

**IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF TEXAS
MARSHALL DIVISION**

WHIRLPOOL CORPORATION,

Plaintiff,

v.

TST WATER, LLC,

Defendant.

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CIVIL ACTION NO. 2:15-CV-01528-JRG

MEMORANDUM OPINION AND ORDER

Before the Court is Defendant TST Water, LLC’s (“TST”) Motion for Judgment as a Matter of Law (Dkt. No. 171) (“the Motion”). In the Motion, TST moves for judgment as a matter of law of no infringement of the ’894 patent and that Whirlpool is not entitled to damages. (Dkt. No. 171). Having considered the Motion and the relevant authorities, the Court is of the opinion that, for the reasons below, the Motion should be **DENIED**.

I. Background

Whirlpool Corporation (“Whirlpool”) filed suit against TST on September 15, 2015, alleging infringement of United States Patent No. 7,000,894 (“the ’894 Patent”) by replacement water filters sold by TST, specifically replacement filters compatible with Whirlpool’s Filter 3 filter design. (Dkt. No. 1). A jury trial was conducted from March 6, 2017, through March 10, 2017. (See Dkt. Nos. 149, 150, 151, 152, 153). The jury rendered its verdict on March 10, 2017, finding all claims of the ’894 Patent asserted at trial to be willfully infringed and not invalid. The jury awarded Whirlpool damages in the amount of \$7,600,000. (Dkt. No. 148). Following trial, the Parties jointly moved, and the Court ordered, a post-trial briefing schedule. (Dkt. Nos. 170,

182). All briefing has been completed and the motions, including the instant Motion, are ripe for disposition.

II. Applicable Law

Judgment as a matter of law is appropriate if “the court finds that a reasonable jury would not have a legally sufficient evidentiary basis to find for [a] party” on an issue. Fed. R. Civ. P. 50(a)(1). “The grant or denial of a motion for judgment as a matter of law is a procedural issue not unique to patent law, reviewed under the law of the regional circuit in which the appeal from the district court would usually lie.” *Finisar Corp. v. DirectTV Group, Inc.*, 523 F.3d 1323, 1332 (Fed. Cir. 2008). The Fifth Circuit “uses the same standard to review the verdict that the district court used in first passing on the motion.” *Hiltgen v. Sumrall*, 47 F.3d 695, 699 (5th Cir. 1995). Thus, a jury verdict must be upheld, and judgment as a matter of law may not be granted, unless “there is no legally sufficient evidentiary basis for a reasonable jury to find as the jury did.” *Id.* at 700. The jury’s verdict must be supported by “substantial evidence” in support of each element of the claims. *Am. Home Assurance Co. v. United Space Alliance*, 378 F.3d 482, 487 (5th Cir. 2004).

Under Fifth Circuit law, a court is to be “especially deferential” to a jury’s verdict, and must not reverse the jury’s findings unless they are not supported by substantial evidence. *Baisden v. I’m Ready Prods., Inc.*, 693 F.3d 491, 499 (5th Cir. 2012). “Substantial evidence is defined as evidence of such quality and weight that reasonable and fair-minded men in the exercise of impartial judgment might reach different conclusions.” *Threlkeld v. Total Petroleum, Inc.*, 211 F.3d 887, 891 (5th Cir. 2000). The moving party is entitled to judgment as a matter of law, “only if the evidence points so strongly and so overwhelmingly in favor of the nonmoving party that no reasonable juror could return a contrary verdict.” *Int’l Ins. Co. v. RSR Corp.*, 426 F.3d 281, 296 (5th Cir. 2005). However, “[t]here must be more than a mere scintilla of evidence in the record to

prevent judgment as a matter of law in favor of the movant.” *Arismendez v. Nightingale Home Health Care, Inc.*, 493 F.3d 602, 606 (5th Cir. 2007).

In evaluating a motion for judgment as a matter of law, a court must “draw all reasonable inferences in the light most favorable to the verdict and cannot substitute other inferences that [the court] might regard as more reasonable.” *E.E.O.C. v. Boh Bros. Const. Co., L.L.C.*, 731 F.3d 444, 451 (5th Cir. 2013) (citation omitted). However, a court may not make credibility determinations or weigh the evidence, as those are solely functions of the jury. *See Ellis v. Weasler Eng’g Inc.*, 258 F.3d 326, 337 (5th Cir. 2001) (citing *Reeves v. Sanderson Plumbing Prods., Inc.*, 530 U.S. 133, 150–51 (2000)). “[T]he court should give credence to the evidence favoring the nonmovant as well as that ‘evidence supporting the moving party that is uncontradicted and unimpeached, at least to the extent that that evidence comes from disinterested witnesses.’” *Id.* at 151 (citation omitted).

III. Discussion

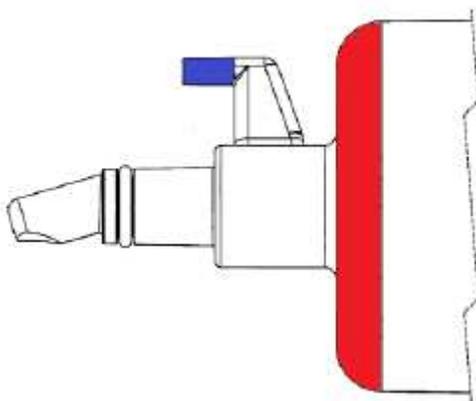
In addressing TST’s Motion for Judgment as a Matter of Law (Dkt. No. 171), the Court first considers infringement of the ’894 Patent. The Court will then address whether a reasonable jury would have had a sufficient evidentiary basis to award Whirlpool damages as set forth within the verdict.

A) Judgment as a Matter of Law of No Literal Infringement

At trial, Whirlpool asserted the ’894 Patent, specifically independent Claim 1, its dependent Claims 10 and 15, independent Claim 4, and its dependent Claims 17, 20, and 27 (“the Asserted Claims”). All asserted claims recite an end piece wall and a protrusion, with “said protrusion extend[ing] from said endpiece wall.” (’894 Patent at Claim 1, 4). Following the close of evidence, the jury returned a verdict that “Whirlpool prove[d] by a preponderance of the evidence

that TST Water directly infringes” the Asserted Claims “either literally or under the doctrine of equivalents.” (Dkt. No. 148 at 2). TST argues that the record lacks substantial evidence that the protrusion on the W-5 filter literally “extends from” the end piece wall. (Dkt. No 171 at 3). Accordingly, TST concludes that a reasonable jury would not have had a legally sufficient evidentiary basis to support a finding of direct literal infringement.

TST’s W-5 filter, the Accused Product, was found by the Jury to infringe the ’894 Patent. The W-5 filter has a protrusion (blue) and an end piece wall (red) as depicted below:



(Dkt. No. 171 at 2). During trial Whirlpool’s technical expert conceded that the protrusion on the W-5 does not directly contact the end piece wall. (Dkt. No. 159, March 7, 2017 A.M. Tr. at 118:10–16 (Q: “TST’s . . . protrusion [does not] actually contact[] the end piece wall, correct?” A. “[It’s] not in direct contact with the end piece wall, yes.”)). However, Whirlpool nonetheless maintained its position at trial that the protrusion on the W-5 “extends from” the end piece wall, even if the connection is, as TST characterizes it, “indirect.” (Id. at 3). This position, TST argues, was improper. Specifically, TST argues that “Whirlpool never advanced a special definition of ‘extending from said end piece wall,’ and the Court never adopted one.” (Id. at 4). Therefore, according to TST, “this limitation fell within the Court’s general instruction that the plain meaning applies to terms that the Court did not construe.” (Id.) Although Whirlpool’s technical expert Dr.

Joseph Beaman testified that, “these [protrusions] don’t have to be directly attached to the end piece wall, they just have to be connected in some sense,” (Dkt. No. 159, March 7, 2017 A.M. Tr. at 40:14–41:2), TST argues that this opinion amounts to an improper alternative construction. (Dkt. No. 171 at 4). Further, TST argues that such construction is unsupported or contradicted by the ’894 Patent’s intrinsic evidence, including the specification, file history, and cited prior art. (Id.) As such, the testimony offered by Dr. Beaman “is not probative and must be disregarded in assessing whether the jury’s presumed finding of literal infringement was supported by substantial evidence.” (Id. at 5).

Whirlpool, in response, points out that “[a]t no point before the jury’s verdict, including during the Markman process and trial, did TST ask the Court to construe ‘extend,’” and that, accordingly, “the Court properly instructed the jury that it should ‘use the plain and ordinary meaning of that term as understood by one of ordinary skill in the art.’” (Dkt. No. 181 at 2 (quoting Dkt. No. 166, Mar. 10, 2017 A.M./P.M Tr. at 15:22–16:2)).¹

The Court agrees. Whether the W-5 filter’s protrusion “extended” from its end piece wall (or not) was a question of fact for the jury. See *Inventio AG v. ThyssenKrupp Elevator Corp.*, No. 08-cv-874, 2014 WL 468897, at *4 (D. Del. Feb. 3, 2014) (where defendant did not ask the court to construe “connected,” whether “connect[ion]” could be “satisfied by an indirect connection”

¹ The Court agrees with the Federal Circuit’s instruction that “where the parties and the district court elect to provide the jury only with the claim language itself, and do not provide an interpretation of the language in the light of the specification and the prosecution history, it is too late at the JMOL stage to argue for or adopt a new and more detailed interpretation of the claim language and test the jury verdict by that new and more detailed interpretation.” *Hewlett-Packard Co. v. Mustek Sys.*, 340 F.3d 1314, 1320–21 (Fed. Cir. 2003); accord *Broadcom Corp. v. Qualcomm, Inc.*, 543 F.3d 683, 694 (Fed. Cir. 2008) (holding a party’s reliance on O2 Micro is “misplaced” where it makes a post-trial “eleventh-hour attempt to litigate a newly minted claim construction controversy” having “never requested that the district court construe any terms in [the relevant claim] and never offered a construction of [that claim],” but rather “[o]nly after the presentation of all of the evidence to the jury . . . even suggest[ed] that claim construction might be helpful to determine the proper scope of the claimed invention”) (quotations omitted). TST cannot now “proffer[] a claim construction argument regarding [its] meaning . . . in the guise of a challenge to the sufficiency of the evidence.” *Comcast IP Holdings I LLC v. Sprint Commc’ns Co., L.P.*, 850 F.3d 1302, 1311 (Fed. Cir. 2017). Accordingly, the Court will not second guess the Jury’s understanding of the plain and ordinary meaning of “extend,” and properly limits its inquiry to the sufficiency of the evidence to support the Jury’s ultimate conclusion.

was a “question of fact for the jury”); accord 1 Annotated Patent Digest § 4:58, Jury’s Determination of the Actual Precision of the Claim (“[A]fter the court has defined the claim with whatever specificity and precision is warranted by the language of the claim and the evidence bearing on the proper construction, the task of determining whether the construed claim reads on the accused product is for the finder of fact.”) (quoting PPG Indus. v. Guardian Indus. Corp., 156 F.3d 1351, 1355, 48 U.S.P.Q.2d 1351 (Fed. Cir. 1998)); Acumed LLC v. Stryker Corp., 483 F.3d 800, 806 (Fed. Cir. 2007) (“[A] sound claim construction need not always purge every shred of ambiguity. The resolution of some line-drawing problems . . . is properly left to the trier of fact.”).

Whirlpool points to substantial evidence which supports the jury’s conclusion that TST literally infringed, including:

- After identifying the “end piece wall” as the “flat wall section” at the top of the W-5, Dr. Beaman showed that the inlet and outlet fittings and protrusion “extend[ed]” from it. (Dkt. No. 159, Mar. 7, 2017 A.M. Tr. at 34:5–10; 36:4–12).
- Dr. Beaman explained that the W-5’s protrusion connects to and extends from the end piece wall via a “support.” (Id. at 40:14–23, 118:10–25 (protrusion not in “direct contact,” but still extends from the W-5’s end piece wall)).
- TST’s internal drawings revealed that, when developing the W-5, TST effectively “carved away” the Filter 3’s end piece wall, resulting in a different appearance. (Id. at 27:8–29:2). But its protrusion stayed in the same place and still extended from the end piece wall. (Id.)
- Whirlpool offered into evidence drawings, photographs, and physical exhibits confirming that TST’s design process involved carving around the protrusion, but leaving its location and extension from the end piece wall intact. (Dkt. Nos. 175-18, 175-38; Dkt. No. 181, Exs. 9–12). For example:



(Dkt. No. 181 at 3). The Court finds that the strength and sufficiency of record evidence, as illustrated above, more than adequately supports the jury’s verdict of direct infringement.

In addition, TST argues that Whirlpool’s position “leads to an absurd result” because, in TST’s view, “Whirlpool’s theory permits any feature of the claimed cartridge to extend from the end-piece wall, even the cap on the opposite end of the filter.” (Dkt. No. 171 at 6–7). As a result, TST contends that adopting Whirlpool’s position would preclude the “protrusion extending from” limitation from “limit[ing] the claim in any meaningful way.” (Id. at 7). TST concludes that this holding renders Whirlpool’s theory incorrect as a matter of law. (Id.) Finally, TST argues that Whirlpool improperly attempted to prove a structural limitation by showing that the accused product performs a function, specifically, that the W-5 filter’s protrusion extends out to go into the head assembly and interact with the head assembly. (Id. at 7). This type of “functional evidence,” in TST’s view, should not be considered. (Id.) Accordingly, TST submits that, in view of all of these arguments, Whirlpool “failed to introduce substantial evidence from which a reasonable jury could conclude that the W-5 filter literally satisfies the ‘protrusion extend[ing] from said end piece wall’ limitation.” (Id. at 8).

In response, with respect to the functional evidence argument raised by TST, Whirlpool submits that the “extending” limitation is structural. At trial, “TST’s expert agreed that structures that are entirely unconnected to the end piece wall do not ‘extend from it,’” thus the “extending”

limitation does serve as a structural limitation, specifically requiring connection, be it direct or indirect, of the protrusion to the end piece wall. (Dkt. No. 181 at 7). Whirlpool points to TST's expert, Mr. Stein, who testified regarding TST's primary reference, Knuth, which "has a protrusion," but not one that "extend[s] from the end piece wall." (Dkt. No. 165, Mar. 9, 2017 P.M. Tr. at 10:6–13; accord Dkt. No. 164, Mar. 9, 2017 A.M. Tr. at 100:6–13 (explaining that Knuth's "protrusion" extend[s] from the head assembly," "not . . . the end piece wall")). Whirlpool also submits that TST's end cap hypothetical is a strawman argument whose asserted "absurdity" arises from the fact that the end cap is not on the same side of the end piece wall as the inlet and outlet fittings. It has nothing to do with whether the end cap extends from the end piece wall via an intervening structure. Whirlpool notes that TST offered no response to this rebuttal. (Dkt. No. 189 at 4 ("Other limitations constrain the position of the protrusion, and neither party disputes that the protrusion should be on the same side as the inlet and outlet fittings to engage the head assembly. TST offers no response."))).

The Court is not persuaded by either of TST's arguments. The "extending" limitation is a structural limitation which requires the claimed "protrusion" to possess a specific structural form. This specific structural form is supported not only by the claim language itself ("said protrusion extend[s] from said end piece wall [and] is positioned between said inlet and outlet fittings") but also the specification. For example, the specification shows the "protrusion" (33) "extending" from the end piece wall (12):

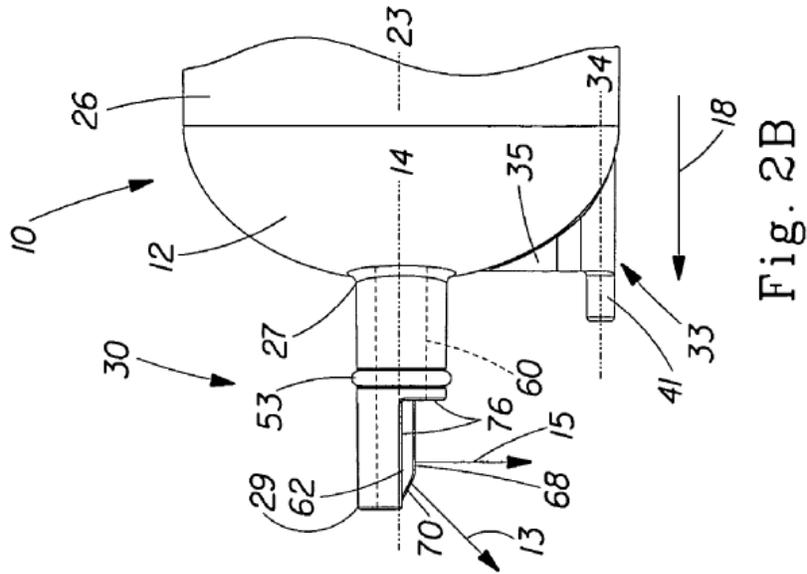


Fig. 2B

PX1 at Fig. 2B. “[T]he solid protrusion **33** may have a cylindrical end **41** (preferably having a length from about 0.1 cm, about 0.3 cm, about 0.5 cm to about 1 cm, about 1.5 cm, about 2 cm, and preferably having a diameter from about 0.1 cm, about 0.2 cm, about 0.3 cm to about 0.5 cm, about 0.7 cm, about 1 cm) extends from near the edge of the end piece wall **12**, adjacent to the connection of the end piece **10** and cartridge **20**.” (Id. at 5:23–30). In addition to the intrinsic evidence, Dr. Beaman supplied testimony on how the “extending” limitation was met by the accused product:

Q. Now, the claim next requires that the inlet fitting, the outlet fitting, and the protrusion all extend from the end piece wall. Do you see that?

A. Yes, I do.

Q. And how is this limitation satisfied?

A. Well, here’s the end piece wall right here. And you’ll notice the protrusion is extending from it. The inlet fitting is extending from it. And the outlet fitting are extending from the end piece wall.

(Dkt. No. 159, Mar. 7, 2017, A.M. Tr. at 36:4–12). Further, his testimony, Dr. Beaman concluded that the “extending” limitation was satisfied by the accused product. (Id. at 44:16–19). Finally, Dr. Beaman directly addressed TST’s indirect extension argument during his testimony:

Q. Now, Dr. Beaman, have you reviewed reports and testimony by Dr. — by Mr. Stein in this case?

A. Yes, I have.

Q. And do you understand that you have certain disagreements with him on his opinions regarding infringement here?

A. I think we do, yes.

Q. What are the — at a high level the areas of disagreement?

A. He disagrees with my understanding of extend from, what an longitudinal axis is, and also what we mean by about 2 centimeters.

Q. Dr. Beaman, let's go to the first area of disagreements. Literal infringement and extend from. Why do you disagree, and can you explain why you believe your theory — your understanding to be correct?

A. Yes. So it just has to extend from the end piece wall. And so what's happening here, here's the end piece wall, and this is just a — a support and kind of — you know, as they kind of multi-carve things away, these things all have to extend out because they have to interact with the head assembly. And, in my opinion, these don't have to be directly attached to the end piece wall, they just have to be connected in some sense. So these extend from, so they lineup and go into the head assembly.

(Id. at 40:2–41:2). Dr. Beaman and his testimony, including his expert opinions, were subjected to robust cross-examination by TST. The jury was entitled to credit and rely upon Dr. Beaman’s testimony and expert opinions in reaching its verdict of literal infringement. See *Apple Inc. v. Motorola, Inc.*, 757 F.3d 1286, 1326 (Fed. Cir. 2014) (“With the aid of [] cross-examination and expert testimony, the jury is capable of assigning the appropriate weight to [an expert’s] testimony based upon their judgment of her credibility, factual analysis, and conclusions.”). Whirlpool did not improperly attempt to prove a structural limitation by showing that the accused product

performs a function, but rather provided specific evidence upon which the Jury was able to properly rely, discussed above, that the structural limitation required by “extends from” claimed by the Asserted Claims was present in the Accused Products.

Finally, the Court disagrees with TST’s “absurd result” argument that the jury’s Verdict is unsupportable as a matter of law. (Dkt. No. 171 at 6–7). TST’s argument that “it is so glaringly obvious that the W-5 filter’s protrusion extends from the bridge that no reasonable juror could possibly think that it extends from the end-piece wall,” (Dkt. No. 171 at 7), is contradicted by the same record evidence identified with respect to the “extends from” limitation, above, upon which the jury’s Verdict is properly supported. (See also *supra* at 7 (discussing Knuth’s protrusion)).

In conducting this analysis, the Court was careful to draw all reasonable inferences in favor of the Verdict and not make credibility determinations or reweigh the evidence. *Boh Bros.*, 731 F.3d at 451 (a court must “draw all reasonable inferences in the light most favorable to the verdict and cannot substitute other inferences that [the court] might regard as more reasonable.”) (citation omitted). The Court has finds that the verdict is supported by substantial evidence presented a trial. Accordingly, the Court **DENIES** TST’s Motion for Judgement as a Matter of Law of No Literal Infringement. *Hiltgen*, 47 F.3d at 700 (5th Cir. 1995) (judgment as a matter of law may not be granted unless “there is no legally sufficient evidentiary basis for a reasonable jury to find as the jury did.”).

B) Judgment as a Matter of Law of No Infringement Under the Doctrine of Equivalents

TST argues, generally, that “[b]ecause Whirlpool relied on the ‘protrusion extend[ing] from said end piece wall’ limitation to overcome a PTO rejection based on prior art, prosecution history estoppel applies and bars the application of the doctrine of equivalents to the protrusion limitation. Further, even if the doctrine were not barred by prosecution history estoppel, Whirlpool

failed to present substantial evidence from which a reasonable jury could conclude that extending from a bridge between the fittings is equivalent to extending from the end-piece wall.” (Dkt. No. 171 at 8).

i) Prosecution History Estoppel

As to TST’s argument regarding prosecution history estoppel, the Court notes that the argument and authorities presented to the Court during trial in support of TST’s Rule 50(a) motion are relied upon and incorporated by reference in the instant Motion (Id. (incorporating Dkt. No. 140 by reference)). After briefing and argument, the Court denied TST’s Rule 50(a) motion and allowed the jury to decide whether TST’s Accused Products infringed Whirlpool’s Asserted Claims under the doctrine of equivalents. (Dkt. No. 165, Mar. 9, 2017 P.M. Tr. at 66:17–20).

TST argues now in its renewed Motion that the prosecution history of the “protrusion extend[ing] from” limitation estops any claim of infringement under the doctrine of equivalents as a matter of law.

Generally, “The doctrine of equivalents allows the patentee to claim those insubstantial alterations that were not captured in drafting the original patent claim but which could be created through trivial changes.” *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 733 (2002) (“Festo I”). An element in the accused device is equivalent to a claim limitation if the only differences between the two are insubstantial. *Eagle Comtronics, Inc. v. Arrow Commun. Labs., Inc.*, 305 F.3d 1303, 1315 (Fed. Cir. 2002) (citation omitted). However, prosecution history estoppel may bar the patentee from asserting equivalents if the scope of the claims has been narrowed by amendment during prosecution. *Festo I*, 535 U.S. at 733-34.

The Federal Circuit instructed in *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359, 1366–67 (Fed. Cir. 2003) (“Festo II”), that a court must conduct various inquiries

into the prosecution history in order to ascertain whether prosecution history estoppel applies. Specifically, courts must determine (1) whether there was a narrowing amendment during prosecution that surrendered subject matter; (2) whether that narrowing amendment was made for reasons related to patentability; (3) whether the alleged equivalent is within the scope of the surrendered subject matter, taking into account the presumption of total surrender for the limitation; and (4) Whether the presumption of total surrender can be rebutted under any of the three exceptions to the estoppel, specifically: (i) the equivalent was unforeseeable at the time of the application; (ii) the rationale underlying the amendment bears no more than a tangential relation to the equivalent in question; or (iii) other reasons suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question. *Festo II*, 344 F.3d at 1366–67.

“Estoppel arises when an amendment is made to secure the patent and the amendment narrows the patent's scope.” *Festo I*, 535 U.S. at 736. “A presumption of surrender therefore arises if rewriting the dependent claims into independent form, along with canceling the original independent claims, constitutes a narrowing amendment.” *Honeywell Int’l , Inc. v. Hamilton Sundstrand Corp.*, 370 F.3d 1131, 1141 (Fed. Cir. 2004). “Under such circumstances, the surrendered subject matter is defined by the cancellation of independent claims that do not include a particular limitation and the rewriting into independent form of dependent claims that do include that limitation.” *Id.* at 370 F.3d at 1144. “[W]hen a claim is rewritten from dependent into independent form and the original independent claim is cancelled, ‘the correct focus is on whether [the] amendment surrendered subject matter.’” *Id.* (citations omitted).

During prosecution of the ’894 Patent, the Examiner rejected the original independent claim 1 in the ’894 patent application. (Dkt. No. 140, Ex. 2, May 23, 2005 Office Action at 2–3).

The Examiner also rejected claims 14, 15, and 16. (Id.) The Examiner objected to original dependent Claim 17 as being dependent on a rejected base claim but indicated that Claim 17 “would be allowable if rewritten in independent form.” (Id. at 7).

At the time of the rejection, the relevant Claims submitted for Examination were as follows:²

1. [Original] An end piece for operatively engaging a head assembly, the head assembly comprising one or more valves, for the treatment and control of fluid passing through the head assembly, said end piece comprising:

- A. an end piece wall;
- B. an inlet fitting having a cam surface, said inlet fitting having a longitudinal axis; and
- C. an outlet fitting[,]

wherein said inlet fitting and said outlet fitting extend from said end piece wall, and wherein at least a portion of said cam surface is vectored from said longitudinal axis of said inlet fitting.

14. [Original] The end piece of claim 1, further comprising a protrusion having a longitudinal axis, said protrusion extending from said end piece wall.

15. [Original] The end piece of claim 14, wherein said protrusion is position between said inlet and outlet fittings.

16. [Original] The end piece of claim 15, wherein the distance from said longitudinal axis of said inlet to said longitudinal axis of said outlet is less than the distance from said longitudinal axis of said inlet to said longitudinal axis of said protrusion, and wherein the distance from said inlet to said longitudinal axis of said protrusion is greater than the distance from said longitudinal axis of said outlet to said longitudinal axis of said protrusion.

17. [Original] The end piece of claim 16, wherein the distance from said longitudinal axis of said inlet to said longitudinal axis of said outlet is about 2 cm, and wherein the distance from said inlet to said longitudinal axis of said protrusion is about 2 cm, and wherein the distance from said longitudinal axis of said inlet to said longitudinal axis of said outlet is about 2 cm.

(Dkt. No. 140-3, Apr. 25, 2003 Claims at 32-34). Following the non-final Office Action, Whirlpool submitted new application Claim 29 which is former Claim 17 rewritten in independent form. Claim 29 read:

29. [New] An end piece for operatively engaging a head assembly, the head assembly comprising one or more valves, for the treatment and control of fluid passing through the head assembly, said end piece comprising:

² The claims are presented with nesting provided for clarity of dependency.

- A. an end piece wall;
- B. an inlet fitting having a cam surface, said inlet fitting having a longitudinal axis; and
- C. an outlet fitting; and
- D. a protrusion having a longitudinal axis;

[w]herein said inlet fitting, said outlet fitting, and said protrusion extend from said end piece wall, wherein said protrusion is positioned between said inlet and said outlet fittings,

wherein the distance from said longitudinal axis of said inlet to said longitudinal axis of said outlet is less than the distance from said longitudinal axis of said inlet to said longitudinal axis of said protrusion, and

wherein the distance from said inlet to said longitudinal axis of said protrusion is greater than the distance from said longitudinal axis of said outlet to said longitudinal axis of said protrusion,

wherein the distance from said longitudinal axis of said inlet to said longitudinal axis of said outlet is about 2 cm, and wherein the distance from said inlet to said longitudinal axis of said protrusion is about 2 cm, and wherein the distance from said longitudinal axis of said outlet to said longitudinal axis of said protrusion is about 2 cm, and wherein at least a portion of said cam surface is vectored from said longitudinal axis of said inlet fitting.

(Aug. 23, 2005 Response (Dkt. 140-4) at 3–4). Whirlpool simultaneously submitted new application Claims 30–32 and canceled all other pending application claims, including Claim 17. Application Claims 29, 30, 31, and 32 issued as '894 Patent Claims 1, 2, 3, and 4, respectively.

There is no dispute between the Parties that, as a result of this prosecution history, prosecution history estoppel applies under *Honeywell*. Specifically, a dependent claim was rewritten in independent form and the claims upon which the previously dependent claim depended upon were cancelled, resulting in a narrowing amendment. *Honeywell*, 370 F.3d at 1141. The dispute between the Parties, each relying on *Honeywell* in support of their positions, rests on the appropriate scope of the prosecution history estoppel.

TST argues that the application of *Honeywell* is straightforward: the difference in scope between the new Claim 29 (the rewritten Claim 17) and the original independent application Claim 1 defines the scope of the surrender proffered by the patentee in prosecution of the application. (Dkt. No. 171 at 9). However, Whirlpool argues that TST's argument focuses on the

wrong claim. Specifically, “Application claim 16 depended on 15, which depended on 14, which depended on 1. After the lone Office Action, all four claims stood rejected. However, Examiner indicated that claim 17, which depended on 16, was allowable if rewritten in independent form, and Whirlpool complied.” (Dkt. No. 143 at 6). Accordingly, “[b]ecause claim 16 [was] the narrowest claim that lacked the ‘about 2 cm’ limitation, was rejected but claim 17 was allowed, the appropriate inquiry focuses on the differences between these claims.” (Id.)

At its core, the Parties’ dispute is whether the Honeywell inquiry is performed between the dependent claim rewritten in independent form, here application Claim 17, and either the independent from which Claim 17 depends, here application Claim 1, or the claim from which claim 17 immediately depends, here application Claim 16.

This difference between application Claims 1 and 16 is important in this analysis because it determines whether Whirlpool was permitted to assert that the W-5 met the “protrusion extend[ing] from” claim limitation under the doctrine of equivalents. In TST’s view, the “protrusion extend[ing] from” limitation was not present in the original independent Claim 1 and so is deprived of the equivalent reach due to prosecution history estoppel. If Whirlpool is correct, however, the “protrusion extend[ing] from” limitation, being present in intermediate dependent Claim 14, was not surrendered by the cancellation of Claims 1, 14, 15, and 16 and the rewriting of Claim 17, since only the difference in limitation between Claims 16 and 17 determine the scope of the estoppel, and thus the bar to the doctrine. Accordingly, under this view, the estoppel to prevents equivalency to only the “about 2 cm” limitation which Claim 17 introduced.

As such, TST argues that the focus of the Honeywell inquiry in determining the proper estoppel scope treats only the independent claim as the “patent scope originally requested by the patentee.” (Dkt. No. 171 at 8–9 (“Dependent application claim 16 did not define the original patent

scope requested by the patentee; independent application claim 1 defined the patent scope originally requested by the patentee.”)). Accordingly, the surrender resulting from the patentee’s rewriting of Claim 17 in independent form “is defined by every limitation added to application claim 1—not just the limitations added from application claim 17—and triggered a presumption of estoppel for every one of these added limitations.” (Id. at 9). Whirlpool argues that as the limitation that led to allowance—and thus defined the scope of surrender—was the “about 2 cm” requirement from application Claim 17, application Claim 14’s “protrusion extending from” limitation “could not have been the basis for allowance, as the Examiner had already found that the Stevens reference disclosed this.” (Dkt. No. 181 at 8). Since Honeywell held that the scope of surrendered subject matter is “defined by the cancellation of independent claims that do not include a particular limitation and the rewriting into independent form of dependent claims that do include that limitation,” the limitation at issue in this case is the limitation which application Claim 17 adds, as determined by comparing application Claim 17 to application Claim 16, from which it depends.

The Court has undertaken a survey of cases relying on and applying the Federal Circuit’s holding in Honeywell. The Court has not been directed to, nor has it found, any case following Honeywell where it is clear that intermediate dependent claims existed between the original independent claim and the dependent claim which was ultimately rewritten in an independent form. Even so, Whirlpool’s view better accords with the precedent of Honeywell. Where an independent claim, alone, is cancelled and a dependent claim from that independent claim is rewritten into independent form, it is appropriate to apply prosecution history estoppel to the difference in scope between the independent and dependent claims. Similarly, where there are, as here, gradations of specificity due to nested intermediate dependent claims with each intermediate

dependent claim introducing additional limitations, it is equally appropriate to look only at the difference in scope between the most specific disallowed intermediate dependent claim and the ultimately rewritten dependent claim to determine the scope of the patentee's surrender. This makes sense, since "[e]ach claim must be considered as defining a separate invention." *Jones v. Hardy*, 727 F.2d 1524, 1528 (Fed. Cir. 1984). Accord see *Pall Corp. v. Micron Separations, Inc.*, 66 F.3d 1211, 1220 (Fed. Cir. 1993) ("Each claim is a separate statement of the patented invention").

The purpose of the rule of *Honeywell* is to ensure equivalency of scope between the prosecution estoppel applied to limitations of a patent claim that are added by a patentee to overcome a rejection and a patentee who discards broader claims and accepts the allowance of a dependent claim with a specific limitation which renders the claim allowable.³ The focus of this inquiry, thus, must be on the specific limitation which the examiner found rendered the claim allowable and, accordingly, confines the estoppel effect to only that specific limitation.

It is true that, generally, where multiple limitations from multiple dependent claims are rolled into a single rewritten independent claim, it may be difficult, or even impossible, for a court to determine what specific limitation, if any, was the ultimate basis for allowance. In such a case, it is appropriate that a court give prosecution history estoppel a sweeping reach, since "[w]here no explanation is established, . . . the court should presume that the patent applicant had a substantial reason related to patentability for including the limiting element added by amendment." *Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 33 (1997). Here, however, the Court,

³ See *Biagro Western Sales, Inc. v. Grow More, Inc.*, 423 F.3d 1296, 1305 (Fed. Cir. 2005) ("If the narrowing amendment was the addition of a new claim limitation, . . . equivalents are presumptively not available with respect to that limitation.") (citing *Honeywell*, 370 F.3d at 1141) (emphasis added); accord. 5A *Chisum on Patents* § 18.05 (2018) ("The classic occasion for application of file wrapper (prosecution history) estoppel is when the patent examiner rejects a broad claim as unpatentable over the prior art and in response the applicant cancels or amends claims in order to narrow the scope of the claimed subject matter and thereby to secure issuance of a patent.") (emphasis added).

through the unique posture of the prosecution history presented, is able to properly limit the sweep of the prosecution history estoppel to only the limitations added by Claim 17 when compared to Claim 16.

Accordingly, prosecution history estoppel does not bar application of the doctrine of equivalents to the “protrusion extend[ing] from” limitation.

ii) Sufficiency of the Evidence

TST argues that Whirlpool failed to present substantial evidence that the W-5 filter satisfies the “protrusion extend[ing] from” limitation under the doctrine of equivalents. (Dkt. No. 171 at 11). Whirlpool first responds by reminding the Court that “TST never moved pre-verdict that substantial evidence did not support Whirlpool’s [doctrine of equivalents] theory for ‘extend.’” (Dkt. No. 181 at 8). Even so, Whirlpool does acknowledge that TST properly preserved its argument that (i) the Asserted Claims were only entitled to a narrow scope in applying the doctrine of equivalents analysis due to the narrowness of the claims and (ii) that the doctrine of equivalents was improperly applied and eliminated the “protrusion extend[ing] from” limitation from the claims.

With respect to the issue of waiver under Rule 50, “[i]t is well-settled in this circuit that a motion for judgment as a matter of law filed post-verdict cannot assert a ground that was not included in the motion for judgment as a matter of law made at the close of the evidence.” *Morante v. Am. Gen. Fin. Ctr.*, 157 F.3d 1006, 1010 (5th Cir. 1998). “If a party fails to move for judgment as a matter of law under Federal Rule of Civil Procedure 50(a) on an issue at the conclusion of all of the evidence, that party waives both its right to file a renewed post-verdict Rule 50(b) motion and also its right to challenge the sufficiency of the evidence on that issue on appeal.” *Flowers v. S. Reg’l Physician Servs., Inc.*, 247 F.3d 229, 238 (5th Cir. 2001).

Of course, strict adherence to Rule 50 is not required “in situations in which the purposes of the rule are satisfied.” *Scottish Heritable Trust, PLC v. Peat Marwick Main & Co.*, 81 F.3d 606, 610 (5th Cir. 1996). The purposes of Rule 50 “are met when the court and the plaintiff are alerted to the grounds on which the defendant contends the evidence is insufficient prior to the submission of the case to the jury.” *Taylor Pub. Co. v. Jostens, Inc.*, 216 F.3d 465, 472 (5th Cir. 2000).

TST contends that it properly made a Rule 50(a) motion regarding the doctrine of equivalents since “Rule 50 only requires a motion ‘that a reasonable jury would not have a legally sufficient evidentiary basis to find for [Whirlpool] on that issue,’” as opposed to requiring that individual attacks within an issue be identified. (Dkt. No. 185 at 5 (emphasis original)). “Whirlpool has identified no authority that TST was obligated to do more than identify the issue of infringement under the doctrine of equivalents, consistent with the text of Rule 50.” (Id.) Indeed, the case law marshaled by Whirlpool supports TST’s position, not Whirlpool’s. (Dkt. No. 189 at 5). Only unraised defenses are waived. However, there is no requirement to raise every possible argument in support of a defense in the initial 50(a). This is seen in each of the cases cited by Whirlpool which show separate defenses are found to be waived by raising other defenses but not, as Whirlpool argues, waiver of different arguments about why a specific defense is appropriate. See, e.g., *Texas Instruments, Inc. v. Cypress Semiconductor Corp.*, No. 3:90-cv-1590, 1995 WL 811944, at *1 (N.D. Tex. Aug. 28, 1995) (finding the validity defense of indefiniteness to be waived, because “[a]lthough Defendants did move for a judgment as a matter of law on a host of validity defenses in their JMOL I, [] they notably did not include indefiniteness as an asserted ground”); cf. *Kinzenbaw v. Deere & Co.*, 741 F.2d 383, 387–88 (Fed. Cir. 1984) (finding the issues of public knowledge or use waived where “[i]n a motion for a directed verdict, Deere

raised a number of specific issues it urged the court not to submit to the jury. It also included a general request for a directed verdict on Kinze's invalidity defenses, including the claim of obviousness based upon prior art not cited to the examiner. Deere, however, did not specifically refer in that motion to the prior public knowledge or use issue.”); *i4i Ltd. P’ship v. Microsoft Corp.*, 598 F.3d 831, 845 (Fed. Cir. 2010), *aff’d*, 564 U.S. 91 (2011) (finding the validity defense of obviousness waived where “[b]efore the case was submitted to the jury, Microsoft moved for JMOL on invalidity, arguing that i4i's sale of S4 violated the on-sale bar under § 102(b)[, but] did not move for pre-verdict JMOL on obviousness or with regard to other prior art.”); *Golden Hour Data Sys., Inc. v. emsCharts, Inc.*, No. 2:06-cv-381-JRG, 2014 WL 8708239, at *2 (E.D. Tex. Mar. 31, 2014) (finding the issues of willful infringement or invalidity waived where “emsCharts filed its Motion for Judgment as a Matter of Law [] under F.R. Civ. P. 50(a), arguing that it was entitled to a judgment as a matter of law on the issues of direct infringement, joint infringement, induced infringement and damages, based on insufficiency of the evidence[, but] did not raise the issues of willful infringement or invalidity in its Rule 50(a) motion.”).

Accordingly, the Court holds that TST properly raised the issue of non-infringement under the doctrine of equivalents in its original Rule 50(a) motion and has not waived its ability to now seek judgement as a matter of law under Rule 50(b).

Turning to the merits, TST urges, generally, that Whirlpool failed to present substantial evidence that the W-5 filter satisfies the “protrusion extend[ing] from” limitation under the doctrine of equivalents for three separate reasons: (1) whirlpool failed to present evidence of equivalence on a limitation-by limitation basis when it argued that the W-5 filter infringes because the filter fits, (2) Whirlpool’s “way” analysis did not even mention the alleged equivalent structure

in the accused W-5 product, and (3) Whirlpool’s burden to provide probative evidence of equivalence was especially high in view of the specificity of the claims. (Dkt. No. 171 at 11–15).

TST points to various pieces of testimony and argument which, in its view, demonstrate that “Whirlpool argued at trial that the accused W-5 infringes the ’894 Patent because it ‘fits’ in Whirlpool’s Filter 3 refrigerators, making ‘fit’ a proxy for infringement.” (Id. at 11–12).⁴ Such an argument is foreclosed, in TST’s view, because “the doctrine of equivalents must be applied to individual elements of the claim, not to the invention as a whole,” *Warner-Jenkinson*, 520 U.S. at 29, and evidence regarding the doctrine of equivalents “must be presented on a limitation by-limitation basis. Generalized testimony as to the overall similarity between the claims and the accused infringer’s product or process will not suffice.” *Texas Instruments Inc. v. Cypress Semiconductor Corp.*, 90 F.3d 1558, 1567 (Fed. Cir. 1996). Specifically, TST argues that this “fit” argument improperly subsumed the limitation-by-limitation inquiry, especially regarding the protrusion limitation. (Dkt. No. 171 at 13 (“Moreover, in seeking to prove infringement by showing that the W-5 fits in the Filter 3 refrigerator, Whirlpool renders the disputed limitations – including the protrusion limitation – redundant of the ‘for operatively engaging a head assembly’ limitation and deprives those limitations of all force and effect.”)).

The Court agrees that “Whirlpool certainly presented significant and un rebutted evidence that the W-5 filter, with its end piece and protrusion, was ‘guaranteed to fit’ into the same head assembly as the patented invention.” (Dkt. No. 181 at 14–15). That evidence “confirmed the substantial evidence that the W-5 filter’s protrusion also actuated the bypass valve in the head

⁴ (See, e.g., Dkt. No. 171 at 11 (quoting Dkt. No. 158, Mar. 6, 2017 P.M. Tr. at 36:17–19 (opening statement) (“So how are we going to prove infringement? One way is with their documents and what they say outside of the courtroom. Guaranteed to fit.”); quoting Dkt. No. 159, Mar. 7, 2017 A.M. Tr. at 43:16–44:19 (testimony) (“The filters are guaranteed to fit. The filter fits in place of -- and you'll see here the Filter 3, which we know practices the patent”; “The filter fits in place of the Whirlpool Filter 3.”); quoting Dkt. No. 158, Mar. 10, 2017 A.M./P.M. Tr. at 42:24–43:9 (closing argument) (“Infringement. Remember what they tell us outside of the courtroom. Outside of the courtroom they guarantee the W-5 filter to fit. Guaranteed to fit.”)).

assembly, and thus was insubstantially different.” (Id.) To this end, “Dr. Beaman, Mr. Stein, and Mr. Baird [] provided ample testimony and evidence from which the jury could have found that the W-5’s protrusion is insubstantially different from the claimed invention.” (Id. at 13).

Specifically, “Dr. Beaman explained that, despite being on a support bridge indirectly connected to the end piece wall, the protrusion did ‘not move,’” and instead “remained in a fixed location so that it could ‘fit into the bypass valve.’” (Id. (citing Dkt. No. 159, Mar. 7, 2017 A.M. Tr. at 28:16–21.) Dr. Beaman testified about the patented invention’s requirement that “the inlet and outlet and protrusion have to line up to get into the head assembly,” (Id. at 41:18–22), and that the protrusion must be “out from the end piece wall” to “operatively engage the[] valves” in the head assembly, (Id. at 41:22-24). Dr. Beaman also testified the W-5 filter’s protrusion must “line up to get into the Whirlpool head,” (Id. at 30:4–6), and, once in the head assembly, the protrusion must “line up well and hit the bypass valve.” (Id. at 47:7–13; see also id. at 43:9–15 (installation video confirms that W-5 “actually fits and functions the same way”)).

Mr. Stein testified that the W-5 filter’s protrusion, though held by an arm, “fits into the same place, and [] actuates the [head assembly’s] valve,” just like the claimed invention. (Dkt. No. 164, Mar. 9, 2017 A.M. Tr. at 121:5–8). Mr. Baird testified that the location of the protrusion could not be moved, as compared to the patented design, because “compatibility is important” and agreed that the W-5 needed to “have the same dimensions as . . . the head inside the refrigerator or it won’t work.” (Dkt. No. 163, Mar. 8, 2017 P.M. Tr. at 41:5–9).

This evidence demonstrates that Whirlpool did present substantial evidence and argument inviting the jury to directly consider the alleged infringement of TST’s W-5 with respect to the “protrusion extend[ing] from” limitation. The Court finds that Whirlpool presented “significant and un rebutted evidence that the W-5 filter, with its end piece and protrusion, was ‘guaranteed to

fit' into the same head assembly as the patented invention. That evidence confirmed the substantial evidence that the W-5's protrusion also actuated the bypass valve in the head assembly, and thus was insubstantially different.” (Dkt. No. 181 at 14–15).

TST also argues that Whirlpool's “way” analysis⁵ did not mention the alleged equivalent structure in the accused W-5 product. Specifically, TST argues that Dr. Beaman never mentioned a protrusion extending from a bridge between the fittings or explained how that structure performs the function in substantially the same “way” as a protrusion that extends from the end-piece wall. In support, TST points to the following testimony:

Q. And, Dr. Beaman, let's look at the next — next part of the test. Substantially the same way. How does the W-5 perform the claimed feature in substantially the same way?

A. Yeah, so these -- the longitudinal axes of these all have — there has to be some platform — platform for them to come off of. And that has to be from the end piece wall, which is this flat portion. And so substantially the same way is the end piece wall provides that platform for these things to extend from.

(Dkt. No. 159, Mar. 7, 2017 A.M. Tr. at 40:14–15, 41:3–6, 42:2–10). In other words, in TST's opinion, “Dr. Beaman never mentioned the allegedly equivalent structure in applying the ‘way’ prong.” (Dkt. No. 171 at 14).

Whirlpool submits that “Dr. Beaman explained that the W-5's protrusion performs ‘substantially the same function,’ in ‘substantially the same way,’ to achieve the ‘substantially the same result’ as the claimed ‘protrusion extend[ing] from [the] end piece wall.’” (Dkt. No. 181 at 11). Whirlpool argues that “Dr. Beaman testified that the W-5's protrusion perform[s] the same

⁵ The function-way-result test ensures that infringement under the doctrine of equivalents is only found where a claimed invention and an accused device perform substantially the same function, substantially the same way, to attain substantially the same result. “That a claimed invention and an accused device may perform substantially the same function and may achieve the same result will not make the latter an infringement under the doctrine of equivalents where it performs the function and achieves the result in a substantially different way.” *Advanced Steel*, 808 F.3d at 1320 (quoting *Perkin–Elmer Corp. v. Westinghouse Elec. Corp.*, 822 F.2d 1528, 1532 n. 6 (Fed. Cir. 1987)). However, the Court ultimately seeks to determine “whether the accused product or process contain elements identical or equivalent to each claimed element of the patented invention[.]” *Warner-Jenkinson*, 520 U.S. 17, 21 (1997).

function as the claimed function as it extends from the end piece wall to allow it ‘to line up to get into the head assembly,’” and that the “W-5 achieves the same result as the claimed invention: its protrusion can enter the head assembly, thereby enabling the flow of water.” (Dkt. No. 181 at 11–12 (citing Dkt. No. 159, Mar. 7, 2017 A.M. Tr. at 42:19–21 (“So the result is basically the filter goes into the head assembly. And the end of the day, water flows and you get filtered water.”); Id. at 28:16-21 (noting that W-5 protrusion still “fit[s] into the bypass valve.”))). Additionally, TST’s installation video shows that the W-5 filter’s protrusion engages the head assembly. (Dkt. No. 175-39 (the W-5 filter “has been engineered to fit and function properly in your refrigerator.”)). This evidence was confirmed by both TST’s technical expert, Mr. Stein, and TST’s President, Michael Baird. Both witnesses agreed that the W-5 product performs the same function and achieves the same result as the claimed invention. (Dkt. No. 165, Mar. 9, 2017 P.M. Tr. at 30:21–24 (Mr. Stein disagreeing only “with respect to the ‘way’ aspect of the function-way-result test”); Dkt. No. 164, Mar. 9, 2017 A.M. Tr. at 121:5–8 (Mr. Stein agreeing that the W-5 “fits into the same place [and] actuates the valve”); Dkt. No. 163, Mar. 8, 2017 P.M. Tr. at 51:22–52:11 (Baird agreeing that the W-5’s protrusion performs “the same function of actuating the bypass valve” and that “the result is the same”)).

As to the “way” in which this same function reaches the same result, Whirlpool points to Dr. Beaman’s testimony with respect to the W-5’s “end piece wall.” Dr. Beaman identified the “end piece wall” as the “flat portion” of the filter which forms a “platform” for the protrusion (and the inlet and outlet fittings) to extend from. (Dkt. No. 159, Mar. 7, 2017 A.M. Tr. at 42:5–10 (explaining that “the longitudinal axes of these all have—there has to be some platform—platform for them to come off of. And that has to be from the end piece wall, which is this flat portion”); id. at 42:9–10 (“the end piece wall provides that platform for [the fittings and protrusion] to extend

from”)). Dr. Beaman also described how TST effectively “carved away” the area around the protrusion to form the “bridge” of the W-5 during development. (Id. at 28:16–19 (“[T]his protrusion, this will not move. And what’s going to happen is they kind of carved away or at least sunk it down, the material.”); id. at 30:4–9 (explaining that “the protrusion now is sitting out here”)). It is this protrusion in the Whirlpool filter which Dr. Beaman stated must be “out from the end piece wall” to operatively engage the valves in the head assembly. (Id. at 41:23–24). He also noted that the W-5 does the same, as its protrusion is structured to “line up” to get into the head (id. at 30:4-6) and “hit the bypass valve.” (Id. at 47:7–14). Dr. Beaman explained that no part of the W-5’s “platform” for the protrusion “enter[s] the bypass valve,” just as in the patented invention. (Id. at 138:7–10; see id. at 21:23–22:8 (claimed protrusion, not end piece wall, can “activate[] [the] . . . bypass valve” “to help prevent . . . leaks”)).

This evidence is more than substantial. A reasonable jury could have relied upon it in reaching a verdict of infringement.

Further, TST argues that the above analyses must be limited to “only a narrow scope of equivalents” due to “the specificity of the claims.” (Dkt. No. 171 at 15).

It is true that “[a] claim that contains a detailed recitation of structure is properly accorded correspondingly limited recourse to the doctrine of equivalents.” *Bicon, Inc. v. Straumann Co.*, 441 F.3d 945, 955 (Fed. Cir. 2006). “If it were otherwise, then claims would be reduced to functional abstracts, devoid of meaningful structural limitations on which the public could rely.” *Sage Prod., Inc. v. Devon Indus., Inc.*, 126 F.3d 1420, 1424 (Fed. Cir. 1997).

In TST’s view, “the claims at issue define a relatively simple structural device,” limited to “a protrusion, [] one that extends from the end-piece wall, is positioned between the inlet and outlet fittings, and lies about 2 cm from the inlet fitting and about 2 cm from the outlet fitting.” (Dkt.

No. 171 at 15; see, e.g., '894 Patent Claim 1). This argument revisits the issue previously addressed by the Court in Part A, *supra*, regarding the ability of the claimed “protrusion extend[ing] from” limitation to be met by the protrusion in the Accused Product through the indirect extension of the bridge from the end-piece wall. The Court is, again, not persuaded by TST’s arguments on this issue. See, e.g., *supra* p. 11. Accordingly, no limitation of the doctrine of equivalents to some narrower scope is appropriate.

Finally, TST argues that Whirlpool’s theory of equivalence effectively eliminates the “protrusion extending from” limitation from the claims. (Dkt. No. 171 at 17). The Court disagrees. This argument attempts to unduly limit the scope of equivalents for “extend” to direct contact with the wall, precluding any sort of indirect extension, such as in the Accused Product. As discussed above and in Part A, *supra*, regarding the ability of the claimed “protrusion extending from” limitation to be met by the protrusion in the Accused Product through the indirect extension of the bridge from the end-piece wall, TST’s arguments remain unpersuasive.

In conclusion, the Court has found that (1) prosecution history estoppel does not bar the application of the doctrine of equivalents to the “protrusion extending from” limitation; that (2) TST properly preserved its attack on the sufficiency of the evidence on the issue of infringement under the doctrine of equivalents; and that (3) on review of the merits of the sufficiency of said evidence, there is substantial evidence upon which a reasonable jury could have relied to find that the W-5 filter satisfies the “protrusion extending from” limitation under doctrine of equivalents. In conducting this analysis, the Court was careful to draw all reasonable inferences in favor of the Verdict and not make credibility determinations or reweigh the evidence. *Boh Bros.*, 731 F.3d at 451 (a court must “draw all reasonable inferences in the light most favorable to the verdict and cannot substitute other inferences that [the court] might regard as more reasonable.”) (citation

omitted). As the Court has not found the verdict to be unsupported by substantial evidence, the Court **DENIES** TST's Motion for Judgement as a Matter of Law of No Infringement Under the Doctrine of Equivalents.

C) Judgment as a Matter of Law of No Damages

Prior to trial, "the parties agree[d] that the filter is the appropriate royalty base." (Dkt. No. 144 at 6). TST argues that Whirlpool failed to prove a reasonable royalty based on the value attributable to the patented technology. (Dkt. No. 171 at 18).

"When the accused technology does not make up the whole of the accused product, apportionment is required." *Finjan, Inc. v. Blue Coat Sys., Inc.*, No. 2016-2520, 2018 WL 341882, at *8 (Fed. Cir. Jan. 10, 2018). "[T]he ultimate combination of royalty base and royalty rate must reflect the value attributable to the infringing features of the product, and no more." *Ericsson, Inc. v. D-Link Sys., Inc.*, 773 F.3d 1201, 1226 (Fed. Cir. 2014). "In such cases, the patentee must 'give evidence tending to separate or apportion the [infringer]'s profits and the patentee's damages between the patented feature and the unpatented features, and such evidence must be reliable and tangible, and not conjectural or speculative.'" *Finjan*, 2018 WL 141882 at *8 (quoting *Garretson v. Clark*, 111 U.S. 120, 121 (1884)). Whirlpool, "as the present patent holder, had the burden of proving damages by a preponderance of the evidence." *Id.* at *8.

First, Whirlpool argues that TST's challenge to apportionment is procedurally improper. Whirlpool contends that this challenge is a "methodology challenge" that could only have been properly brought as a Daubert motion. (Dkt. No. 181 at 17). Additionally, Whirlpool argues that TST's argument, if not a challenge to methodology, should be limited to an argument that Whirlpool had not apportioned for "external factors," and that TST's argument that Whirlpool

failed to apportion for “unpatented features of the accused product” itself, “such as the carbon block responsible for the filter’s filtering capability,” has been waived. (Dkt. No. 189 at 8).

For similar reasons as in Part II.B.2, *supra*, the Court finds that the argument was not waived. TST brought a motion under Rule 50(a) “for no damages because the Plaintiffs failed to present evidence apportioning the value of the patented technology.” (Dkt. No. 165, Mar. 9, 2017 P.M. Tr. at 52:22–24). The challenge TST has presented is that, in its view, the evidence presented by Mr. McFarlane simply fails to provide the jury “with evidence from which the jury could apportion those profits to isolate the value contributed by the patented technology, as distinct from the value contributed by other, unpatented features of the accused product.” (Dkt. No. 185 at 11).

Turning to the substance of TST’s argument, first, the Court notes the issues upon which the Parties agree: (1) that the filter is the appropriate royalty base, (Dkt. No. 144 at 6); (2) that the filter is the smallest saleable patent-practicing unit in this case, (Dkt. No. 185 at 9); and (3) that the parties compete for sales of the product, and thus Whirlpool stands to lose its entire profit on its lost sales of those products. (*Id.*)

TST complains that Whirlpool’s damages expert Mr. McFarlane “testified that 100% of TST’s profit and 100% of Whirlpool’s profit were attributable to the patented invention, without providing any analysis of the value attributable to unpatented features of the accused product. (Dkt. No. 171 at 21). “Because Whirlpool failed to apportion the value of the patented technology,” TST argues, “the jury’s award of reasonable-royalty damages award cannot stand.” (*Id.* at 22). TST contends that “Whirlpool was required to establish the value of the patented technology, as distinct from the other unpatented features of the accused product.” (*Id.*)

In response, Whirlpool argues that “Mr. McFarlane considered the parties’ profits in selecting a starting point for his hypothetical negotiation analysis. He appropriately considered the

entire value of the filters because substantial evidence confirms that that value is attributable to patented features. And his Georgia-Pacific analysis accounted for any factors that might impact the royalty rate.” (Dkt. No. 181 at 18–19).

The evidence marshaled by Whirlpool in support of its position is substantial. Mr. McFarlane testified that he had considered the profit that Whirlpool would lose and TST would earn if Whirlpool granted TST a license. (Dkt. No. 160, Mar. 7, 2017 P.M. Tr. at 127:7–22, 124:19–125:5). He further testified that Whirlpool would lose all of its profit, (id. at 124:19–125:5), and noted TST’s profits were an important factor to consider when calculating damages because the “entirety of TST’s profits [were] contingent upon TST getting a license.” (Id. at 127:7–22, 145:5–10; see also Dkt. No. 164, Mar. 9, 2017 A.M. Tr. at 25:15–17).

There is a large dispute between the Parties as to whether, how, and to what extent the patented features drive demand for the filters. Specifically, Whirlpool submits that interoperability with a Filter 3 head assembly (or “fit”) is a patented feature and is undisputed. (Dkt. No. 181 at 20). TST disputes this. (Dkt. No. 185 at 10 (“Interoperability Is Not A Patented Feature”)).

Even so, “[t]he parties agree that interoperability with Whirlpool’s refrigerator is a primary driver of demand.” (Id.; see also Dkt. No. 159, Mar. 7, 2017 A.M. Tr. at 23:10–24 Dr. Beaman testifying that interoperability is “an important benefit of the invention”); Dkt. 121-1 at 39 n. 73 (TST noting in its proposed Jury Instructions that the invention “is essential for interoperability” and that “license is necessary to make a filter that interoperates with Whirlpool’s refrigerators”)).

However, in TST’s view, while “[t]he ’894 patent does cover specific distances and arrangements of components, [] these claimed dimensions are not sufficient for the filter to fit properly in the refrigerator. For example, merely satisfying the claim requirement that the fittings

and protrusion be ‘about 2 cm’ from one another is not enough for a filter to fit properly.⁶ The dimensions of the filter need to match those of the refrigerator precisely if the filter is to engage the Filter-3 refrigerator properly and without leaking. ([Dkt. No. 163, Mar. 8, 2017 P.M.] Tr. at 41:7–9). Thus ‘fit’ is not a claimed feature.” (Dkt. No. 171 at 1).

This argument is unpersuasive. First, the claim language explicitly requires that the filter engage with a head assembly. (’894 Patent at Claim 1 (end piece “for operatively engaging a head assembly”); see also Claims 4 and 15). If a filter does not properly fit, it cannot engage with the head assembly. Further, it may be true that the specific distances and arrangements of components are not sufficient for the filter to fit properly in the refrigerator, but the claimed configuration requirements are necessary for the filter to fit. (Dkt. No. 159, Mar. 7, 2017 A.M. Tr. at 15:9–16:3, 36:13–38:2 (claimed dimensions and components allow for “fit”)).

This accords with the Court’s prior holding that the preambles of Claims 1 and 4 are limiting by “set[ting] forth configuration requirements in relation to head assemblies” (even though they “do not require the actual presence of head assemblies and valves”). (Dkt. No. 59 at 16.) Further, as TST noted previously, “invention . . . is essential for interoperability,” such that a “license is necessary to make a filter that interoperates with Whirlpool’s refrigerators.” (Dkt. 121-1 (TST’s proposed Jury Instructions) at 39 n. 73).

TST further argues that interoperability is only one of many drivers of demand, drivers which Mr. McFarlane did not consider in his analysis. (Dkt. No. 185 at 10). Specifically, “the carbon block and its capacity to filter contaminants from the water” and “the existing base of Whirlpool refrigerators” both also drive demand. (Id. (citations omitted)).

⁶ The Court notes this argument is contrary to TST’s prior position that the claims require a cartridge that actually engages a head assembly. (Dkt. No. 46 at 9 (“Reading the claims to cover cartridges that do not engage a head assembly . . . ‘would be divorced from reality’”).

Whirlpool submits, first, that evidence was presented that the existing base of Whirlpool refrigerators is tied to interoperability because consumers demand filters that fit into their refrigerators, meaning that more Filter 3 refrigerators in the market leads to higher demand for practicing filters. (See Dkt. No. 160, Mar. 7, 2017, P.M. Tr. at 122:21–124:16 (“[W]hat motivates owners of Filter 3 [refrigerators] to purchase . . . Filter 3 filters is because the filter fits in the refrigerator.”); Dkt. No. 164, Mar. 9, 2017, A.M. Tr. at 14:11–13 (“[T]he demand for the filter cartridges is driven off of the sales of the [Filter 3] refrigerators.”); Dkt. No. 165, Mar. 9, 2017, P.M. Tr. at 60:23–61:17 (“existing base of Whirlpool refrigerators” “motivate[s] practicing the patent”)). Second, Mr. McFarlane testified that he “accounted for the value of the carbon block in [] [his] reasonable royalty analysis,” (Dkt. No. 162, Mar. 8, 2017, A.M. Tr. at 49:3–6). TST argues that “Mr. McFarlane could only have meant that he considered apportioning some part of the [P]arties’ profits to the carbon block, before deciding against it” since he decided “to attribute 100% of the profits from the parties’ products to the patented invention.” (Dkt. No. 185 at 11). However, there is undisputed testimony that he did consider the carbon block in his analysis. (Dkt. No. 161, Mar. 8, 2017, A.M. Tr. at 49:3–6 (“Q. Did you account for the value of the carbon block in doing your reasonable royalty analysis? [Mr. McFarlane:] I believe that I did, yes.”)). Additionally, there was evidence presented that the patent’s space savings feature allows for a larger carbon block, which in turn improves contaminant reduction. (Dkt. No. 159, Mar. 7, 2017, A.M. Tr. at 15:2–7 (Beaman discussing relationship); Dkt. No. 158, Mar. 6, 2017, P.M. Tr. at 128:13–22 (inventor Todd Rose discussing same); Dkt. No. 160, Mar. 7, 2017, P.M. Tr. at 142:24–143:21 (McFarlane discussing space saving as a patented benefit)). Moreover, evidence was also presented for ease of installation, tying it to the patented technology as well. (Dkt. No. 159, Mar. 7, 2017 A.M. Tr. at 16:7–21:9 (describing how patented design achieves this advantage); id.at

12:12–17 (patented advantages include “ease of use”), Dkt. No. 160, Mar. 7, 2017 P.M. Tr. at 143:14–21 (same)).

Further, as Whirlpool points out, Mr. McFarlane used the midpoint of the Parties’ profits only as the starting point for a hypothetical negotiation, further apportioning the rate through his Georgia-Pacific analysis. (see, e.g., Dkt. No. 160, Mar. 7, 2017 P.M. Tr. at 130:14–15 (“a midpoint was an appropriate starting point for the baseline royalty rate.”); 131:9–163:25 (discussing the Georgia-Pacific factors) (“The \$10.93 is the ending of Step 1. The baseline royalty rate analysis. Now, I do Step 2. And that, as you recall, is the Georgia-Pacific factor analysis.”)). Indeed, and as an example, in analyzing the 13th Georgia-Pacific factor, Mr. McFarlane testified he considered “all of the things that . . . TST contribute[d] towards commercializing the accused products,” including its efforts to “design,” “manufactur[e],” and “promote” the filters, (Id. at 146:2–147:8), crediting TST’s “low price strategy [for] greatly expand[ing] the market for these filters.” (Id. at 147:9–21). He concluded that these efforts had a “very significant downward effect,” lowering the royalty rate. (Id. at 147:22–148:5).

The Court finds that Mr. McFarlane did engage in the proper apportionment required by the law, beginning with an appropriate rate.

Additionally, the jury heard significant evidence from Whirlpool’s and TST’s witnesses regarding the filters’ patented and unpatented features and drivers of demand. (See, e.g., id. at 8:20-9:1, 9:11-11:9 (Beaman); id. at 121:17-124:8-18, 122:21-124:7, 124:11-16 (McFarlane); Dkt. No. 162, Mar. 8, 2017 A.M. Tr. at 58:2–20 (Baird); Dkt. No. 164, Mar. 9, 2017 A.M. Tr. at 14:11–13, 14:23-15:2 (Hanson)). The jury was free to weigh the evidence as it saw fit. *Micro Chem., Inc. v. Lextron, Inc.*, 317 F.3d 1387, 1394 (Fed. Cir. 2003) (“The amount of damages based on a reasonable royalty is an issue of fact.”).

The jury's \$7.6 million award was less than Mr. McFarlane's proposed damages of \$8,742,836. It is clear that the jury reached its own award within the confines of the law, as presented in the Court's charge, and appears to have apportioned damages beyond what Mr. McFarlane opined. Accordingly, substantial evidence supports the jury verdict. See *Energy Transp. Grp., Inc. v. William Demant Holding A/S*, 697 F.3d 1342, 1356-57 (Fed. Cir. 2012) (affirming verdict despite improper use of "25% rule" because "[t]he jury did not adopt either expert's damages analysis wholesale," and "record support[ed] the jury's award"); *Brocade Comm's Sys., Inc. v. A10 Networks, Inc.*, No. 10-cv-3428, 2013 WL 831528, at *7 (N.D. Cal. Jan. 10, 2013) (affirming jury award less than expert's amount, despite argument that jury did not apportion).

In conclusion, because substantial evidence supports the jury's verdict as to damages in this case, the Court **DENIES** TST's Motion for Judgment as a Matter of Law for No Damages.

IV. Conclusion

The Court agrees with Whirlpool that while TST "may not like the jury verdict," "it was the result of a fair trial, fairly fought." *Micro Chem.*, 317 F.3d at 1394. For all of the reasons provided above, the Court hereby **DENIES** Defendant TST's Motion for Judgment as a Matter of Law (Dkt. No. 171) in its entirety.

So ORDERED and SIGNED this 29th day of March, 2018.



RODNEY GILSTRAP
UNITED STATES DISTRICT JUDGE