A torsion spring functions to ... reset the lost-motion mechanism of the cap."); Claim 38, col. 29, ll. 65-67 (claiming "a spring configured to rotate the handle in one direction about the axis relative to the closure member" in addition to the lost-motion mechanism).

With this function in mind, the court now proceeds to determine the corresponding structure found in the patent. In the specification, the patentee carefully describes that the "lost-motion mechanism 58 includes a pair of cylindrical downwardly-extending appendages or drive lugs 150 appended to the underside of handle cover 54 and extending downwardly therefrom" as well as "edge 152 that defines C-shaped slot 154" that receives the drive lugs 150 and is included in the "top flange 80" *Id.,* col 11, l. 66-col. 12, l. 7. In addition, the "[e]dge 152 of C-shaped slot 154 includes a first driven edge 160 and a second driven edge 162." *Id.,* col. 11, ll. 35-36.

In other words, the corresponding structure in the specification for the above recited function includes at least one C-shaped slot, formed in the top flange, that is defined by an edge including a first driven edge and a second driven edge with the space between these edges controlling the amount of lost motion generated in the cap. Further, it includes at least one cylindrical downwardly-extending appendage or drive lug connected to the underside of the handle cover that is received into the C-shaped slot to engage the driven edges. The structure does not, as Gerdes contends, include any type of spring because it is clear that the spring is not necessary to perform the recited function of the "lost-motion mechanism," but rather constitutes a separate structure for performing a separate function.

IV. Conclusion

After consideration of the parties' arguments in their briefs as well as during the claim construction hearing held on April 6, 2004, and the relevant law in this area, the above discussion represents the court's findings regarding the meaning of the disputed terms in the '097 reexam., the '086 patent, the '055 patent, and the '806 patent.

So ordered.

S.D.Ind.,2004.
Stant Mfg, Inc. v. Gerdes GmbH

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