United States District Court,
N.D. California.

FCI USA, INC., et al,
Plaintiffs.
v.
HON HAI PRECISION INDUTRY, CO., LTD., et al,
Defendants.

No. C-03-4519 JCS

Jan. 12, 2005.

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CLAIM CONSTRUCTION ORDER [Docket No. 82]

JOSEPH C. SPERO**, United States Magistrate Judge.**

I. INTRODUCTION

Plaintiffs allege that Defendants are infringing a family of patents that relate to electrical connectors that can be soldered onto a substrate. Five of the seven patents-in-suit were asserted in a prior litigation ("the Prior Litigation") before this Court, in Case No. C-01-1192 JCS. In the course of that litigation, the Court construed a number of claim terms from United States Patent No. 6,024,584 ("the '584 patent"), United States Patent No. 6,079,991 ("the '991 patent"), United States Patent No. 6,093,035 ("the '035 patent"), United States Patent No. 6,164,983 ("the '983 patent"), and United States Patent No. 6,325,644 B1 ("the '644 patent"). Now before the Court are disputed claim terms from United States Patent No. 6,042,389 ("the '389 patent") and United States Patent No. 6,241,535 B1 ("the '535 patent"). The meaning of these disputed claim terms is a question of law that must be resolved by the Court. *See* Markman v. Westview Instruments, Inc., 52 F.3d 967 (Fed.Cir.1995). A tutorial and claim construction hearing was held on December 8, 2004.

II. ANALYSIS

A. Legal Standard

The most "significant source of the legally operative meaning of disputed claim language" is the intrinsic

evidence of record, that is, the claims, the specification and the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1582 (Fed.Cir.1996). The Court begins by looking to the words of the claims to determine the scope of the patented invention. *Id*. There is a strong presumption that a claim term carries the ordinary and customary meaning that would be ascribed to that term by a person of ordinary skill in the field of the invention. *The* Toro Co. v. White Consol. Indus., 199 F.3d 1295, 1299 (Fed.Cir.1999). To determine the ordinary and customary meaning of a term, courts may review dictionaries, encyclopedias and treatises that were publicly available at the time of the patent. Texas Digital Sys., Inc. v. Telegenix, Inc., 308 F.3d 1193, 1202-1203 (Fed.Cir.2002).

In addition to the words of the claims, the specification is also highly relevant to claim construction analysis. Vitronics, 90 F.3d at 1582. If the patentee acts as his own lexicographer by using a term in the specification in a manner that is inconsistent with the ordinary and customary meaning of the term, the presumption that a claim term carries the ordinary and customary meaning may be overcome. *Id*. In particular, "[t]he specification acts as a dictionary when it expressly defines terms used in the claims or when it defines terms by implication." *Id*.

Finally, arguments and amendments made during the prosecution may establish that a term carries a special meaning. Teleflex, Inc. v. Ficosa N. Am. Corp., 299 F.3d 1313, 1326 (Fed.Cir.2002).

Courts may also use extrinsic evidence in construing claim terms if it is necessary, so long as such evidence is not used to "vary or contradict the terms of the claims." Markman, 52 F.3d at 980. Courts may consider expert testimony, the testimony of the inventor, and prior art, whether or not it is referenced in the specification or prosecution history. Vitronics, 90 F.3d at 1584. As the court explained in *Markman,* "[extrinsic] evidence may be helpful to explain scientific principles, the meaning of technical terms, and terms of art that appear in the patent and prosecution history." 52 F.3d at 980.

B. Disputed Claim Terms

1. "Recess/Recessed Area"

The parties dispute the proper construction of the words "recess" and "recessed area," found in claims 1-4, 21-22, 43, and 48-52 of the '389 patent. Plaintiffs assert that the words "recess" and "recessed area," as used in the identified claims of the '389 patent, should be construed as meaning, "an indentation or small hollow that may or may not be partially enclosed by a wall opposite the opening." Defendants, on the other hand, argue that the Court should adopt the same construction for this term that was adopted in the Prior Litigation with respect to the '584 patent. In particular, Defendants assert that the term means, "an indentation or small hollow that is partially enclosed by a wall opposite the opening. The wall need not be complete, flat, or parallel to the opening." The Court adopts Plaintiffs' construction.

As a general rule, courts should construe terms used in the same patent or family of patents consistently. Omega Eng'g, Inc. v. Raytek Corp., 334 F.3d 1314, 1334 (Fed.Cir.2003). The Federal Circuit has explained, however, that "the more precise statement of the axiom [is that] '[a] word or phrase *used consistently* throughout a claim should be *interpreted consistently*.' " Epcon Gas Sys., Inc. v. Bauer Compressors, Inc., 279 F.3d 1022, 1030-31 (Fed.Cir.2002) (emphasis in original)(*quoting* Phonometrics, Inc. v. N. Telecom, Inc., 133 F.3d 1459, 1465 (Fed.Cir.1998)). Thus, if a term is used in different ways in the specification, it may have different meanings depending upon the context in which it is used. *See* Pitney-Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1311 (Fed.Cir.1999) (holding that "[p]arsing the written description, in the context of the prosecution history, puts the reader on notice that the term 'spot' has different meanings in

the written description depending on the context").

In the Prior Litigation, the Court addressed the meaning of the term "recess" as used in claim 1 of the '584 patent. Claim Construction Order, March 6, 2003 ("the March 6, 2003 Claim Construction Order") at 3. That claim recites a method for "placing an exterior conductive contact on an electrical connector having an exterior side and an interior side," where a conductive contact extends into the a "recess" on the exterior side of the connector and a conductive element is positioned in the "recess." Claim 1 of the '584 patent further specifies that the "conductive element" is heated to fuse with the contact. Because the specification explains that solder balls may be used as the "conductive element" that is placed in the exterior recesses described in claim 1, these recesses are referred to as "solder-ball receiving recesses." *See* '584 patent, 6: 56-63.

In the March 6, 2003 Claim Construction Order, the Court addressed the question of whether the solder-ball receiving recesses could "include a tunnel or tube that extends from the exterior side to the interior side of the connector," or alternatively, whether the term "recess" required a wall of some kind opposite the opening. Id. at 4. The Court began by acknowledging that "the term 'recess' in and of itself does not clearly indicate whether it encompasses a tunnel or tube." Id. Based on the language of the claims and specification, however, the Court concluded that the term, as used in the claims and specification, did call for a wall of some sort opposite the opening.

Looking first to the claims, the Court pointed out that claim 1 calls for a recess "on the exterior side of the connector," indicating that "the volume comprising the inside of the recess[ ] is located on the exterior side." Id. The Court also looked to the language of dependent claims 6 and 10, which add limitations specifying the depth of the recesses. Id. The Court reasoned that a through-hole or tunnel could not have a "depth."

Next, the Court looked to the specification of the '584 patent, finding that all of the exterior recesses had "some sort of bottom." Id. at 6. The Court concluded, therefore, that the inventor had defined the term by implication to mean an opening with a bottom, thus resolving the inherent ambiguity of the term. Id. In reaching this conclusion, however, the Court left open the possibility that other uses of the term "recess" in the '584 patent might carry a different meaning. Specifically, the Court rejected Plaintiffs' argument that elements 330 and 332 of Figure 21 of the '584 patent showed that recesses could be through-holes, in part based on the fact that these recesses were "clearly distinct" from the recesses recited in claim 1, that is, that they were not solder-ball receiving recesses. Id. at 5. The Court also noted that it could not be determined from the figures in the ' 584 patent whether elements 330 and 332 were though-holes. Id.

In the '389 patent, the disputed term "recess" is used as follows:

Claim 1

An electrical connector comprising:

...

a first **recess** in a region of the connector body adjacent the retention portion and in communication with the opening along the mating interfaces for receiving a distal portion of the deflectable terminal of the mating connector.

wherein said terminal does not extend into said first **recess.**

Claim 2

An electrical connector as in claim 1, and further comprising a second **recess** in a region of the connector body adjacent the retention portion.

Claim 3

An electrical connector as in claim 2, wherein the first **recess** is located on a side of the retention portion opposite to the location of the second **recess.**

Claim 4

An electrical connector as in claim 3, wherein the first **recess** is laterally offset from the second **recess.**

Claim 21

An electrical interconnection comprising:

...

a **recessed area** in the base of the connector body adjacent the retention section of the passage.

Claim 22

An interconnection as in claim 21, wherein a portion of the **recessed area** is contiguous with the terminal receiving passage.

Claim 43

A low profile interconnection, comprising:

a first connector having:

an insulative base having:

a mating surface; and

a **recess** at said mating surface and extending into said base.

Claim 48

An electrical interconnection, comprising:

a first connector, including:

...

a **recessed area** in the base of the connector body adjacent the retention section of the passage ...

Claim 49

An electrical interconnection comprising:

a first connector, including:

...

a pair of **recessed areas** in the base of the connector body adjacent the retention section of the passage ...

Claim 50

An interconnection as in claim 49, wherein each **recess** is on an opposite side of a medial plane of the passage.

Claim 51

An interconnection as in claim 50, wherein each **recess** is on an opposite side of a plane orthogonal and parallel to said medial plane.

Claim 52

An interconnection as in claim 51, wherein the passage includes a terminal retention projection, the projection being positioned laterally between the **recesses.**

In contrast with the solder-ball receiving recesses, the recesses described in the claims above receive the "distal portion," or the tip, of the connector and therefore, are referred to as "tip-receiving recesses." '389 patent, claim 1. The question before the Court, once again, is whether these recesses must have a wall of some sort opposite the opening or rather, may be a tube or through-hole.

The dictionary definition of the term "recess" is "an indentation or small hollow." Shen Decl., Ex. J, *American Heritage Dictionary* (3d ed.1992) at 1508. A "hollow," in turn, is defined as a "cavity, gap or space." Id. at 863. While the word "indentation" implies a wall opposite the opening, the word "hollow" does not. Thus, as the Court acknowledged in the Prior Litigation, the word "recess" as it is ordinarily understood is ambiguous, seeming to allow for structures with an opposite wall as well as structures without an opposite wall.

Looking more broadly to the words of the claims, the Court notes that none of the claims in which the disputed term is used in the '389 patent includes the type of limitations on which the Court relied in the Prior Litigation in support of the conclusion that a recess must contain a wall of some kind opposite the opening. In particular, the claims do not indicate that the entire volume of the recess must be located on a particular side of the connector, in contrast to claim 1 of the '584 patent, which requires that a recess be on "the exterior side of the connector." *See* March 6, 2003 Claim Construction Order at 4. Further, there is no

reference to the depth of the recess, as was the case with respect to the term "recess" as used in claim 1 of the '584 patent. Instead, the claims in the '389 patent indicate the locations of the recesses only as "adjacent" the retention portion or another recess. The term adjacent does not imply anything about the depth of the recess or whether there must be a wall opposite the opening. Thus, the Court concludes that the claims, by themselves, do not require that the tip-receiving recesses must have a wall opposite the opening.

Similarly, the Court does not find that the patentees, in the written description, limited tip-receiving recesses to structures with a wall opposite the opening. *See* Vitronics, 90 F.3d at 1582 (holding that "a patentee may choose to be his own lexicographer ... as long as the special definition is clearly stated in the patent specification or file history"). It is true that the tip-receiving recess depicted in Figure 4 of the '389 patent, shown by reference number 46, appears to have a wall opposite the opening (as Plaintiffs conceded at oral argument). However, it is improper to import limitations into the claims based on preferred embodiments. *See* Altiris v. Symantec Corp., 318 F.3d 1363, 1370 (Fed.Cir.2003) (holding that district court improperly read limitations from specification into claim).

The Court rejects Defendants' reliance on the recess depicted in Figure 3, which has a bottom and is described as "well or pocket 50 ." '389 patent, 4: 24-27. It is clear from the written description that that recess is a solder-ball receiving recess rather than a tip-receiving recess and therefore does not compel the conclusion that the tip-receiving recess must have a wall opposite the opening. *See* id. Indeed, although the solder-ball receiving recesses have opposite walls, the Court notes that there are other "recesses" in the family of patents that *do not* appear to have a wall opposite the opening, such as the "end-recesses" depicted in Figure 16 of the '584 patent. *See* '584 patent, 7: 20-22 (referring to elements 272 and 278 of Figure 16 as "end recesses"). It is clear from Figures 14 though 18 that these recesses extend all the way through the housing. These recesses support the conclusion that although certain types of recesses in the family of patents may be required to have an opposite wall (such as the solder-ball recesses), the term "recess" does not, by itself, *require* an opposite wall. Rather, consistent with the dictionary definition, it encompasses both structures that do and structures that do not have an opposite wall.

Given that the patentees did, on occasion, use the term "recess" to include a through-hole, and in light of the fact that the specification does not clearly limit tip-receiving recesses to recesses with a wall opposite the opening, the Court declines to limit the disputed claim term in the manner requested by Defendants. *See* Texas Digital Sys., Inc. v. Telegenix, 308 F.3d 1193, 1202 (Fed.Cir.2002) (holding that "unless compelled otherwise, a court will give a claim term the full range of its ordinary meaning as understood by persons skilled in the relevant art"). FN1 The Court concludes that the term "recess" as used in the claims at issue in the ' 389 patent means, "an indentation or small hollow that may or may not be partially enclosed by a wall opposite the opening."

2. "Relief Area"

The parties dispute the meaning of the term "relief area" as used in claims 7-12, 14-15 and 18-19 of the '389 patent. Plaintiffs assert that the term means "a space into which a portion of a deflectable contact terminal may move when the terminal is deflected." Defendants argue for a more restricted construction of the term, asserting that it requires "a space within the housing, distinguishable from the passage, that allows deflection of the proximal ends of the deflectable arms of the contact terminal secured in the housing." The Court adopts Plaintiffs' proposed construction.

In the '389 patent, the disputed term "relief area" is used as follows:

Claim 7

An electrical connector comprising:

a connector body having a base;

a terminal passage in the body and including **relief areas** in the base;

a conductive terminal located in the terminal passage, the terminal having a mounting portion positioned within the base of the connector body and two cantilevered contact arms extending from the mounting portion for engaging a contact on a mating connector, a part of the arms positioned within the **relief areas** and a remainder of the arms extending from the body.

Claim 8

An electrical connector as in claim 7, wherein the connector body defines a mating interface and a mounting interface, the **relief areas** are located adjacent the mating interface and distal portions of the arms extend beyond the **relief areas.**

Claim 9

An electrical connector as in claim 7, wherein a first of the **relief areas** is positioned adjacent one side of the terminal passage and a second of the **relief areas** is positioned adjacent an opposite side of the terminal passage.

Claim 10

An electrical connector as in claim 9, wherein the **relief areas** are located on opposite sides of a medial plane of the passage.

Claim 11

An electrical connector as in claim 9, wherein the **relief areas** are on opposite sides of a plane orthogonal to the medial plane of the passage.

Claim 12

An electrical connector as in claim 9, wherein the **relief areas** are located on opposite sides of a medial plane of the passage and on opposite sides of a plane orthogonal to the medial plane of the passage.

Claim 14

An open faced electrical connector housing in which contact terminals are adapted to extend therefrom, comprising:

a connector body having a base, a mating interface and a mounting interface, the body sized to allow a

mating portion of the contact terminal to extend therefrom;

a passage in the base for receiving a portion of the contact terminal along a medial plane, the passage extending from the mating interface-toward the mounting interface and including a deformable retention section extending into said passage for frictionally retaining the contact terminal in the body; a **relief area** disposed adjacent the mating interface and in communication with the passage for receiving a portion of a deflectable contact terminal.

Claim 15

An electrical connector housing as in claim 14, wherein the **relief area** is located on a side of the medial plane of the passage opposite the retention section.

Claim 18

An electrical connector housing as in claim 16, wherein the passage includes a first pair of **relief areas** formed therein, the first **relief areas** each being disposed on opposite sides of a medial plane of the passage.

Claim 19

An electrical connector housing as in claim 18, wherein the terminal engaging members are located adjacent a central axis of the passage and the **relief areas** are located on opposite sides of a plane orthogonal to a medial plane of the passage.

The parties disagree on the scope of this claim term with respect to three issues: 1) whether the relief area must be "distinguishable from the passage;" 2) whether the relief area accommodates a "portion of a deflectable contact terminal" or alternatively, accommodates only "the proximal ends of the deflectable arms of the contact terminal;" and 3) whether the contact terminal must be "secured" in the housing. The Court addresses each issue in turn.

a. Is the Relief Area Distinguishable From the Passage?

The Court rejects Defendants' assertion that the relief area must be "distinguishable" from the passage. First, there is nothing in the claims themselves that requires such a limitation. Rather, the claims quoted above merely specify that the "relief areas" are spaces in the base of the connector body that are meant to accommodate part of the deflectable terminal. Indeed, claim 18 expressly states that "the passage includes a first pair of relief areas *formed therein,*" indicating that the relief areas are part of the passage. Further, the customary and ordinary meaning of the term "relief area" also does not require that the relief area be distinct form the passage. The term "relieve" means merely "to cause a lessening or alleviation of." Shen Decl., Ex. J, *American Heritage Dictionary* (3d ed.1992) at 1524. This meaning is consistent with the specification, which states that the purpose of the relief areas is to "allow flexure of the lower sections of contact arms of the contact terminal." '389 patent, 2:62-65. Nothing in the plain meaning of the term or claim requires that the relief area must be distinguishable from the passage.

Nor is the Court persuaded by Defendants' assertion, citing to the language in claims 9 and 14, that it would "not make sense" to speak of the relief areas and the passage as "adjacent" if they were not distinct from one another. *See* Defendants' Brief at 10. In fact, claims 9 and 14 do not specify that the relief area and the

passage are "adjacent." Rather, these claims require that the relief area be located "adjacent *one side* of the terminal passage." This language does not require that the relief area must be distinct from the passage.

Similarly, the fact that claim 14 requires "a relief area" that is "in communication with the passage" does not convince the Court that the relief area cannot be part of the passage, as discussed below in the Court's analysis of the term "in communication with."

The conclusion that the relief area and the passage need not be distinguishable also finds support in the prosecution history. Specifically, the Examiner found that a number of claims in the '389 application were anticipated by United States Patent No. 4,217,024 ("the Aldridge Patent" or "Aldridge") and referred to reference number 9 in Aldridge as "relief areas ... for receiving distal ends of the [contact] arms." Shen Decl., Ex. M, FCI 30383. The Aldridge Patent, in turn, describes a device in which "[e]ach opening 5 has a contact cavity 9 associated therewith" and shows in Figure 9 an embodiment in which "contact cavity 9" is indistinguishable from the passage. Aldridge Patent, 4:66-68. Rather than attempting to distinguish Aldridge on the basis that the relief areas of the '389 application were distinct from the passage, the patentees amended claim 11 to add a limitation requiring that the connector be "open faced" and have a body "sized to allow a mating portion of the contact terminal to extend therefrom." Declaration of Heidi Keefe in Support of Defendants' Claim Construction Brief ("Keefe Decl."), Ex. L, FCON09292. From this prosecution history, the Court concludes that both the patentees and the Examiner assumed that the relief areas were not required to be distinct from the passage. FN2

For the reasons stated above, the Court rejects Defendants' assertion that the relief area must be distinguishable from the passage.

b. Does the Relief Area Accommodate a "Portion of a Deflectable Contact Terminal" or "the Proximal Ends of the Deflectable Arms of the Contact Terminal?"

Defendants assert that the "relief area" allows deflection of the "proximal ends of the deflectable ends of the contact terminal" rather than simply "a portion of a deflectable contact terminal." Defendants rely on the following language in claim 7:

a conductive terminal located in the terminal passage, the terminal having a mounting portion positioned within the base of the connector body and two cantilevered contact arms extending from the mounting portion for engaging a contact on a mating connector, a part of the arms positioned within the **relief areas** and a remainder of the arms extending from the body.

According to Defendants, although this description of the connector does not use the terms "proximal" and "distal," this claim "dissects the cantilevered contact arms into two components-the one that is positioned within the relief areas (nearest the point of attachment) and the one that is extending from the body (situated away from the point of attachment." Defendants' Claim Construction Brief at 11-12.

Defendants reason further that the two parts of the contact arms are the "proximal" and "distal" portions of the arm, citing to claim 1 of the '389 patent, which refers to "a distal portion of the deflectable terminal, and to the dictionary definitions of "proximal" and "distal." *See* Keefe Decl., Ex. J, *Merriam Webster's Collegiate Dictionary* (10th ed.1994) at 37 (defining "distal" as "situated away from the point of attachment or origin or central point" and "proximal" as "next to or nearest the point of attachment"). Finally, Defendants assert that the distal portions of the arm are housed in the "recesses," which must be construed

as being distinct from the "relief areas." Defendants' Brief at 12 (citing claims 1, 21, and 48).

The Court concludes that Defendants' proposed construction improperly limits the term "relief area." First, to the extent that claim 7 implies that the portion of the contact arm positioned in the relief areas must be the proximal portion of the arm (a question on which the Court does not rule), Defendants fail to explain why that limitation should be imported into other claims by including it in the construction of the term "relief areas." Looking, for example, to claim 14, which uses the term "relief area," such importation appears to be improper, given that that claim does not refer to any contact arm. Moreover, nothing in the language of claim 14 or the specification preclude the possibility that the "portion of the deflectable contact arm" accommodated in the relief area might be the *distal* portion of a contact arm housed in a separate connector. Defendants' proposed construction does not allow for this possibility. For the same reasons, the Court rejects Defendants' reliance on claims 21 and 48, both of which refer to a "distal portion" of a contact terminal being "disposed in" a "recessed area" as a basis for including this limitation in its construction of the term "recessed area."

Finally, the Court rejects Defendants' assertion that claim 1 is relevant to the construction of "relief areas" because claim 1 describes the counterpart male connector to the female connector recited in claim 7. The Court finds nothing in the claims or specification making clear that claims 1 and 7 must be counterpart terminals.

The Court concludes that the "relief areas" must receive a "portion of a deflectable contact terminal."

c. Must the Contact Terminal be Secured in the Housing?

Defendants include in their proposed construction of "relief area" the requirement that the contact terminal must be "secured" in the housing. Plaintiffs, however, assert that Defendants are attempting to inappropriately import a limitation from claim 1 into claims that do not include such a limitation. Specifically, Plaintiffs point out that claim 1 expressly includes a limitation that requires "a terminal having a retention portion secured in the opening in the connector body for retaining the terminal on the connector body." '389 patent, 8 :1-3. Plaintiffs argue that claim1 shows that the patentees knew how to include such a limitation and therefore, that it should not be read into other claims that do not expressly recite the same limitation. Defendants do not respond to this argument and do not defend this part of their construction on any other grounds. For the reasons stated by Plaintiffs, the Court agrees that Defendants' proposed limitation is unwarranted.

The Court finds that "relief areas" means "a space into which a portion of a deflectable contact terminal may move when the terminal is deflected."

3. "In Communication With"

The parties dispute the proper construction of the words "in communication with," in claims 1 and 14 of the '389 patent. Plaintiffs argue that the term means "connected to," while Defendants assert the term should be construed as "connected to but distinct from." The Court adopts Plaintiffs' proposed construction.

Claim 1 recites "an electrical connector comprising ... a first recess in a region of the connector body adjacent the retention portion and **in communication with** the opening along the mating interface for receiving a distal portion of the deflectable terminal of the mating connector ..." Claim 14 recites "[a]n open faced electrical connector housing in which contact terminals are adapted to extend therefrom, comprising ...

a relief area disposed adjacent to the mating interface and **in communication with** the passage for receiving a portion of a deflectable contact terminal."

Defendants assert that this claim term should be construed to include a limitation similar to the limitation discussed above in connection with the term "relief areas." In particular, Defendants argue that the words "in communication with" mean that the "relief area" must be distinct from the "passage" in claim 14, and, in the case of claim 1, the "recess" must be distinct from the "opening."

The word "communication" is defined as "an act or instance of transmitting." Keefe Decl., Ex. J, *Merriam-Webster Collegiate Dictionary* (10th ed.1994) at 233. "Transmit," in turn, is defined as "to send or convey from one person to another." Id. at 1255. Defendants assert that implicit in these definitions is the concept that "communication" must occur between "multiple distinct entities." Defendants' Claim Construction Brief at 14. The Court agrees that the term necessarily implies multiple entities. The question of whether those entities must be "distinct," however, is a closer call. It is not obvious from the dictionary definition of the word "communication" that there may not be overlap between the entities that are in "communication" with one another. FN3

The Court looks to the specification to resolve this ambiguity. Defendants argue that "Figure 4 of the specification visibly distinguishes between the 'relief areas' (No. 64) and the 'passage' (No. 62)." However, Figure 4 shows only "relief areas" 64. It does not show the "passage" 62. Defendants also state that "[t]he text goes on to describe how the 'passages' are designed to receive receptacle terminals, while the 'relief areas' are 'for accommodating receipt of formed contact arms 78a, 78b.' " Defendants' Claim Construction Brief at 13 (citing '389 patent, 5 :62-65). Defendants fail to acknowledge, however, that the cited text states in full that "[w]hen utilizing receptacle terminals of the type illustrated in FIGS. 6, 7, and 8, the passages 62 preferably *include* opposed relief areas 64 for accommodating formed contact arms 78a, 78b." '389 patent, 5 :62-65 (emphasis added). The only figure in the '389 patent that includes both of these structures is Figure 5. In that figure, passage 62 and relief areas 64 appear to be the same structure.

Because the specification appears to allow for the possibility that the relief areas may be part of the passage, the Court rejects Defendants' proposed limitation on the term "in communication with" requiring that the relief areas must be "distinct" from the "passage" in claim 14.

As discussed above with reference to the term "relief areas," the prosecution history also may support this conclusion. In particular, it appears that the Examiner's treatment of the Aldridge Patent indicates that the Examiner understood that the relief area was not required to be distinct from the passage. The patentees did not challenge this understanding, thereby implicitly accepting it.

The Court construes "in communication with" as meaning "connected to."

4. "Deformable Retention Section Extending Into"

The parties disagree on the construction of the term "deformable retention section extending into," used in claim 14 of the '389 patent. Claim 14 recites the following:

An open faced electrical connector housing in which contact terminals are adapted to extend therefrom, comprising:

a connector body having a base, a mating interface and a mounting interface, the body sized to allow a mating portion of the contact terminal to extend therefrom;

a passage in the base for receiving a portion of the contact terminal along a medial plane, the passage extending from the mating interface-toward the mounting interface and including a **deformable retention section extending into** said passage for frictionally retaining the contact terminal in the body;

a relief area disposed adjacent the mating interface and in communication with the passage for receiving a portion of a deflectable contact terminal.

Plaintiffs assert that the claim term means, "section that retains the terminal's position that may be altered in shape by pressure or stress, and that reaches into the passage." Defendants argue that the term should be construed as meaning, "section of the housing, capable of becoming misshapen, but not misshapen, that protrudes from the sidewall toward the medial plane of the passage." Defendants do not appear to dispute that the words "retention section" refer to a "section that retains the terminal's position." Thus, two issues are in dispute: 1) whether this term includes a temporal limitation, namely, whether it is limited to a connector housing without a contact terminal in place; and 2) the meaning of "extending into."

a. Does the Word "Deformable" Impose a Temporal Limitation?

Plaintiffs argue that the word "deformable" carries no temporal limitation and that a structure that is "deformable" remains "deformable" even when it is "deformed." In support of this assertion, Plaintiffs point out that: 1) if the object doing the deforming were removed, the "deformable" structure would return "to some extent" to its original shape; and 2) a structure that is in a deformed state could be still further deformed. Defendants rely on an example in support of their assertion that the plain meaning of "deformable" excludes a structure that is already "deformed." In particular, Defendants describe the "deformable retention section" used on the lids of cups to hold straws. According to Defendants, "[w]hile the tabs are flush with the lid, they are 'deformable.' Only after the straw is inserted and the tabs are bent, do they become deformed." The Court concludes that Defendants are correct.

The plain meaning of the term "deformable" is "capable of being deformed." *See* Shen Decl., Ex. Q, *The American Heritage Dictionary of the English Language* (4th ed.2000) at 5 ("-able" means "[s]usceptible, capable or worthy of a specified action"). FN4 This definition does not resolve the question of whether a structure continues to be "deformable" after it is has already been "deformed" (as Plaintiffs argue) or whether it ceases to be "deformable" once it is "deformed" (as Defendants argue). Looking to the claims, specification and prosecution history, however, the Court concludes that the term "deformable" applies to a contact housing *before* a contact terminal is in place.

First, claim 14 refers to "a passage in the base *for receiving* a portion of the contact terminal," "a deformable retention section extending into said passage *for frictionally retaining the contact terminal,*" and "a relief area ... *for receiving* a portion of a deflectable contact terminal." The use of the phrases "for receiving" and "for retaining" imply that these functions have not yet occurred.

Second, in the specification, the patentees use the term "deformed" rather than "deformable" to describe the connector after the contact terminal has been inserted:

the distal portion of each projection 48 is engaged and deformed by the contact terminal as the terminal 28

is inserted into the passage 38 and slot 53 ... The contact terminal is securely held in the passage 38 and slot 53 by the normal force exerted on the contact terminal by the *deformed* projections.

'389 patent, 4 :40-51 (emphasis added). Similarly, the specification states, "[u]pon insertion of the terminal 90 into the passage 91, the projections 94 are *deformed* or spread slightly by the terminal tip or solder tab 98." '389 patent, 7 :28-30. These uses of the word "deformed" in the specification rather than "deformable" support Defendants' position that "deformable" means capable of being deformed but not yet deformed.

Nor is the Court convinced by Plaintiffs' reliance on United States Patent No. 6,358,068 ("the '068 patent"), which is a parent of the '535 patent. Plaintiffs point to claim 20 of the '068 patent, which they assert shows that a retention structure "is still considered 'deformable' even after it has been 'deformed' by insertion of the contact in the body of the connector." Plaintiffs' Claim Construction Brief at 20. Claim 20 of the '068 patent provides as follows:

An electrical connector mountable to a circuit substrate comprising:

a body made of insulative material and having a mating surface and an opposed mounting service;

an array of closely spaced contact receiving openings for receiving a mounting portion of a contact mountable on said body, said openings each having a side wall transverse to said mating surface;

a plurality of contacts mounted on said body, said contacts having a tab portion and having mounting portions received in said contact receiving openings.

a *deformable* member located on said side wall of each opening and adapted to be *deformed* by the mounting portion of a contact received in the opening and to frictionally secure the contact in the opening; and a shaped, fusible body secured to said tab portion for mounting the connector to the circuit substrate, the shaped body having a curved surface.

According to Plaintiffs, the words "mountable to a circuit substrate" in the preamble of this claim indicate that this claim refers to a connector that already has the contacts inserted. However, the language used throughout this claim belies Plaintiffs' assertion. In particular, the claim refers to "a *deformable* member" that is "adapted to be *deformed* " when a contact is "received in the opening." In fact, the words "deformable" and "deformed" in claim 20 of the '068 patent support Defendants' position that "deformable" carries a temporal limitation in the '389 patent.

The Court concludes that the word "deformable" should be construed to mean "capable of becoming deformed but not yet deformed."

b. The Meaning of "Extending Into"

Plaintiffs assert that the words "extending into" in claim 14 simply mean "reaching into." Defendants argue that "extending into" means that the retention section "protrudes from the sidewall toward the medial plane of the passage." The Court concludes that the words "extending into" do not specify a particular orientation and require no further construction.

With respect to the orientation of the retention section, Defendants point out that claim 14 calls for a

"deformable retention section extending into said passage *for frictionally retaining the contact terminal in the body*." '389 patent, 9 :7-9. Defendants assert that the retention section can only serve this purpose if it "protrudes from the sidewall toward the medial plane of the passage." Defendants' Claim Construction Brief at 17. However, Defendants do not cite any evidence-either intrinsic or extrinsic-that persuades the Court that this is so. Further, dependent claims 16 and 19 add limitations with respect to the orientation of the retention section, suggesting that the patentees intentionally failed to limit claim 14 as to orientation.

With respect to the dispute as to whether "extending into" means "reaches into" or "protrudes into," the parties have not articulated any meaningful difference between these two proposed constructions. Nor have they explained how these proposed constructions add clarity to the words "extending into." Therefore, the Court adopts the words of the patent, that is, "extending into," which are clear on their face.

The Court construes the term "deformable retention section extending into" as follows: "section of the housing that retains the terminal's position, capable of becoming deformed but not deformed, extending into the passage."

5. "Open Faced"

The parties dispute the meaning of the claim term "open faced," found in the preamble of claim 14 of the '389 patent. Plaintiffs assert that the term means "having a housing that is shaped or formed to expose the mating portion of the contacts." Defendants argue that the term means "without the mating connector attached." The Court concludes that this term is not a claim limitation and therefore, need not be construed.

Claim 14 states as follows:

An **open faced** electrical connector housing in which contact terminals are adapted to extend therefrom, comprising:

a connector body having a base, a mating interface and a mounting interface, the body sized to allow a mating portion of the contact terminal to extend therefrom;

a passage in the base for receiving a portion of the contact terminal along a medial plane, the passage extending from the mating interface-toward the mounting interface and including a deformable retention section extending into said passage for frictionally retaining the contact terminal in the body;

a relief area disposed adjacent the mating interface and in communication with the passage for receiving a portion of a deflectable contact terminal.

The Court notes, as a preliminary matter, that the term at issue is used only in the preamble of the claim. This is significant because special rules apply to construction of language found in the claim preamble. In particular, words used in the preamble, unlike words found in the body of the claim, are not always claim limitations. *See* Catalina Int'l Mktg., Inc. v. Coolsavings.com, Inc., 289 F.3d 801, 808 (Fed.Cir.2002).

In *Catalina Int'l Mktg.,* the Federal Circuit described the general approach for determining the significance of language contained in the preamble of a claim as follows:

Whether to treat a preamble as a limitation is a determination "resolved only on review of the entire[ ] ...

patent to gain an understanding of what the inventors actually invented and intended to encompass by the claim.... In general, a preamble limits the invention if it recites essential structure or steps, or if it is "necessary to give life, meaning, and vitality" to the claim.... Conversely, a preamble is not limiting "where a patentee defines a structurally complete invention in the claim body and uses the preamble only to state a purpose or intended use for the invention."

289 F.3d 801, 808 (Fed.Cir.2002) (citations omitted). The Federal Circuit went on to explain that "clear reliance on the preamble during prosecution to distinguish the claimed invention from the prior art transforms the preamble into a claim limitation because such reliance indicates use of the preamble to define, in part, the claimed invention." *Id*.

Here, a review of the patent specification reveals that the inventors *never* used the term open-faced except in the preamble of claim 14, suggesting that the term was merely a short-hand to describe the limitation contained in the body of claim 14, that is, the requirement that "the body [must be] sized to allow a mating portion of the contact terminal to extend therefrom."

The prosecution history supports this conclusion. In particular, when the Examiner rejected claim 11 of the application (claim 14 of the issued patent) on the basis that it was anticipated by Cobaugh, the patentees amended the claim not only to add the word "open-faced" to the preamble but to add the limitation quoted above, that "the body [must be] sized to allow a mating portion of the contact terminal to extend therefrom." Shen Decl., Ex. M, 30399-30400. The patentees explained the amendment as follows:

As to the rejection of claims 11-13 and 55, Applicants modified independent claim 11 to recite "[a]n open faced electrical connector housing in which contact terminals [can] extend therefrom." The body of the connector housing is sized so that "a mating portion of the contact terminal [can] extend therefrom." Cobaugh fails to disclose this feature. As described above, Cobaugh is a generally closed structure using housing 34 to surround the portions of contacts 10 extending from PCB 16. The remaining cited references fail to overcome the shortcomings of Cobaugh. Accordingly, Applicant requests that the Examiner reconsider and withdraw the rejection of claims 11-13 and 55.

Applicant does not introduce new matter to the application by the modification to claim 11. Support for the modification appears in the disclosure as originally filed, for example Figures 1, 3-5, and 9.

Id. at 30405. It is evident from the patentees' explanation that the feature that distinguishes the device claimed in the '389 patent from Cobaugh is the fact that the "housing is sized so that 'a mating portion of the contact terminal [can] extend therefrom.' " Id. The patentees explicitly point to this feature and contrast it with the "generally closed structure" of Cobaugh, *see* id., thus supporting the conclusion that the term "open faced" was merely another way to describe a feature already recited in the body of the claim.

This conclusion finds further support in the fact that the patentees pointed to Figures 1, 3-5, and 9 as illustrations of this feature. While some of these figures show the housing with the mating connector attached (Figures 4 and 5) and some show the housing without the mating connector attached (Figures 1, 3 and 9), *all* of these figures have a housing that allows exposure of the mating portion of the contact-the very feature the patentees sought to highlight in the amendment. Thus, the Court concludes that the prosecution history does not show "clear reliance" on the preamble of claim 14 to distinguish the invention from the prior art. *See* Catalina Int'l Mktg., 289 F.3d at 808. To the contrary, the prosecution history distinguishes application claim 11 (issued claim 14) on the basis of the claim limitation requiring that "the body [be] sized

to allow a mating portion of the contact terminal to extend therefrom." Therefore, the term "open faced" is not a claim limitation.

6. "Blade-Type Contact"

The parties dispute the construction of the term "blade-type contact," used in claims 6, 43, and 48 of the '389 patent. Plaintiffs assert that the term means "a contact with a generally flat mating portion." Defendants argue that the term should be construed as "a flat male contact designed to mate with a tuning fork or a flat formed female contact." The Court concludes that Plaintiffs' proposed construction is correct.

The proposed constructions of the term "blade-type contact" raise two issues: 1) must the contact described be completely flat or rather, must it be only "generally flat," thus allowing for "a slight curvature;" and 2) does the term mean that the contact described is limited to a "male contact" that is designed to mate with a "tuning fork or flat formed female contact," or does the term allow for other types of mating contacts?

On the question of whether the term "blade-type contact" requires a completely flat contact, both parties cite to the definition of "blade" found in Merriam-Webster's Collegiate Dictionary. That definition provides as follows:

1 a: LEAF ... *esp.:* the leaf of an herb or a grass **b:** the flat expanded part of a leaf as distinguished from the petiole **2:** something resembling the blade of a leaf: as a: the broad flattened part of an oar or paddle **b:** an arm of a screw propeller, electric fan, or steam turbine **c:** the broad flat or concave part of a machine (as a bulldozer or snowplow) that comes into contact with the material to be moved **d:** a broad flat body part ... **e:** the flat portion of the tongue immediately behind the tip **3 a:** The cutting part of an implement **b** (1): SWORD (2): SWORDSMAN (3): a dashing lively man **c:** the runner of an ice-skate ...

Keefe Decl., Ex. J, *Merriam-Webster's Collegiate Dictionary* (10th ed.1992) at 120. It is evident from this definition that the full-range of the word "blade," as that word is commonly used, encompasses not only surfaces that are entirely flat but also surfaces that may be somewhat curved or twisted, such as snowplow blades, leaves and fan or propeller blades.

Defendants, however, cite to a technical dictionary that defines a "blade contact" in a more limited way:

A flat male contact designed to mate with a tuning fork or a flat-formed female contact. It is used in multiple-contact connectors.

Keefe Decl, Ex. Q, *Modern Dictionary of Electronics* (Sixth ed.1984) at 104. Generally, a technical dictionary might be more likely to offer a definition consistent with the understanding of one "of ordinary skill in the art." It is not dispositive here, though, because the definition offered by Defendants is for the term "blade contact" rather than the apparently broader claim term "blade- *type* contact."

Looking to the specification, the figures in the '389 patent show the "blade-type contacts" as being completely flat. *See, e .g.,* '389 patent, Figure 3 (showing a flat contact (28) with mating section (30)) and Figure 4 (showing a flat contact (28)). However, Figure 13 in the related '991 patent shows the "blade-type contacts"-shown as reference number 66-as being slightly bent. The written description explains that "FIGS. 10 and 13 show a variant of the FIG. 1 embodiment wherein, instead of the forked receptacle contacts 66, oppositely disposed pairs 66 *a* and 66 *b* of blade-type contacts engage the ground/power terminals 182."

'991 patent, 7: 48-51. These embodiments of the device claimed in the related patent support Plaintiffs' construction of the term "blade-type contacts" as requiring only that the contact be "generally flat." Therefore, the Court adopts Plaintiffs' construction in this respect, with the added clarification that being flat does not preclude the contact from being bent, curved or twisted.

Next, the Court must determine whether the limitations proposed by Defendants specifying that the contact is male and is designed to mate with a "tuning fork or a flat formed female contact" should be adopted. Defendants assert that even though claims 43 and 48 each contain limitations that specify the type of mating contact required by these claims (a "dual beam-type contact" in claim 43 and a "beam-type contact" in claim 48), the construction it proposes would not render these limitations superfluous because "the reference to a female contact in its proposed construction is plain meaning, and is necessary to further define the male contact." Defendants' Claim Construction Brief at 24. The Court disagrees.

In support of their proposed construction, Defendants point to Figures 4 and 5 of the '389 patent and Figure 24 of the '991 patent. According to Defendants, all of these figures depict a male "blade-type contact" that is inserted into either a "tuning-fork type contact" (Figures 4 and 5) or a "flat-formed female contact" (Figure 24). However, Figure 24 does not show either a female contact or a tuning-fork contact. Rather, it depicts a blade-type contact mated with a beam-type contact. The fact that the blade-type contact is inserted between the beam-type contact and an inner wall does not make the beam-type contact a "flat formed female" contact or a "tuning fork" contact. Similarly, Figure 11 of the '991 patent depicts a mating contact 182 which is neither a tuning fork contact nor a flat formed female contact. The Court therefore rejects Defendants' proposed limitations requiring that the "blade-type contact" must be male and specifying the type of mating contact.

The Court construes the term "blade-type contact" as "a contact with a generally flat mating portion, where being flat does not preclude the contact from being bent, curved or twisted."

7. "Dual Beam-Type Contact"

The parties no longer dispute the construction of this claim term, found in claim 43 of the '389 patent. The parties agree the term means "contact with two arms." Defendants' Brief at 29.

8. "Preventing Removal"

The parties dispute the construction of the term "preventing removal" in claims 10 and 13 of the '535 patent. Plaintiffs contend that the words need no construction because their plain meaning is clear. In the alternative, they assert the term means "fusible element precluding removal of the contact from the body when it is attached." Defendants argue the term should be construed to require that "the contact cannot be removed while the fusible element is attached to it." The Court concludes that Defendants' proposed construction is correct.

Claim 10 of the '535 patent states as follows:

A method of retaining a contact within a body of an electrical connector, comprising the steps of:

providing an electrical connector having a body with an aperture there through:

providing a contact;

inserting said contact into said aperture from a first side of said connector;

limiting entry of said contact into said aperture: providing a fusible element: and

reflowing said fusible element to attach said fusible element to said contact at a second side of said connector, said first side different than said second side, said fusible element **preventing removal** of said contact from said body.

Claim 13 of the '535 patent provides:

A method of retaining a contact within a body of an electrical connector, comprising the steps of:

providing an electrical connector having a body with an aperture therethrough, wherein said connector receives a mating connector in a mating direction;

providing a contact;

inserting said contact into said aperture in said mating direction;

limiting entry of said contact into said aperture;

providing a fusible element; and

reflowing said fusible element to attach said fusible element to said contact, said fusible element **preventing removal** of said contact from said body.

Plaintiffs argue that Defendants' proposed construction, in using the word "cannot," is too "absolute." *See* Plaintiffs' Reply at 19. This issue is a close call. Plaintiffs assert that the word "cannot" goes beyond the dictionary definition of "preventing," which means "to keep from happening or existing." Keefe Decl., Ex. N, *Webster's Third New International Dictionary* (1993) at 1798; *see also* Shen Decl., Ex. K, *Merriam-Webster's Collegiate Dictionary* (10th ed.1992) at 924 (defining "prevent" as "to keep from happening or existing" or "to hold or keep back: hinder, stop"). Plaintiffs are correct that the dictionary definitions do not expressly define "preventing" as ensuring that something "cannot happen." On the other hand, that result arguably is implicit in the definition of the word "prevent."

Plaintiffs also point to the preambles of claims 10 and 13, which describe these claims as setting forth a "method of retaining a contact within a body of an electrical connector." Plaintiffs argue that the use of the word "retaining" in the preamble supports their position that the word "preventing" means "keeps from happening" rather than "cannot happen." In particular, they point to the definition of "retain" as "[t]o keep or hold in a particular place, condition or position."

Defendants, however, assert that their proposed construction is supported by the prosecution history of the '535 patent. In particular, Defendants point to the Examiner's rejection of application claim 58 as anticipated by United States Patent No. 5,395,250 ("Englert"), and the patentees' response to that rejection. The parties' views regarding the significance of this exchange diverge widely. Defendants' assert that the Examiner interpreted the term "preventing removal" consistent with Defendants' proposed construction and that the

patentees implicitly accepted this interpretation of the term. Plaintiffs concede that the Examiner apparently interpreted the term "preventing removal" in a manner consistent with Defendants' proposed construction but deny that the patentees adopted this construction.

The Examiner rejected application claim 58 in an Office Action dated February 10, 1999. Describing the connector disclosed by Englert, the Examiner stated that "[f]or claim 58, once the solder is fused in place, the contact *can not be removed* from the passageways." Keefe Decl., Ex. O, FCI 03215 (emphasis added). In response, the patentees asked the Examiner to reconsider the rejection of application claim 58. Id. at FCI 30224 (June 26, 2000 Reply). They stated as follows:

As for claims 58 and 59, independent claim 58 recites, *inter alia,* that the fusible element "prevents removal of said contact from said body." Englert fails to disclose or suggest this feature.

Figure 3 of Englert displays the connectors unmated and unassembled. The contacts are inserted into the housing from a bottom surface (30, 80), ie., the surface that faces PCB (112, 116). Projections on the contacts that embed within the sidewall of the cavity in the housing, along with protuberances (52, 53), retain the contact within the housing. Since the contacts are inserted into the housing that faces the PCB, the solder does not prevent removal of the contacts from the housing.

Id.

The Court concludes that Defendants' interpretation of the prosecution history is correct. Although the patentees disagreed with the Examiner's position that Englert anticipated claim 58, they did not argue in their Reply to the Office Action that the term "preventing removal" did not mean that the contacts could not be removed, as the Examiner assumed. Rather, they argued that Englert did not anticipate this application claim because the solder in Englert did not prevent removal of the contacts. In advancing this argument, the patentees implicitly ratified the construction of the term "preventing removal" set forth in the Office Action. On this basis, the Court concludes that Defendants' proposed construction is correct. *See* Southwall Techs., Inc. v. Cardinal I.G. Co., 54 F.3d 1570, 1576 (Fed.Cir.1995) (holding that "[a]rguments and amendments made during the prosecution of a patent application and other aspects of the prosecution history, as well as the specification and other claims, must be examined to determine the meaning of terms in the claims").

The Court construes that term "preventing removal" as meaning "the contact cannot be removed while the fusible element is attached to it."

9. "Limiting Entry"

The parties dispute the meaning of the claim term "limiting entry" in claims 10 and 13 of the '535 patent (quoted in full above). Defendants argue that the term should be construed as meaning, "the contact cannot go into the full length of the aperture." Plaintiffs assert that the term means, "restricting or confining entry of contact into said aperture." The dispute, then, is whether entry is limited such that the contact is held in a fixed position (not necessarily short of the full length of the aperture), as Plaintiffs argue, or rather, whether entry is limited such that the contact cannot extend to the full length of the aperture. The Court concludes that Plaintiffs' proposed construction is correct.

The word "limiting" means "to confine or restrict within a boundary or bounds." *See* Shen Decl., Ex. Q, *American Heritage Dictionary of the English Language* (4th ed.2000) at 1015. This definition is ambiguous

to the extent that it arguably could support either proposed construction. It is true that the preferred embodiments of the '535 patent appear to support Defendants' proposed construction to the extent that they are described as having "bottom shoulders" that prevent the contact from extending the full length of the aperture. In particular, the specification states:

The terminal 28 is "bottomed" in passage 38 by inserting the terminal until bottom shoulders 33 engage passage bottom surfaces 39. This locates the terminal 28 in a vertical downward position, with respect to the view of Figure 3.

'535 patent, 5: 2-6; *see also* '535 patent, Figure 3. The Court concludes, however, that it would be improper to import this limitation from the specification into the claim for the following reasons.

First, the Examiner apparently interpreted the words "limiting entry of said contact into said aperture" to mean "inserting the contact to a fixed position within the passage" and the patentees accepted that interpretation. The patentees added the term "limiting entry" in a Preliminary Amendment received by the PTO on December 10, 1999, in which patentees added application claims 53-61. Keefe Decl., Ex. O, FCI 030200-030203. Of these new claims, application claim 58 included the term "limiting entry." Two other new claims, application claims 54 and 60, referred to a contact "inserted ... to" or "located in" "a generally fixed position" in the passage. In response to the Preliminary Amendment, the Examiner rejected application claims 54-61 as anticipated by Englert. Keefe Dec., Ex. O, FCI 030215. In explaining why Englert anticipated these claims, the Examiner stated that Englert discloses:

a method of making an electrical connector, comprising step of providing a connector body 24 (figure 8) having a passage 32, providing a contact 44, inserting the contact into the passage to a fixed position, wherein a void exists between the contact and a wall of the passage (see figure 7), providing a fusible element or solder 59, reflowing the solder to attach the fusible element of the contact to fill the void.

Id. Looking to Figures 4 and 5 of Englert, it is clear that the contact 44 not only extends the full length of the passage (reference number 32) but extended beyond the end of the passage. Yet the patentees did not argue in response to the Examiner's rejection that Englert could be distinguished on that basis. Thus, the prosecution history supports the conclusion that the term "limiting entry" does not limit the claimed device to structures in which the contact does not extend the full length of the aperture.

Second, Figure 24 of the '991 patent also supports this conclusion. This figure depicts an embodiment in which there is no solder-ball recess. In this embodiment, the contact goes all the way through the aperture and then is bent back over. Defendants' proposed construction is inconsistent with this figure.

Accordingly, the Court concludes that "limiting entry" means "restricting or confining entry of contact into said aperture."

10. "Non-Solderable"

The parties dispute the proper construction of the word "non-solderable," used in claims 14 and 25 of the '035 patent. Claim 14 of the '035 patent provides as follows:

A contact for an electrical connector, comprising:

a medial portion of *non-solderable* material;

a mating portion extending from said medial portion for engaging a mating contact;

a mounting portion made substantially of a solderable material and extending from said medial portion opposite said mating portion; and

a fusible element secured to said mounting portion.

Claim 25 recites:

A carrier strip comprising:

a strip of material having an edge;

at least one contact extending from said edge and comprising:

a mounting portion extending from said edge and having a layer of solderable material substantially thereon, said mounting portion adapted to receive a fusible element;

a medial portion extending from said mounting portion, said medial portion having a layer of *non-solderable* material thereon; and

a mating portion extending from said medial portion.

'035 patent, 19 :7-20 :6. Plaintiffs assert that "non-solderable" means "material that resists solder wicking or wetting." Defendants argue that the term means, "a substance, such as nickel, to which solder will not adhere." The Court adopts Plaintiffs' construction in part and Defendants' construction in part.

The main issue in dispute with respect to the construction of the word "non-solderable" is whether the Court should include the words "such as nickel" in its construction. Defendants argue that this example should be included in the construction because the patentees made clear in the specification of the ' 035 patent that they considered nickel to be a non-solderable material, contrary to the understanding of those of ordinary skill in the art. In particular, the specification states as follows:

The contacts also have a central area 534, a portion of which forms the contact retention area in the housing. An anti-solder wicking or non-solder wettable material is applied to the central area 532. One preferred material for this purpose is nickel plating. While not intending to be bound by any particular theory, it is believed that the solder resistant feature of this nickel-plated area results from or is enhanced by the oxidation of the nickel after plating, for example, by exposure to ambient air for several days.

Surprisingly and unexpectedly, it is found that the nickel or nickel oxide barrier prevents or reduces solder wicking in such contacts.

'035 patent, 10 :36-47. Thus, Defendants assert, the patentees acted as their own lexicographer to the extent that they defined the term "non-solderable" to encompass a material that those of ordinary skill in the art consider to be solderable.

Defendants also cite a statement in the prosecution history in support of their proposed construction. In particular, in response to the Examiner's rejection of a claim in the related '644 patent on the basis of prior art, the patentees sought to distinguish the claim as follows:

Claim 17 recites, *inter alia,* a contact having a "layer of nickel" on a medial section which helps "resist[ ] solder wicking. Masami '410 does not disclose or suggest such an arrangement. Nor can the remaining cited references provide a motivation for such a modification. Since the terminal on the IC package is never fused to the pins of the socket, no need exists to provide an anti-wicking coating on the contact.

Keefe Decl., Ex. R. FCI 02565.

Plaintiffs, however, assert that insertion of the words "such as nickel" is an improper attempt to import a preferred embodiment from the specification into the claim. Plaintiffs argue further that if these words are included in the claim construction, "the jury will be misled to believe that the presence of nickel in the accused product will be a prerequisite to a finding of infringement." Plaintiffs' Reply Brief at 25. The Court is not persuaded by Plaintiffs' reasoning.

First, the Court notes that Plaintiffs do not dispute that the patentees make clear in the specification that nickel is a "non-solderable" material, as that term is used in the '035 patent. Plaintiffs also do not dispute that one of ordinary skill in the art would generally understand the term "non-solderable" to exclude nickel. Rather, Plaintiffs' only grounds for asserting that nickel should not be referred to in the claim construction is that it will impermissibly limit the claim to a preferred embodiment or, at least, it will confuse the jury by leading the jury to believe that the accused product must use nickel in order to infringe. The former argument is clearly wrong. As Defendants point out, the words "such as nickel" do not limit the term to nickel but simply reflect the fact that the patentees have chosen to define "non-solderable" more broadly than one of ordinary skill of the art would define that term in order to encompass nickel. With respect to the latter argument, the Court finds no authority for the proposition that a construction that is consistent with the claims, written description and file history should, nonetheless, be rejected on the basis that the jury might misinterpret the construction. Here, both the specification and the prosecution history make clear that the patentees defined "non-solderable" to include nickel and that, in this respect, the patentees acted as their own lexicographers. FN5 Therefore, Defendants' reference in their proposed construction to nickel as an example of a "non-solderable" material is appropriate.

Another issue raised by the parties' proposed constructions is whether "non-solderable" means "resists solder wicking or wetting," as Plaintiffs assert, or rather, should be defined as "a substance to which solder will not adhere," as Defendants propose. In support of their proposed construction, Defendants point to the dictionary definition of "solder" as "a metal or metallic alloy used when melted to join metallic surfaces; esp. an alloy of lead and tin so used." Defendants' Claim Construction Brief at 27 (quoting Keefe Decl., Ex. J, *Merriam-Webster's Collegiate Dictionary* (10th ed.1992) at 1117). Defendants reason that "[t]he opposite would be a substance to [sic] which is incapable of joining metal surfaces or one to which solder will not adhere."

Plaintiffs assert that Defendants' definition is imprecise and that solderability should be defined with reference to the concept of "wetting." According to Plaintiffs, wetting is a "prerequisite to forming a good solder joint" and is key concept in the definition of solderability. Plaintiffs' Claim Construction Brief at 32. Plaintiffs cite to several technical dictionaries and treatises in support of this point. *See* Shen Decl., Ex. W,

Connectors and Interconnections Handbook, Volume 5, Terminations, The Electronic Connector Study Group, Inc. (2000) at FCI034097 ("Solderability is the property of a workpiece that permits good bonding with a specified solder alloy in the presence of a specified flux and a specified temperature. The measure of solderability depends on two criteria, the extent of wetting and the time required to achieve it"); *see also* Shen Decl., Ex. Y, *Electronics Materials Handbook: Volume 1, Packaging* (ASM International 1989) at 1161 (defining "wetting" as "[t]he formation of a relatively uniform, smooth, unbroken, and adherent film of solder to a basis material").

Based on the technical treatises presented by Plaintiffs, the Court agrees with Plaintiffs that their definition of "non-solderable" is more precise than the definition offered by Defendants to the extent Plaintiffs' definition focuses on wetting rather than adherence. Although the treatises cited above include adherence as *one* factor that affects solderability, those treatises also indicate that the more important concept for understanding solderability is wetting. In fact, Defendants have not offered any evidence or arguments challenging this point.

Finally, the Court must determine whether the construction of the term "non-solderable" should also include a reference to "wicking ." The parties have provided minimal briefing of this issue. Plaintiffs' inclusion of this term is apparently based on a statement in the specification (quoted above) that "anti-solder wicking or non-solder wettable material is applied to the central area of [the contact] 532. '535 patent, 10 :37-40. *See* Plaintiffs' brief at 31. Plaintiffs also point to the summary of the invention, which describes the invention as follows:

The medial area [of the contact] is adapted to resist molten solder flow, for example, by application of a coating or plating of a non-solder wettable material. By this arrangement, wicking of the solder [of] the solder ball from the area attached to the contact [is] avoided.

'035 patent, 3 :9-13. Finally, Plaintiffs make the argument that if "nickel is a material that resists solder wicking and if ... nickel is a non-solderable material, then non-solderable means resists solder wicking." Plaintiffs' Claim Construction Brief at 30.

Referring to the last of these arguments, Defendants respond that Plaintiffs rely on a "faulty syllogism" in support of the inclusion of the reference to "wicking" in the construction of "non-solderable."

The Court concludes that the reference to "wicking" in Plaintiffs' proposed construction is inappropriate. First, the Court agrees with Defendants that Plaintiffs' reliance on the fact that nickel is described as both non-solderable and as a material that resists wicking does not mean that "nonsolderable" means "resists wicking." Second, the technical definitions presented by Plaintiffs addressing solderability do not mention wicking, which appears to be a distinct concept. Third, although it is clear from the specification that wicking and solderability are closely related concepts, Plaintiffs have not explained why "wicking" should be considered a limitation arising from the term "non-solderable." Therefore, the Court omits the reference to "wicking" proposed by Plaintiffs in their proposed construction.

The Court construes the term "non-solderable" as "any material, including nickel, that resists solder wetting."

IV. CONCLUSION

For the reasons stated above, the Court construes the disputed terms as follows:

CLAIM TERM	*COURT'S CONSTRUCTION*
"**Recess/Recessed Area**"	an indentation or small hollow that may or may not be partially enclosed by a wall opposite the opening
"**Relief Area**"	a space into which a portion of a deflectable contact terminal may move when the terminal is deflected
"**In Communication With**"	connected to
"**Deformable Retention Section Extending Into**"	section of the housing that retains the terminal's position, capable of becoming deformed but not deformed, extending into the passage
"**Open Faced**"	Not a claim limitation
"**Blade-Type Contact**"	a contact with a generally flat mating portion, where being flat does not preclude the contact from being bent, curved or twisted
"**Dual Beam-Type Contact**"	contact with two arms
"**Preventing Removal**"	the contact cannot be removed while the fusible element is attached to it
"**Limiting Entry**"	restricting or confining entry of contact into said aperture
"**Non-solderable**"	any material, including nickel, that resists solder wetting

IT IS SO ORDERED.

FN1. The Court is not, however, persuaded that the prosecution history provides strong support for Plaintiffs' position. Plaintiffs point to the fact that the patent examiner rejected claim 1 on the basis of anticipation, citing to U.S. Patent No. 3,864,462 ("the Cobaugh Patent" or "Cobaugh"). Declaration of Michael M. Shen in Support of FCI's Opening Claim Construction Brief ("Shen Decl."), Ex. M, FCI 30345-FCI 30346. In particular, the patent examiner pointed to Figure 4 of the Cobaugh Patent, noting that it disclosed, *inter alia,* "first and second recesses 48." According to Plaintiffs, Figure 4 of the Cobaugh Patent shows recesses 48 as through-holes. However, the Court finds Figure 4 to be too unclear to determine whether this is so.

FN2. The Court does not find that the references to Cobaugh and to United States Patent No. 4,904, 212 ("the Durbin Patent") to be helpful for understanding the meaning of "relief areas" because the figures cited in those patents are not entirely clear with respect to whether the relief areas are distinguishable from the passage.

FN3. Plaintiffs offer the following example of this concept: "the opening of a drinking straw, which is a sub part of the passage way through the straw, is 'in communication with' the passage of the straw." Plaintiffs' Reply Brief at 14.

FN4. The parties disagree on whether the word "deformed" means "to be misshapen" or to "to be altered in shape by pressure or stress." The Court does not find that either of these formulations adds anything significant to the plain meaning of the word "deformed," or that there is anything in the claims or specification that makes one of these definitions preferable to the other. Accordingly, the Court does not adopt either definition of "deformed." Rather, the Court finds that the meaning of the word "deformed"

requires no further interpretation.

FN5. The Court agrees with Plaintiffs, however, that the significance of the prosecution history on which Defendants rely should not be overemphasized. In particular, while it supports Defendants' position that the patentees considered nickel to be "non-solderable," it does not resolve the question whether a reference to nickel should be included in the Court's construction of "non-solderable" here. This is because the claim discussed in the cited communication explicitly referred to nickel, in contrast to the claims at issue here, which refer instead to a "non-solderable" material.

N.D.Cal.,2005.
FCI USA, Inc. v. Hon Hai Precision Indutry, Co., Ltd.