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**UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF CALIFORNIA**

CAREFUSION 303, INC.,

Plaintiff,

vs.

SIGMA INTERNATIONAL,

Defendant.

CASE NO. 10cv0442 DMS (WMC)

**ORDER CONSTRUING PATENT
CLAIMS**

This matter came before the Court for a claim construction hearing on June 20, 2011. John Kinton and Richard Mulloy appeared and argued on behalf of CareFusion 303, Inc. (“CareFusion”) and Randolph Oppenheimer and Michael Zeliger appeared and argued on behalf of Sigma International (“Sigma”). After a thorough review of the parties’ claim construction briefs and all other material submitted in connection with the hearing, the Court issues the following order construing the disputed terms of the patent at issue in this case.

I.

BACKGROUND

On February 26, 2010, CareFusion filed the present Complaint against Sigma alleging infringement of United States Patent Number 6,347,553 (“the ‘553 Patent”). Sigma filed an Answer and Counterclaim for declaratory judgment of non-infringement and invalidity on April 23, 2010. CareFusion filed its Answer to the Counterclaim on May 17, 2010. The ‘553 Patent is currently undergoing reexamination in the United States Patent and Trademark Office (“PTO”).

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II.
DISCUSSION

Claim construction is an issue of law, *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 372 (1996), and it begins “with the words of the claim.” *Nystrom v. TREX Co., Inc.*, 424 F.3d 1136, 1142 (Fed. Cir. 2005) (citing *Vitronics Corp. v. Conceptoronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). Generally, those words are “given their ordinary and customary meaning.” *Id.* (citing *Vitronics*, 90 F.3d at 1582). This “is the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention.” *Id.* (quoting *Phillips v. AWH Corp.*, 415 F.3d 1303, 1313 (Fed. Cir. 2005)). “The person of ordinary skill in the art views the claim term in the light of the entire intrinsic record.” *Id.* Accordingly, the Court must read the claims “in view of the specification, of which they are a part.” *Id.* (quoting *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 979 (Fed. Cir. 1995)). In addition, “the prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.* (quoting *Phillips*, 415 F.3d at 1318).

Here, the only patent at issue is the ‘553 Patent. The ‘553 Patent is entitled, “Force Sensor Assembly for an Infusion Pump.” CareFusion alleges Sigma infringes claims 1, 2, 3, 8, 9, 11, 12, 17, 22 and 23 of the ‘553 Patent. The Court discusses these claims below.

A. Claim 1

Claim 1 of the ‘553 Patent provides:

A force sensor assembly for use in peristaltic pumps, comprising:

a housing;

a load cell at least partially disposed within said housing;

a plunger, pivotable about an axis, where said plunger comprises:

an upper surface; and

an underside surface distal from said upper surface where said underside surface cooperates with said load cell; and

a means for reducing said load cell’s sensitivity to the positioning of an applied force on said upper surface.

1 There are three terms and phrases in claim 1 of the ‘553 Patent that the parties agree require
2 construction. They are: (1) “plunger, pivotable about an axis,” (2) “distal,” and (3) “a means for
3 reducing said load cell’s sensitivity to the positioning of an applied force on said upper surface.”

4 1. “Plunger, pivotable about an axis”

5 CareFusion asserts this phrase should be construed according to its plain and ordinary meaning,
6 while Sigma argues the phrase should be construed as “the plunger rotates about an axis.” The
7 difference in these proposed constructions is negligible. Indeed, Sigma’s proposed construction merely
8 substitutes “rotates” for “pivotable” without corresponding support in the intrinsic evidence.
9 Accordingly, the Court finds that one of ordinary skill in the art, after reading the claims and consulting
10 the intrinsic evidence, would construe the phrase “plunger, pivotable about an axis” according to its
11 plain and ordinary meaning.

12 2. “Distal”

13 As with the preceding phrase, CareFusion argues this term should be construed according to its
14 plain and ordinary meaning, while Sigma asserts its should be construed as “located opposite, and away
15 or remote from.” The Court agrees with CareFusion that this term is readily understandable to the
16 person of ordinary skill in the art. Accordingly, the Court construes this term according to its plain and
17 ordinary meaning.

18 3. “A means for reducing said load cell’s sensitivity to the positioning of an applied force
19 on said upper surface”

20 The final phrase at issue in claim 1 is “a means for reducing said load cell’s sensitivity to the
21 positioning of an applied force on said upper surface.” The parties agree this phrase should be construed
22 according to 35 U.S.C. § 112, ¶ 6, which states:

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

26 35 U.S.C. § 112 ¶ 6. The first step in construing a claim under this statute is identifying the specific
27 function recited by the claim. *Omega Eng’g, Inc. v. Raytek Corp.*, 334 F.3d 1314, 1321 (Fed. Cir. 2003)
28 (citations omitted). “Once the functions performed by the claimed means are identified, we must then

1 ascertain the corresponding structures in the written description that perform those functions.” *Id.*
2 (citing *Cardiac Pacemakers, Inc. v. St. Jude Med., Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002)).

3 Here, the parties agreed initially that the recited function was “reducing a load cell’s sensitivity
4 to the positioning of an applied force on the upper surface of the plunger.” (See Docket No. 51 at 6-8.)
5 Thereafter, CareFusion filed a response to an office action in the reexamination proceeding. Sigma
6 argues that response reflects CareFusion’s disavowal of claim scope, which prompted Sigma to amend
7 its proposed function as “reducing a load cell’s sensitivity to the positioning of an applied force on the
8 upper surface of the plunger, *where the applied force is not held in place.*” (See Docket No. 71 at 2)
9 (emphasis added). CareFusion disputes that it disavowed any claim scope, and thus disagrees with
10 Sigma’s proposed function.

11 During reexamination, the examiner rejected claim 1 as anticipated by United States Patent
12 Number 5,335,551 to Ohnishi (“the ‘551 Patent” or “Ohnishi”). With respect to the claim language at
13 issue here, the examiner stated “Ohnishi has a means for reducing the sensitivity of the load cell to the
14 positioning of the applied force, e.g. the pivotable hinge 41.” (Sigma’s Supp. Br., Ex. A at 8.) In an
15 effort to overcome that rejection, the patentee stated, among other things, that “the applied force in the
16 ‘551 patent is always positioned the same and there is no need to address the ‘positioning of an applied
17 force on said upper surface’ of the plunger.” (Sigma’s Supp. Br., Ex. C at 8.) The examiner found the
18 patentee’s arguments about Ohnishi persuasive for several reasons, including that “Ohnishi does not
19 compensate for the positioning of the applied force, as the force is never misaligned on the plunger.”
20 (Sigma’s Supp. Br., Ex. D at 9.) It is this exchange that gives rise to Sigma’s argument that the recited
21 function of the disputed phrase should be construed as “reducing a load cell’s sensitivity to the
22 positioning of an applied force on the upper surface of the plunger, *where the applied force is not held*
23 *in place.*” In essence, Sigma argues CareFusion disavowed that its invention covers a sensor where the
24 force applied to the sensor is held in place.

25 The Federal Circuit has stated that “an applicant can make a binding disavowal of claim scope
26 in the course of prosecuting the patent, through arguments made to distinguish prior art references. Such
27 argument-based disavowals will be found, however, only if they constitute clear and unmistakable
28 surrenders of subject matter.” *Cordis Corp. v. Medtronic Ave, Inc.*, 511 F.3d 1157, 1177 (Fed. Cir.

1 2008) (citations omitted). “In order to constitute binding surrenders of claim scope, the statements in
2 question must be such that ‘a competitor would reasonably believe that the applicant had surrendered
3 the relevant subject matter.’” *Id.* (quoting *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1457 (Fed.
4 Cir. 1998) (en banc)). Here, the patentee was attempting to distinguish Ohnishi from the claims of the
5 ‘553 Patent. Its arguments were directed primarily to the lack of a plunger in Ohnishi, and the lack of
6 other corresponding structures for performing the recited function of the ‘553 Patent. In making that
7 distinction, the patentee explained that in Ohnishi the force is “always positioned the same[.]” (Sigma
8 Supp. Br., Ex. C at 8.) In other words, the tube “maintain[s] a single position[,]” (*id.* at 7), unlike the
9 tube in the ‘553 Patent, which is subject to moving around. There is nothing in this exchange, however,
10 that amounts to a “clear and unmistakable surrender of subject matter” concerning the function recited
11 in the claim. Accordingly, the Court adopts CareFusion’s proposed function as “reducing a load cell’s
12 sensitivity to the positioning of an applied force on the upper surface.”

13 Having identified the recited function of the claim, the Court now turns to the issue of structure.
14 CareFusion asserts the Court should construe the corresponding structure as “[t]he combination of: (1)
15 a shaped upper surface and/or a shaped underside surface with (2) a hinge pivotable about an axis and/or
16 flexible supports around the circumference of the plunger, and equivalents thereof,” while Sigma offers
17 a more specific definition of the structure. (Docket No. 71 at 2-3.) Specifically, Sigma offers four
18 different structures that correspond to the function, all of which include a rotatable hinge, omit a shaped
19 underside surface, and individually include the shapes identified in the specification. (*See id.*)

20 Of these two competing constructions, the Court finds CareFusion’s proposed structure to be
21 more accurate for several reasons. First, Sigma’s first proposed structure, a rotatable hinge, would be
22 incapable of performing the function by itself. Second, Sigma’s second proposed structure improperly
23 limits the shape of the upper surface to an hourglass while the claims themselves allow for the upper
24 surface of the plunger to be shaped in the form of a circle or a square. (*See* ‘553 Patent, col. 5, lines 52-
25 55.) Third, none of Sigma’s proposed structures allow for a shaped underside surface or for the use of
26 flexible supports in lieu of a hinge. Sigma argues this is so because the shaped underside surface and
27 the flexible supports are not “clearly linked” to the recited function. However, the specification states,

28 Both the shape of the plunger’s upper surface 214 and the shape of the plunger’s
underside 218, may be varied to provide optimum results. This embodiment utilizes a

1 circular shaped upper surface 214 and a *chamfered underside* 218. *The underside 218*
2 *of the hinged plunger 216 is shaped so that it preferably contacts with the load cell 206*
3 *at a single contact point. Other shapes, such as for example a semicircular shaped*
4 *underside, may also be utilized.*

4 (*Id.*, lines 48-55) (emphasis added). The specification also states, “The actuation plunger may also be
5 held by *flexible supports* at several points around its circumference to minimize moment arm changes
6 with tubing off-center positioning.” (*Id.*, col. 5, lines 12-15) (emphasis added). Thus, contrary to
7 Sigma’s argument, the specification does link the shaped underside surface and the use of flexible
8 supports to the performance of the recited function. CareFusion’s proposed construction allows for
9 these possibilities, and is more consistent with the specification. Accordingly, the Court finds the
10 corresponding structures for performing the recited function are “the combination of: (1) a shaped upper
11 surface and/or a shaped underside surface with (2) a hinge pivotable about an axis and/or flexible
12 supports around the circumference of the plunger, and equivalents thereof.”

13 **B. Claim 2**

14 Claim 2 of the ‘553 Patent recites: “A force sensor assembly according to claim 1, wherein said
15 means for reducing said load cell’s sensitivity, comprises an upper surface for receiving an intravenous
16 tube perpendicular to said axis.” There is one term in this claim that requires construction: “an upper
17 surface.” CareFusion asserts this term should be construed according to its plain and ordinary meaning,
18 while Sigma argues the term is indefinite.

19 Sigma has not met its burden to show that this term is indefinite. Rather, the Court agrees with
20 CareFusion that one of ordinary skill in the art, after reading the claims and consulting the intrinsic
21 evidence, would construe the term “an upper surface” according to its plain and ordinary meaning.

22 **C. Claim 3**

23 Claim 3 of the ‘553 Patent recites: “A force sensor assembly according to claim 2, wherein said
24 upper surface is shaped to compensate for variations in measured force caused by the misalignment of
25 said applied force.” There is one phrase at issue in this claim: “shaped to compensate for variations in
26 measured force caused by the misalignment of said applied force.”¹ CareFusion asserts this phrase
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28 ¹ This phrase also appears in claim 22. The Court’s construction of this phrase in claim 3
applies equally to the phrase in claim 22.

1 should be construed according to its plain and ordinary meaning. Sigma argues its should be construed
2 as “in an orientation with an intravenous tube perpendicular to the hinge axis, an hourglass upper surface
3 or in an orientation with an intravenous tube parallel to the hinge axis, a teardrop or triangular upper
4 surface shape. In addition, the applied force is not held in place.”

5 The Court declines to adopt Sigma’s proposed construction for several reasons. First, it is clear
6 from claim 2 that in claim 3 the intravenous (“IV”) tube is positioned perpendicular to the hinge axis.
7 Thus, the language in Sigma’s proposed construction, “in an orientation with an intravenous tube
8 perpendicular to the hinge axis,” is redundant and unnecessary. The language in claim 2 also limits
9 claim 3 to those situations in which the IV tube is perpendicular to the hinge axis. Thus, the language
10 in Sigma’s proposed construction concerning the shape of the upper surface when the IV tube is oriented
11 parallel to the hinge axis is misplaced. Second, Sigma’s proposed construction unfairly limits the
12 possible shapes of the upper surface to an hourglass. There is nothing in the claim language or the
13 intrinsic evidence to warrant this limitation, and indeed it is inconsistent with claim 4, which states the
14 upper surface may take the shape of a circle, square *or* hourglass. For these reasons, the Court agrees
15 with CareFusion that this phrase is readily understandable to the person of ordinary skill in the art.
16 Accordingly, the Court construes this term according to its plain and ordinary meaning.

17 **D. Claim 8**

18 Claim 8 of the ‘553 Patent states:

19 A force sensor assembly according to claim 1, wherein said plunger further comprises:
20 a free end; and
21 a pivot end located at said axis.

22 The only term at issue in this claim is “free end.” CareFusion asserts this term should be construed
23 according to its plain and ordinary meaning, while Sigma argues the term should be construed as “end
24 of the plunger opposite the pivot end which is free to move in an actuation direction.” The Court agrees
25 with CareFusion that this term is readily understandable to a person of ordinary skill in the art.
26 Accordingly, the Court construes this term according to its plain and ordinary meaning.

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1 **E. Claim 9**

2 Claim 9 of the ‘553 Patent recites: “A force sensor assembly according to claim 8, wherein said
3 pivot end is rotatably coupled to said housing.” The only phrase at issue in this claim is “rotatably
4 coupled.”² CareFusion asserts this phrase should be construed according to its plain and ordinary
5 meaning, while Sigma argues the phrase should be construed as “jointed or linked in a manner that
6 allows rotation, but restricts other forms of movement, such as angulation.” After reviewing the
7 intrinsic evidence cited by the parties in support of their respective proposed constructions, the Court
8 agrees with CareFusion that this phrase needs no construction to a person of ordinary skill in the art.
9 Accordingly, the Court construes this phrase according to its plain and ordinary meaning.

10 **F. Claim 11**

11 Claim 11 of the ‘553 Patent states: “A force sensor assembly according to claim 8, wherein said
12 pivot end is rotatably coupled to said housing by means of a hinge.” In this claim, the parties dispute
13 the proper construction of the term, “hinge.”³ As with most of the claim terms and phrases discussed
14 above, CareFusion asserts this term should be construed in accordance with its plain and ordinary
15 meaning. Sigma argues the term should be construed as “a jointed or flexible device that allows the
16 turning or pivoting of a part on a stationary frame and that minimizes or prevents angulation.” Again,
17 the Court agrees with CareFusion that this term needs no construction to a person of ordinary skill in
18 the art. Accordingly, the Court construes this term according to its plain and ordinary meaning.

19 **G. Claim 12**

20 Claim 12 of the ‘553 Patent recites: “A force sensor assembly according to claim 11, wherein
21 said [] hinge is a living hinge.” The only term at issue in this claim is “living hinge.”⁴ CareFusion
22 asserts this term should be construed as “a joint made of flexible material that acts as a hinge between
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24 _____
25 ² This phrase also appears in claim 22. The Court’s construction of this phrase in claim 9
26 applies equally to the phrase in claim 22.

27 ³ This term also appears in claim 22. The Court’s construction of this term in claim 11 applies
28 equally to the term in claim 22.

⁴ This term also appears in claim 23. The Court’s construction of this term in claim 12 applies
equally to the term in claim 23.

1 two parts.” Sigma argue the term should be construed as “a resilient metal or plastic strip which acts
2 as a hinge.”

3 Sigma’s proposed construction relies primarily on a portion of the specification describing
4 Figure 2 of the Patent. That portion of the specification states, “The living hinge may for example be
5 a resilient metal or plastic strip, as is known in the art.” (’553 Patent, co. 3, lines 43-44.) Sigma
6 attempts to take this portion of the specification and import it into the Court’s construction of the claim
7 term. However, the Court declines to do so. *See Intervet Inc. v. Merial Ltd.*, 617 F.3d 1282, 1287 (Fed.
8 Cir. 2010) (stating limitations in specification should not be read into claims). Instead, the Court adopts
9 CareFusion’s proposed construction of the term. Accordingly, the Court finds that one of ordinary skill
10 in the art, after reading the claims and consulting the intrinsic evidence, would construe the term “living
11 hinge” as “a joint made of flexible material that acts as a hinge between two parts.”

12 **H. Claim 22**

13 The final claim at issue here is Claim 22, which recites:

14 A force sensor assembly adapted to reduce a load cell’s sensitivity to the positioning of
15 an applied force, comprising:

16 a housing;

17 a load cell at least partially disposed within said housing;

18 and

19 a plunger rotatably coupled to said housing by means of

20 a hinge said plunger without further comprising;

21 an upper surface which is shaped to compensate for variations in measured force
caused by the misalignment of said applied force; and

22 an underside surface distal from said upper surface,

23 such that in use a force applied to said upper surface of said plunger is transferred to said
24 load cell by said underside of said plunger pivoting into contact with said load cell.

25 The parties dispute the meaning of the phrase, “pivoting into contact,” with CareFusion asserting the
26 phrase should be construed according to its plain and ordinary meaning, and Sigma arguing the phrase
27 means “rotating into contact.” As with the first disputed claim phrase, “plunger, pivotable about an
28 axis,” Sigma’s proposed construction of the current phrase simply substitutes “rotating” for “pivoting”

1 without any support from the intrinsic evidence. Accordingly, the Court agrees with CareFusion that
2 this phrase needs no construction to a person of ordinary skill in the art. Accordingly, the Court
3 construes this phrase according to its plain and ordinary meaning.

4 **III.**

5 **CONCLUSION**

6 For the reasons stated above, the disputed terms are interpreted as set forth in this Order.

7 **IT IS SO ORDERED.**

8 DATED: August 25, 2011

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10 HON. DANA M. SABRAW
11 United States District Judge

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