

United States District Court,  
N.D. Illinois, Eastern Division.

**HBB LIMITED PARTNERSHIP, an Illinois Limited Partnership, and HBB Management Corp., an Illinois Corporation,**  
Plaintiffs.

v.

**FORD MOTOR COMPANY, et al,**  
Defendants.

**and**

**Morton International, Inc., et al,**  
Intervenor Defendants.

**April 2, 1996.**

### ***MEMORANDUM OPINION AND ORDER***

**NORDBERG, District Judge.**

On September 29, 1995 Magistrate Judge Guzman entered a Report and Recommendation ("R&R") with respect to Defendants' Motions for Summary Judgment. The Magistrate Judge recommends that the Court: (1) deny summary judgment on Count I as to claim 1 of the '715 patent and grant summary judgment on Count I as to claim 2 of the '715 patent; (2) grant summary judgment on Count II as to claim 3 of the '251 patent; (3) grant summary judgment on Count III as to claims 7 and 8 of the '351 patent; (4) deny summary judgment on Counts I, II, and III based on equitable estoppel and laches; (5) deny summary judgment for Defendants Morton and Chrysler on Counts I, II, and III based on a license/release; and (6) deny summary judgment for Defendant NNA on Counts I, II, and III based on failure to make, use, or sell accused devices. Defendants and Plaintiffs ("HBB") have filed objections to the Magistrate Judge's R&R and have responded to those objections.

Plaintiffs alleged, in a three count complaint, that Defendants have infringed United States Patents Numbers 3,827,715 ("the '715 Patent"), 3,944,251 ("the '251 Patent"), and 3,773,351 ("the '351 Patent") by making, using, or selling air bag systems. The '715 Patent relates to a driver's side inflator design. In Count I, Plaintiffs allege that the accused air bag inflators infringe claims 1 and 2 of the '715 patent. In Count II, Plaintiffs allege that the accused air bag modules infringe claim 2 of the '251 patent. Finally, Count III alleges that the accused passenger and driver's side devices infringe claims 7 and 8 of the '351 patent. The Defendants have filed motions for summary judgment on the grounds of noninfringement.

### **BACKGROUND FACTS**

The Court incorporates by reference the background facts and description of the patents in suit and the accused devices presented in the Report and Recommendation.

### **ANALYSIS**

The Court must determine the proper scope and meaning of the asserted claims, a question of law, and then

compare the accused devices with the properly interpreted claims, a question of fact, with Plaintiffs bearing the burden of proving that the accused device embodies each and every claim limitation or a substantial equivalent. *Dolly, Inc. v. Spalding & Evenflo Cos.*, 16 F.3d 394, 397 (Fed. Cir. 1994). Thus, to prevail Defendants must "point out the absence of evidence in the record directed to proof of a matter on which [Plaintiffs] bore the burden of proof and which was necessary to establish its case." *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792 (Fed. Cir. 1990). Any substantive difference between a claim and the accused device defeats a claim of literal infringement as a matter of law. *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961 & 1009 (1988).

However, if a patent is not literally infringed, the infringement may be found under the doctrine of equivalents where the differences between the claimed and accused devices are "insubstantial." *Hilton Davis Chem. Co. v. Warner-Jenkinson Co.*, 62 F.3d 1512, 1521-22 (Fed. Cir.), *supplemented by* 64 F.3d 675 (Fed. Cir. 1995), *cert. granted*, 116 S. Ct. 1014 (Feb. 26, 1996). The doctrine of equivalents is limited by prosecution history estoppel and the prior art, either of which may preclude a plaintiff from invoking the doctrine. *Loctite Corp. v. Ultraseal Ltd.*, 781 F.2d 861, 870 (Fed. Cir. 1985). The R&R sets out the applicable standards as follows.

Prosecution history estoppel prevents a patentee from obtaining, through the doctrine of equivalents, coverage of subject matter that was given up during prosecution of the patent. *Hoganas AB v. Dresser Indus.*, 9 F.3d 948, 951-52 (Fed. Cir. 1993). The determination of the scope and meaning of the prosecution history is a question of law. *Id.* at 952. The legal standard for determining what subject matter was relinquished is an objective one, measured from the vantage point of what a competitor was reasonably likely to conclude that the patentee gave up to secure the patent. *Id.* Actions by the patent applicant that can lead to prosecution history estoppel include the amendment or cancellation of claims, arguments made to the Patent Examiner, or abandonment of a rejected claim. *Haynes Int'l, Inc. v. Jessop Steel Co.*, 8 F.3d 1573, 1578 (Fed. Cir. 1993), *clarified in part by* 15 F.3d 1076 (Fed. Cir. 1994). Further, "[c]lear assertions made during prosecution in support of patentability, whether or not actually required to secure allowance of the claim, may also create an estoppel." *Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1583 (Fed. Cir. 1995), *cert. denied*, 116 S. Ct. 515 (1995).

Finally, a plaintiff cannot invoke the doctrine of equivalents if the range of equivalents needed to establish infringement is covered by prior art. *See Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*, 904 F.2d 677 (Fed. Cir.), *cert. denied*, 498 U.S. 992 (1990). In *Wilson Sporting Goods*, the court explained that the doctrine of equivalents can be used to establish infringement only if a hypothetical claim broad enough to cover the accused product would be valid over the prior art. Otherwise, the prior art precludes the patentee from relying upon the doctrine of equivalents. *Id.* at 685. Prior art that limits the doctrine of equivalents includes those references cited during prosecution of the patent, as well as references not known to the PTO examiner. *See Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1208 (Fed. Cir. 1992) (granting JNOV of noninfringement because it was impossible to construe the asserted claim as being infringed yet still valid over the prior art cited during the prosecution), *cert. denied*, 506 U.S. 1053 (1993). (R&R at 16-17).

## **I. Count I Noninfringement**

In Count I Plaintiffs sued Defendants for infringement of claims 1 and 2 of the '715 patent. Defendants have moved for summary judgment that the accused devices do not literally infringe the asserted patent and do not infringe under the doctrine of equivalents. The Magistrate Judge recommends that the Court deny summary judgment as to claim 1 of the '715 patent and grant summary judgment as to claim 2 of the '715 patent. Defendants and Plaintiffs object to the recommendations, respectively.

### **A. Claim 1 of the '715 Patent**

Because the Magistrate Judge's interpretation of claim 1 does not preclude a finding of infringement, the

Magistrate Judge recommends that Defendants' motion for summary judgment on claim 1 be denied. Defendants object to this recommendation, arguing that the Magistrate Judge's construction of claim 1 is too broad as a matter of law. Specifically, in moving for summary judgment, Defendants asserted that three of the five claim limitations preclude findings of literal infringement and infringement under the doctrine of equivalents, namely, the first, third, and fourth of the following five limitations of claim 1:

*a generally cylindrical housing closed on one end and open on its other end;*

means for mounting the housing in the hub of the automobile steering wheel for rotation therewith;

*an axial shaft in the housing and integral therewith extending from the closed end towards the open end;*

*a plate member for closing the open end of the housing connected to the housing around its periphery, said member including gas passage means leading from the interior of the housing to the exterior thereof; and*

means for interconnecting the axial shaft and the plate member.

(emphasis added). Defendants need only prevail on one of their proffered interpretations, because each element of a claim is material and essential and, thus, a plaintiff must demonstrate that each claim limitation or its substantial equivalent is present in the accused device. *London v. Carson Pirie Scott & Co.*, 946 F.2d 1534, 1538-39 (Fed. Cir. 1991). However, the Magistrate Judge concluded that Defendants interpret each of the three claim limitations too narrowly.

In reaching his conclusion, the Magistrate Judge referred to the prosecution history of the '715 patent. As the Magistrate Judge explained, to ascertain the meaning of a claim, a court may turn to the claim itself, the specification, and the prosecution history. *Johnston v. IVAC Corp.*, 885 F.2d 1574, 1579 (Fed. Cir. 1989). The first step in claim interpretation is an examination of the language of the claims. *North American Vaccine, Inc. v. American Cyanamid Co.*, 7 F.3d 1571, 1575 (Fed. Cir. 1993), *cert. denied*, 114 S. Ct. 1645 (1994). The specification, which contains a written description of the invention and examples illustrating the invention, is properly used to interpret what the patentee meant by a word or phrase, but an extraneous limitation appearing in the specification cannot be read into the claim. *E.I. du Pont de Nemours & Co. v. Phillips Petroleum Co.*, 849 F.2d 1430, 1433 (Fed. Cir.), *cert. denied*, 488 U.S. 986 (1988). Finally, examination of the prosecution history is particularly important when the applicant distinguished prior art. *Carroll Touch, Inc. v. Electro Mechanical Sys., Inc.*, 15 F.3d 1573, 1577 (Fed. Cir. 1993). The prosecution history limits the proper scope of a patent claim "by excluding any interpretation of the claim language that would permit the patentee to assert a meaning for the claim that was disclaimed or disavowed during prosecution in order to obtain claim allowance," whether the disclaimer was in an amendment or in argument. *Zenith Lab., Inc. v. Bristol-Meyers Squibb Co.*, 19 F.3d 1418, 1421 (Fed. Cir.), *cert. denied*, 115 S. Ct. 500 (1994).

The prosecution history of the '715 patent is as follows: The application that led to the '715 patent contained 19 claims and was filed on April 28, 1972. Before the PTO acted on his application, Lynch, the inventor, filed an amendment that added 4 claims, 20-23. The PTO examiner divided the first 19 claims into two groups, because the inventions of the two groups were distinct, and required the inventor to elect which invention to prosecute. Group I consisted of claims 1 to 6 and 9; Group II consisted of claims 7, 8 and 10 to 19. The examiner did not consider claims 20 to 23 as the amendment had not yet reached the file. Lynch elected to prosecute Group II and, thus, withdrew claims 1 to 6 and 9 from consideration. The PTO examiner: (1) allowed claims 7 and 8; (2) rejected claims 10, 11, and 20; and (3) objected to 12 to 19, 21, 22, and 23 as "depending from" rejected claims but allowable if made self-contained.

Application claim 20 eventually became the claim of the patent at issue -- claim 1. Initially, claim 20 was rejected as anticipated by United States Patent number 3,680,884 ("the Stephenson patent"). Accordingly,

Lynch amended claim 20 by adding the phrases "for rotation therewith" and "and integral therewith." In his remarks, Lynch argued, *inter alia*:

Claim 20 was rejected on the basis of the Stephenson patent which is clearly different since it is for operation with a pressurized gas system instead of a pyrotechnic gas generator. The cuplike member 32 which the Examiner apparently considers to be the "housing" is bolted to the steering column and is therefore fixed in position for receiving gas from the conduit 56. The steering wheel itself has a flat portion 40 with apertures to permit gas to flow out from the cup shaped member into the inflatable bag. The steering wheel is not connected to the cuplike member around its open edge since the wheel must turn relative to the fixed cup. Similarly a gas seal is provided around the hole through the bottom of the cup through which the steering shaft 14 extends. The steering shaft is not connected to the cup shaped member 32.

Claim 20, as amended, recites that the housing is mounted in the hub of the steering wheel for rotation with it. Clearly this is different from the fixed cup provided by Stephenson. Claim 20 also recites that the housing is closed at one end and open at its other end. Stephenson's cuplike member is open at both ends since the steering shaft must enter one end and the gas must escape from the other end. Further, Claim 20 recites that the axial shaft is integral with the housing. Clearly this too is different from the Stephenson patent which simply has the steering shaft fitting loosely through a hole in the bottom of the cup. Finally Claim 20 recites that the plate at the end of the housing is connected to the housing around its periphery, which is clearly different from the sliding fit of the steering wheel around the open end of the Stephenson cup. For these several reasons it is submitted that Claim 20 defines a structure significantly different from and patentable over the arrangement described by Stephenson.

After Lynch filed his amendment to application claim 20 and his remarks, the PTO allowed application claim 20 to issue as claim 1 of the '715 Patent without any comment as to the basis for allowance.

### **1. "A generally cylindrical housing closed on one end and open on its other end"**

Plaintiffs contend that the base of the accused devices, the Morton and TRW driver's side inflators, is the "housing" required by claim 1 of the '715 patent. Plaintiffs argue that "closed" means sealed to the passage of gases and, when the accused device is assembled, the base is sealed to the flow of gas. Defendants assert that the accused devices do not contain "a generally cylindrical housing closed on one end and open on its other end." Instead, Defendants claim that the bases of the Morton and TRW driver's side inflators are open on both ends, since each device's base has an opening through which the igniter is inserted. Further, Defendants argue that Plaintiffs are estopped from arguing equivalency because Lynch obtained the patent by limiting the housing element to exclude the type of housing with an opening through which a shaft extends.

The Magistrate Judge rejected Plaintiffs' interpretation as overbroad and rejected Defendants' interpretation as too narrow. First, the Magistrate Judge found that under Plaintiffs' interpretation the Stephenson device itself is closed on one end since the Stephenson opening is sealed to the flow of gas by a lip seal between the "housing" and the steering wheel shaft. Thus, the Magistrate Judge concluded that Plaintiffs cannot rely on an interpretation of "closed" as meaning only sealed to the passage of gases when the prosecution history of the patent show that they intended just the opposite. Second, the Magistrate Judge rejected Defendants' interpretation as too narrow, since it "would exclude a device from being 'closed on one end' if any part of the *inflator assembly itself* could be removed and thus 'open' the housing." (R&R at 22). The Magistrate Judge reasoned that "[t]he Stephenson patent is directed to a device wherein the shaft through the center of the inflator is entirely separate from the inflator assembly. Thus if the inflator were removed from the steering column, the hole in the inflator would be exposed, *e.g.*, the inflator assembly itself is open on both ends. Nothing in the '715 patent specification, claims, or prosecution history further limits interpretation of the claim language in question." (R&R at 21). In other words, the Magistrate Judge reasoned that the

steering shaft of the Stephenson patent is "entirely separate from the inflator assembly," whereas the igniters in the accused inflators are a "part of the assembly itself."

Defendants object to the Magistrate Judge's recommendation, arguing that "the Report misinterprets the Stephenson Patent and the accused inflators in concluding that a claim interpretation is possible that distinguishes the Stephenson Patent but that may in fact cover the accused inflators." (Def.'s Obj. at 4). Rather, argue Defendants, there is no substantive difference between the steering column of the Stephenson patent and the igniter of the accused devices, because in each case the alleged "housing" has a central opening that becomes "closed" when a separate piece is inserted into the opening.

Accordingly, Defendants assert that Plaintiffs cannot establish literal infringement because either Defendants' interpretation, which excludes both the Stephenson Patent and the accused inflators, is correct, or else claim 1 is invalid in light of the Stephenson Patent. Further, Defendants argue that the prosecution history estops Plaintiffs from invoking the doctrine of equivalents because Lynch limited the "housing" required by claim 1 to exclude the type of housing disclosed in Stephenson, which Defendants assert is the only type of housing alleged to be present in the accused inflators. In response, Plaintiffs emphasize that the phrase "closed on one end" appeared in the original version of claim 1, so that it was not added to overcome the Stephenson patent. Further, Plaintiffs contend that patentability was established by the combination of elements which defined a system totally different from that of the Stephenson patent and, thus, the remark distinguishing Stephenson as not "closed on one end" does not create a separate estoppel respecting the individual distinction, but rather creates an estoppel only regarding the combined distinctions.

#### **(a) Claim Interpretation**

Because Defendants do not dispute that the base of the accused devices is "generally cylindrical" and "open" on one end, the key issue here becomes whether the other end of the base is "closed" as that term is used in the first limitation of claim 1. Defendants argue that the prosecution history limits the scope of the term "closed" because the first limitation "was crucial in distinguishing claim 1 from the prior art." (Def.'s Mem. in Supp. of Mot. for Summ. J. at 25). Defendants refer to the portion of Lynch's remarks to the PTO that "Claim 20 also recites that the housing is closed at one end and open at its other end. Stephenson's cuplike member is open at both ends since the steering shaft must enter one end and the gas must escape from the other end." Defendants argue that in order to obtain the '715 patent Lynch limited the "housing" element to exclude the type of housing disclosed in Stephenson -- a cylindrical housing with a central opening through which another element must extend during assembly.

However, Plaintiffs point to the claim language and argue that the housing "is sealed, or 'closed,' along one end with respect to the flow of gas generated within the inflator." (Resp. to Mot. for Summ. J. at 21). In other words, Plaintiffs contend that the Court should construe "closed" to mean sealed to the flow of gas. Further, Plaintiffs argue that "not one distinction over Stephenson was relied upon. Rather, a list of distinctions between the invention of claim 1 and the Stephenson patent was set forth to demonstrate the lack of materiality of the Stephenson patent." Thus, Plaintiffs conclude that the distinction in the prosecution history did not limit the term "closed."

Plaintiffs are correct to begin with the claim language itself. Significantly, Defendants' proffer an interpretation which implies that the limitation applies only to the unassembled inflator, arguing that the "housing" is open at both ends if an opening is present in which another element, such as a steering shaft, is inserted during assembly. The Court finds that the claim language itself intends "closed on one end and open on its other end" to describe the unassembled housing, as evidenced by the fourth limitation of claim 1, which recites "a plate member *for closing the open end* of the housing connected to the housing around its periphery, said member including gas passage means leading from the interior of the housing to the exterior thereof." (emphasis added). In other words, claim 1 discloses a "housing" element that, when separated from the assembled inflator, is closed on one end and open on the other, and, when assembled, is "closed" on both

ends as that term is used.

The claim language similarly refutes Plaintiffs' interpretation of "closed" as meaning sealed to the flow of gas. The fourth limitation, discussed above, recites that the open end becomes closed, yet allows for the flow of gas. In other words, the term closed was explicitly used in the fourth limitation to mean *not* sealed to the flow of gas. Thus, to construe "closed" in the first limitation to mean sealed to the flow of gas would render claim 1 internally inconsistent in that the term closed would be used differently in different limitations within the same claim. As the Federal Circuit has explained, a term "cannot be interpreted differently in different claims because *claim terms must be interpreted consistently*." *Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1579 (Fed. Cir.), *cert. denied*, 116 S. Ct. 515 (1995) (emphasis added). Thus, the Court rejects Plaintiffs' proposed construction of the term "closed" as meaning sealed to the flow of gas. In the Court's view the phrase "closed on one end and open on its other end" describes the housing element before it is assembled with the other elements of the inflator, such that a housing with an opening through which another element of the inflator is inserted during assembly is "open" on the end with the opening.

The prosecution history corroborates this interpretation of the term "closed" found in the first limitation of claim 1. Defendants argue that Lynch's remarks during prosecution of claim 1, which distinguished the "housing" from the Stephenson patent, disclaimed an interpretation of "closed on one end" that reads on a housing with a central opening through which another element must extend during assembly and, thus, limited the interpretation of "closed on one end" so as to exclude that interpretation. Plaintiffs respond, albeit in opposing the application of prosecution history estoppel, that the distinction regarding "closed on one end" was not relied upon to obtain the patent. Notably, the use of prosecution history in claim construction is analytically distinct from prosecution history estoppel, which is relevant only to the doctrine of equivalents. *Southwall*, 54 F.3d at 1578. However, as another District Court has noted, "[i]n practice, there does not appear to be a meaningful distinction between the use of prosecution history in claim interpretation and the operation of prosecution history estoppel." *Abtox, Inc. v. Exitron Corp.*, 899 F. Supp. 775, 781 (D. Mass. 1995). Accordingly, the Court will construe Plaintiffs' grounds for opposing the application of estoppel as grounds for opposing the use of the prosecution history to limit the interpretation of "closed" as well. Indeed, both applications of the prosecution history are triggered by a distinction made in order to obtain the patent. *Zenith Lab., Inc. v. Bristol-Meyers Squibb Co.*, 19 F.3d 1418, 1422 & 1425 (Fed. Cir.), *cert. denied*, 115 S. Ct. 500 (1994). Thus, in *Zenith* the Federal Circuit held that the prosecution history did not limit the claim and did not estop the patentee from establishing infringement under the doctrine of equivalents because, *inter alia*, the distinctions were not relied upon by the examiner in allowing the patent to issue. *Id.* However, the instant matter is distinguishable from *Zenith*, where the Federal Circuit found that the examiner did not rely upon the distinction because the inventions distinguished "were never asserted as prior art by the examiner, and the examiner expressly indicated that [the applicant]'s assertions were not a factor in determining patentability." *Id.* at 1425. Moreover, the Federal Circuit has more recently explained that "[c]lear assertions made during prosecution in support of patentability, whether or not actually required to secure allowance of the claim, may also create an estoppel." *Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1583 (Fed. Cir. 1995), *cert. denied*, 116 S. Ct. 515 (1995). Therefore, the Court finds that the inventor's remarks limited the interpretation of "closed on one end," such that a housing is not "closed on one end" if it has an opening on that end through which another element is inserted during assembly.

Plaintiffs rely upon *Read Corp. v. Portec, Inc.*, 970 F.2d 816 (Fed. Cir. 1992) for the proposition that prosecution history estoppel does not apply to the first limitation because patentability was based upon a combination of distinctions rather than the individual distinction of the prior art's housing. Plaintiffs include this argument in the portion of their brief regarding claim interpretation, thus conflating the two analyses that apply the prosecution history. As explained above, the two analyses are distinct, yet similar in application. However, the Court is not persuaded that *Read* applies equally well to the use of prosecution history in claim construction, nor have Plaintiffs even articulated such a proposition. Accordingly, the Court

will not consider the proposition for which Plaintiffs cite *Read* as proffered grounds for not applying the prosecution history to the claim construction analysis.

The R&R concludes that the prosecution history only excludes a housing with an opening for an element that is separate from the inflator assembly, because "the Stephenson Patent is directed to a device wherein the shaft through the center of the inflator is entirely separate from the inflator assembly. Thus, if the inflator were removed from the steering column, the hole in the inflator would be exposed, *i.e.*, the inflator assembly itself is open on both ends." (R&R at 21). However, the Court does not construe the Stephenson steering shaft to be entirely separate from the inflator, as the product does not function without the steering shaft.

### **(b) Literal Infringement**

Having interpreted the claim language, the Court must determine whether the accused devices literally infringe the first limitation of claim 1. In other words, the issue is whether the first limitation reads on the accused devices. Defendants point out the undisputed fact that each accused device has a central opening in its base through which a separate igniter is inserted during assembly. The base, therefore, is open on both ends and not "closed on one end and open on its other end" as that phrase is used in claim 1. The Court holds that as a matter of law the accused devices cannot literally infringe claim 1 of the '715 Patent.

### **(c) Infringement Under the Doctrine of Equivalents**

The finding that the accused devices do not literally infringe on the asserted patent does not preclude a finding of infringement if the patentee establishes that the differences between the claimed and accused devices are "insubstantial." *Hilton*, 62 F.3d 1512, 1521-22 (Fed. Cir.), *supplemented by* 64 F.3d 675 (Fed. Cir. 1995). The differences are insubstantial if the accused product "performs substantially the same function in substantially the same way to obtain the same result." *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608 (1950). Defendants move for summary judgment of noninfringement on the grounds that the prosecution history estops Plaintiffs from establishing equivalency. If "the pertinent differences between the [prior art] and the [accused devices] are trivial, the reasons for a surrender of the subject matter of the [prior art] would necessarily include a surrender of the subject matter of" the accused devices. *Southwall*, 54 F.3d at 1580. Specifically, argue Defendants, HBB is estopped from establishing that the accused devices contain structures corresponding to a "housing closed on one end and open on its other end" because there is no substantive difference between the opening of the base in the accused inflators through which the igniter extends and the opening of the housing in the Stephenson Patent through which the steering shaft extends, which Lynch explicitly disclaimed in prosecuting the '715 Patent.

Although HBB does not distinguish between literal and equivalent infringement, it apparently argues that the base of the accused devices is the equivalent of the "housing" of claim 1 because of "the environment and function in which the housing is used, namely, in a gas generator setting wherein the housing must contain and direct the flow of gases generated by ignition of the propellant in order to inflate the air bag." (Resp. to Mot. for Summ. J. at 33). Thus, HBB points out the undisputed fact that the accused devices, when assembled, are sealed with respect to the flow of gas on their bottom ends and allow the gas to flow through the diffuser on their other ends. However, the Stephenson product, when assembled, is also sealed with respect to the flow of gas on its bottom end and allows the gas to flow through the other end.

The R&R compares the Stephenson Patent to the accused devices under the guise of claim interpretation, yet relies upon the comparison in concluding that the interpretation does not preclude a finding of noninfringement, a comparison that is properly made when applying prosecution history estoppel to the equivalency analysis. The R&R thus "intermingles arguments (1) respecting the interpretation of the claim language in accordance with the prosecution history which would negate equivalency with (2) prosecution history estoppel which prevents a finding of infringement even though the substituted structure is in fact

equivalent." *Read*, 970 F.2d at 823. As the Court has resolved the first analysis, the Court will construe the Magistrate Judge's conclusion as relating to the latter analysis. The R&R apparently, though not explicitly, concludes that the accused devices are substantially different from the Stephenson Patent because the steering shaft that extends through the opening in the Stephenson "housing" is "entirely separate from the inflator assembly," such that "if the inflator were removed from the steering column, the hole in the inflator would be exposed, *e.g.*, the inflator assembly itself is open on both ends." In contrast, the element that enters the opening in the accused devices -- the igniter -- is "part of the inflator assembly itself." (R&R at 21-22).

However, this argument is inapposite in the context of this Court's claim interpretation, which rejects the characterization of the steering shaft as separate from the inflator assembly. Having distinguished the Stephenson Patent on the basis that "Stephenson's cuplike member is open at both ends since the steering shaft must enter one end and the gas must escape from the other end," whereas the asserted claim "recites that the housing is closed at one end and open at its other end," HBB cannot now escape this surrender of subject matter. *Southwall*, 54 F.3d at 1581. Furthermore, prosecution history estoppel is not limited only to embodiments shown in the prior art. *Id.* Rather, the limits imposed by prosecution history estoppel on the permissible range of equivalents can be broader than those imposed by the prior art. *Id.*

As explained above, HBB opposes the use of prosecution history estoppel, citing *Read* for the proposition that the prosecution history does not create a separate estoppel as to the first limitation because patentability was based upon a combination of distinctions rather than the individual distinction of the prior art's housing. 970 F.2d at 824. Like the Plaintiffs in *Southwall*, HBB contends that "where a patent applicant sets forth multiple bases to distinguish between its invention and the cited prior art, no estoppel by argument can attach to the patent claims unless all of the bases taken together also distinguish the accused device from the asserted claims. In other words, unless the accused device contains all the features of the prior art used in distinguishing the asserted claims, estoppel cannot apply." *Southwall*, 54 F.3d at 1581. Thus, HBB points out the other distinctions made between Stephenson and the asserted patent and argues that estoppel does not apply because the accused products do not share those features of the Stephenson patent. (Pl.'s Resp. at 26).

However, the *Southwall* court clarified the holding of *Read*: "multiple arguments do not always create multiple estoppels.... The correct law, as *Read* implies, is that sometimes they do, sometimes they do not." 54 F.3d at 1582. The *Southwall* Court went on to explain why in *Read* they did not: "In *Read*, the patentee argued for patentability based on a combination of elements including retractable wheels *because cited prior art disclosed retractable wheels*. The patentee recognized that the wheels alone were insufficient to establish patentability." *Id.* at 1583 (emphasis added). In contrast, the patentee in *Southwall* "did not argue for allowance based on the combination of [elements]. *Because the [prior art] disclosed neither limitation*, [the defendant] could have reasonably assumed that either one alone could have provided the basis for patentability. Therefore, the rationale of *Read* applying estoppel to only a combination is not relevant to this case." *Id.* (emphasis added). Similarly, in the instant case the prior art disclosed none of the elements discussed in the remarks, thus, other inventors could have reasonably assumed that any one alone could have provided the basis for patentability, including the housing that is "closed on one end and open on its other end."

Accordingly, the Court may examine Lynch's prosecution argument distinguishing its housing from Stephenson separately from Lynch's other arguments distinguishing Stephenson. Upon examination, the Court finds that the argument distinguishing the housing from Stephenson precludes HBB from establishing infringement under the doctrine of equivalents, because Lynch relinquished coverage of a "housing" with an opening through which another element is inserted during assembly, which would include the base of the accused devices. Accordingly, the Court holds that as a matter of law HBB cannot infringe the '715 Patent under the doctrine of equivalents and GRANTS Defendants' Motion as to claim 1.

## **B. Claim 2 of the '715 Patent**

The Magistrate Judge recommends that the Court grant Defendants' Motion for Summary Judgment on claim 2 of the '715 patent. Plaintiffs object to the R&R, arguing that the Magistrate Judge improperly interpreted the "deflector plate" element of claim 2 and, thus, erroneously concluded that the accused devices lack that element. Specifically, Plaintiffs object to the conclusion that the accused devices do not equivalently infringe on the patented devices.

Claim 2 of the '715 patent includes the following limitation:

a deflector plate mounted on the axial shaft opposite the passages for preventing straight line impingement of gas therefrom on the bag.

The Magistrate Judge rejected Plaintiffs' contention that "the extended area around the perimeter of the diffuser and the upper corner around the circumference" serves as the deflector plate in the accused devices. First, the Magistrate Judge interpreted the phrase "opposite the passages" as mandating that the deflector plate is not part of the element containing the gas passages. In doing so, the Magistrate Judge rejected Plaintiffs' argument that the phrase means "in opposition to the passages," reasoning that Plaintiffs' "definition twists the plain and common meaning of 'opposite' and finds no support in the claim, the patent specification, or the prosecution history." (R&R at 25). Accordingly, the Magistrate Judge found that the accused devices do not literally infringe on the patented device since the accused devices' diffuser contains the gas passages and "if the deflector plate is the diffuser, then it must be opposite itself to meet this claim limitation." *Id.* Defendants' Response corroborates this interpretation by emphasizing that the plain meaning of the claim requires such an interpretation by virtue of the term "therefrom"; in other words, "the deflector plate must deflect gas exiting 'therefrom' -- that is, gas exiting the gas passages." (Def.'s Resp. at 7 n.4). Defendants further point out that the specification corroborates the Magistrate Judge's interpretation, namely, in its discussion of Figure 3, which does not have a deflector plate separate and apart from the inflator housing, the specification states: "By angling the holes [gas passages] outwardly, the need for a deflector plate may be avoided." ('715 patent, col. 7, ln. 3-4).

The Court construes Plaintiffs' objection, which conflates the claim interpretation, literal infringement, and doctrine of equivalents analyses, as objecting to the equivalency determination, because the gist of Plaintiffs' argument is that "[t]he Report fails to fully analyze the *functionality* of the deflector plate which failure results in the Report's erroneous claim interpretation." (Pl.'s Obj. at 7) (emphasis added). The R&R explains that "the functionality of the deflector plate is 'for preventing straight line impingement of gas therefrom on the bag.' Since the accused devices are all radial-flow (rather than axial-flow) designs, there is no need for the deflector plate to block gases from traveling into the front of the bag and thus toward the vehicle occupant."

Plaintiffs argue that the deflector plate "turn[s] the gas generated from an axial (toward the driver) direction to a radial (toward the sides of the bag and away from the driver) direction," and that the accused devices have structure designed to achieve the same function in substantially the same way to obtain substantially the same result as the deflector plate element of claim 2. *Id.* at 8. In support, Plaintiffs point to evidence that the gas generated within the accused devices flows in an axial direction and the area around the perimeter of the diffuser and the upper quarter around the circumference turn the gas to a radial direction.

However, as Defendants explain in their Response, Plaintiffs' argument is unavailing. Rather, the Magistrate Judge was referring to the gas exiting the inflator, whereas Plaintiffs' argument that the accused devices have an axial flow refers only to the gas when it is within the inflator. This distinction is crucial to the equivalency determination, as it is an undisputed fact that the gas exiting an inflator determines whether that inflator has purely radial flow and, hence, thrust-neutrality. (SOF para. 211). In contrast, gas exits the '715 inflator with an axial flow. Because the purely radial flow achieved by the accused devices renders the differences in the allegedly equivalent structure substantial, Plaintiffs' objections are overruled. Accordingly,

the Court adopts the R&R as to claim 2 of the '715 Patent and GRANTS Defendants' Motion for Summary Judgment as to Noninfringement of claim 2 of the '715 patent.

## II. Count II Noninfringement

In Count II of their Complaint, Plaintiffs allege infringement of claim 3 of the '251 patent, which was a continuation of the '715 patent and relates to a driver's side module incorporating the inflator of the '715 patent. Specifically, the claim relates to the structure for attaching an air bag to the driver's side inflator and for mounting the assembled module in a steering wheel. The Magistrate Judge recommends that the Court grant Defendants summary judgment as to claim 3 of the '251 patent. Plaintiffs have objected to the R&R and Defendants have responded. Specifically, Plaintiffs object to the Magistrate Judge's claim interpretation.

Plaintiffs allege only that Defendants have infringed claim 3 of the '251 patent. In moving for summary judgment, Defendants argued that the "rigid rim" element which appears throughout the following limitations of claim 3 precludes a finding of infringement:

a pyrotechnic gas generator subassembly including means for generating a sufficient volume of gas for inflating a restraint bag, and an annular sealing surface on a peripheral portion of the gas generator;

a separate inflatable bag subassembly including a folded inflatable bag, and a *rigid rim* connected to the mouth of the bag including a second annular sealing surface;

means for assembling the two subassemblies into a unitary structure by connecting the *rigid rim* to the gas generator with the annular sealing surface in opposition; and

adapter plate means for mounting the assembled unitary structure on an automobile steering wheel; and wherein

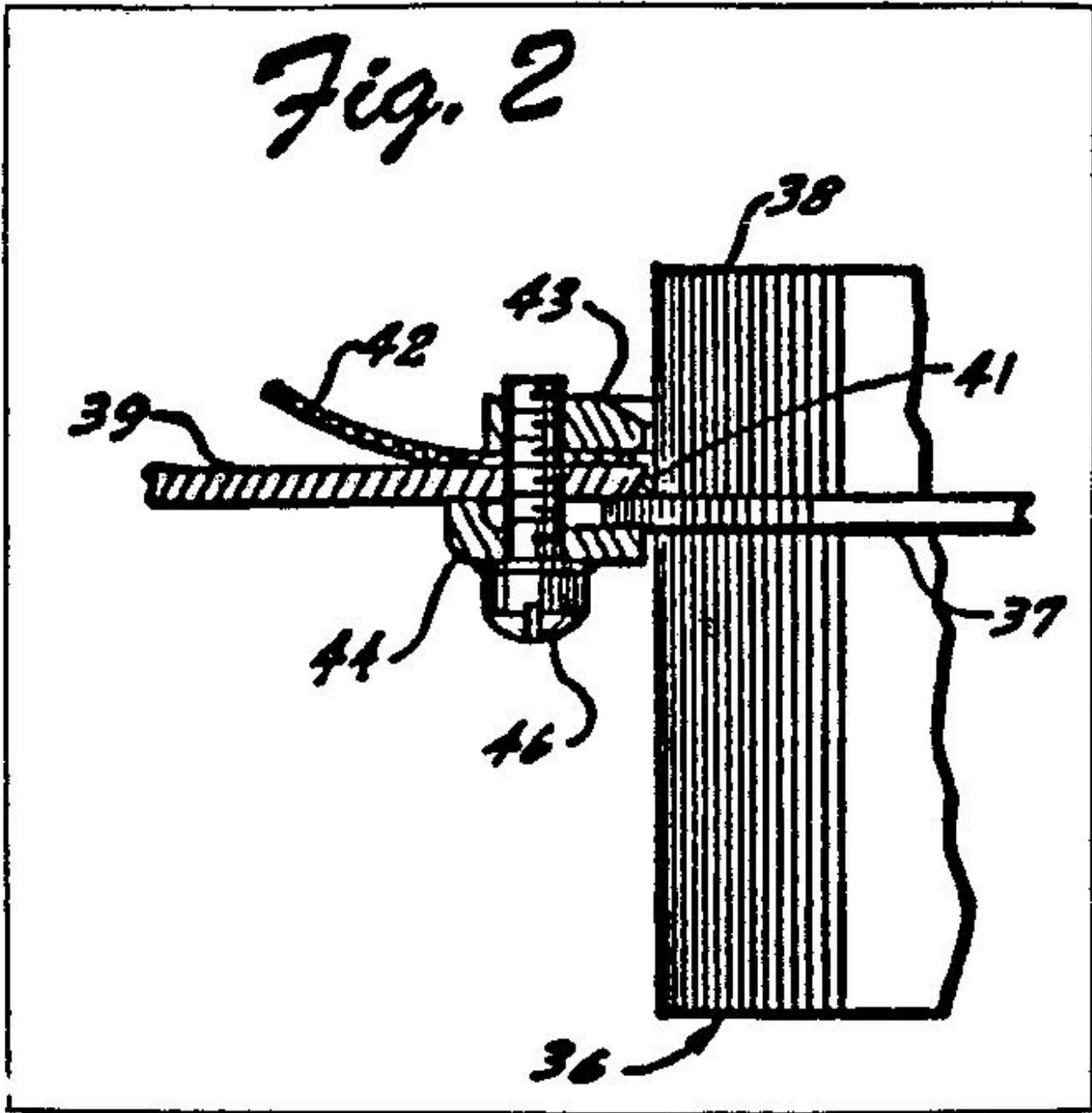
the annular sealing surfaces are recessed below the face of the gas generator through which gas is released so that the rigid portions of the inflatable bag subassembly do not extend substantially beyond the face of the gas generator; and

*the rigid rim comprises an inwardly directed flange within the recessed region of the gas generator and including the annular sealing surface thereunder, and an outwardly extending flange-like portion for connection to the gas generator.*

(emphasis added).

Further, as the R&R explains: The '251 patent specification teaches two embodiments of the claimed invention, illustrated by Figures 1 and 2. In Figure 1, the "rigid rim" is Z-shaped, with the upper portion consisting of an inwardly-directed flange that is connected to a bag attachment ring in the mouth of the bag by rivets or bolts, thereby clamping the edge of the air bag between the rigid rim and the bag attachment ring. The lower portion of the rigid rim consists of an outwardly-directed flange that is connected by a series of bolts to a mounting or adaptor plate for mounting the entire assembly on the steering wheel and to tabs welded on the side of the gas generator. When the rigid rim is attached to the generator the sealing surface of the inwardly-directed flange presses down against an annular sealing surface running around the circumference of the generator, thereby sealing the air bag to the generator.

In Figure 2, reproduced below, the mouth of the bag is sandwiched between the retaining ring in the mouth of the bag and the mounting plate that connects to the steering wheel. A series of bolts connects the bag and the retaining ring to the top of the mounting plate and also connects a flange on the gas generator to the bottom of the mounting plate. Thus, Figure 2 does not employ the Z-shaped rigid rim shown in Figure 1.



Significantly, it is uncontested that the accused devices read on Figure 2. However, the parties dispute whether claim 3 reads on Figure 2. Defendants argue that the rigid rim element is completely lacking in Figure 2. Plaintiffs argue that the flat mounting plate in Figure 2 constitutes both the adapter plate and the rigid rim, including the flanges.

Defendants' argument for summary judgment is aptly summarized by the following statement:

Due to the obvious difficulty in finding the equivalent of its "rigid rim" anywhere in Figure 2, HBB is forced to contend that the mounting plate in the Figure 2 embodiment serves not only as the mounting plate, but also as the rigid rim, even though claim 3 expressly calls for the adapter mounting plate and the rigid rim as separate elements, and despite the fact that such an argument was explicitly rejected by the PTO in connection with application claim 5 .... Even more implausibly, HBB contends that arbitrary portions of the flat mounting plate somehow can be termed the "inwardly-directed flange" and "outwardly extending flange-like portion" of the Z-shaped rigid rim described in claim 3.

(Mem. in Supp. of Mot. for Summ. J. at 44).

### **A. Claim Interpretation**

The Magistrate Judge interpreted the rigid rim element of claim 3 to require that each "flange be a separately identifiable 'rib or rim' that is used to attach the overall object to a separate object." (R&R at 31). In contrast, Plaintiffs argue that where "the generator's connecting tabs are an extension of the annular sealing surface of the gas generator, ... the inwardly-directed flange and the outwardly-directed flange-like portion of the rigid rim will be at the same level and the rigid rim will be a flat plate." (Pl.'s Obj. at 13). In support, Plaintiffs contend that "claim 3 does not include any directional orientation for the flanges other than that they are inwardly and outwardly directed. Therefore, imputing a vertical displacement into this claim language is improper." Id.

In rejecting Plaintiffs' proposed claim interpretation, the Magistrate Judge concluded that it "is clearly contrary to the plain and common meaning of the claim language." (R&R at 31). In support, the Magistrate Judge quoted Webster's New Collegiate Dictionary for its definition of flange: "a rib or rim for strength, for guiding, or for attachment to another object." Id. The Magistrate Judge reasoned that "[t]he flange definition ... inherently requires that the flange be a separately identifiable 'rib or rim' that is used to attach the overall object to a separate object." Id.

Plaintiffs object to this conclusion, offering the Webster's definition of "rim" in support of their argument that a flat annular plate can define two directionally oriented flanges consistent with the language of claim 3 and the dictionary. Specifically, Plaintiffs explain that "rim," which is used to define "flange," is defined as "the outer often curved or circular edge or border of something." Accordingly, Plaintiffs argue, "the word 'flange' can be defined as a 'rim' which in turn can be defined as an 'edge' or 'border.' When the inward edge or border of a flat plate is used to mate with the annular sealing surface on the gas generator it meets both the dictionary definition of flange and the language of claim 3, [] as [does] the edge or border outwardly therefrom when used to attach to structure on the gas generator ...." (Pl.'s Obj. at 14-15).

Defendants respond that if the inventor, who is free to be his own lexicographer, "had indented to define the 'rigid rim' using such a tortuous series of intermediate definitions, he should have said so in his patent." (Def.'s Resp. at 11 n.6). Indeed, the Federal Circuit has held that where a patentee uses a special definition, it "must be clearly defined in the specification." *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir.) (en banc), *cert. granted*, 116 S. Ct. 40 (Sept. 27, 1995). However, Plaintiffs do not explicitly argue that Lynch used a special definition, but rather turn to the dictionary as evidence that their proposed definition comports with the common meaning of the word "flange."

The Court agrees with the Magistrate Judge and finds that the claim language requires that each flange be a separately identifiable "rib or rim" that is used to attach the overall object to a separate object. Plaintiffs' argument, that the inventor used flange to mean rim, which in turn means edge, is irrelevant to the conclusion that the common meaning of flange is as a separately identifiable portion of the overall object.

The Court also agrees that the extensive Prosecution History of the '251 patent corroborates this interpretation. "Prosecution history is especially important when the invention involves a crowded art field

...." *Lemelson v. General Mills, Inc.*, 968 F.2d 1202, 1206 (Fed. Cir.), *cert. denied*, 113 S. Ct. 976 (1993). As the Court explained in Part I of this Opinion, the prosecution history can limit the proper scope of a patent claim "by excluding any interpretation of the claim language that would permit the patentee to assert a meaning that was disclaimed or disavowed during prosecution in order to obtain claim allowance," whether the disclaimer was in an amendment or in argument. *Zenith Lab., Inc. v. Bristol-Meyers Squibb Co.*, 19 F.3d 1418, 1421 (Fed. Cir.), *cert. denied*, 115 S. Ct. 500 (1994). Defendants argue that when Lynch attempted to obtain patent claims covering Figure 2 the Examiner rejected those claims on the grounds that they would have been obvious and, thus, are unpatentable. Moreover, argue Defendants, in order to obtain the '251 patent, Lynch agreed to cancel all claims covering Figure 2, leaving only the claims covering Figure 1. Thus, Defendants contend that Figure 2 appears in the '251 patent only because Lynch neglected to request that Figure 2 be removed from his patent specification when he cancelled the claims covering Figure 2, and none of the issued claims, including claim 3, covers Figure 2.

Claim 3 evolved from application claim 3 and its parent claim, application claim 1. Application claim 5 also depended on application claim 1. Lynch, the inventor, initially submitted ten application claims, all of which were rejected, except application claim 8, as unpatentable in light of the prior art; claims 1-5 were additionally rejected as vague and indefinite. In response, Lynch amended all of the rejected claims except application claim 7, which he cancelled as included in amended application claim 6. Amended application claims 3, 4, 6, and 8 each required the "rigid rim" element with the inward and outward flange language, whereas amended application claims 5, 9, and 10 did not require the "rigid rim" with the inward and outward flange language, but rather specified that the bag be sandwiched between a bag retaining ring and the mounting plate, which was connected to a flange on the generator. The Examiner then rejected amended application claims 1, 2, 5, 9, and 10 as obvious in light of the prior art, allowed claims 6 and 8, and objected to amended application claims 3 and 4, but indicated that they would be allowable if revised as directed. Thus, emphasize Defendants, the Examiner allowed application claims relating to Figure 1, but rejected application claims relating to Figure 2. However, this argument begs the question, as the issue is whether a claim with the rigid rim language reads on Figure 2.

The rejection of amended application claim 5 is significant to the interpretation of issued claim 3. Defendants argue that the Examiner explicitly rejected Lynch's attempt to read a claim on both the Figure 1 and 2 embodiments. Amended application claim 5 read as follows:

An inflatable bag restraint system as defined in Claim 2 [which depends on claim 1] wherein the rigid rim comprises a ring within the bag and a mounting plate outside the bag and connected to the ring and the annular sealing surface on the gas generator comprises a peripheral flange engaging the mounting plate.

In rejecting claim 5, the Examiner remarked that

The recitations of claim 5 are not in agreement with those of parent claim 1 (it is contended that claim 1 is *not* readable on applicant's species of Fig. 2, whereas the recitations of claim 5 attempt to describe this species). As for instance, claim 1 recites one sealing surface on the gas "generator" and one sealing surface on the "rim", the claim *further including* a "plate means", whereas claim 5 includes one sealing surface on the "gas generator" (on "a peripheral flange") which surface engages the mounting plate, and that the "rim" is "within the bag". It is therefore contended that claim 5 does not define an arrangement in which the rim and generator have sealing surfaces connected in opposition as claimed in claim 1. Claim 5 is therefore vague in maintaining claim continuity in defining the sealing surfaces.

Additionally, in rejecting application claims 1, 2, 5, 9, and 10 as unpatentable, the Examiner explained that, regarding claim 1, "'a rigid rim connected to the mouth of the bag including a second annular sealing surface' is broadly readable on" the prior art. Thus, although claim 1 attempted to read on Figure 1, it still was not patentable because it lacked the flange language contained in the allowed claims. Indeed, the Examiner allowed amended application claim 3, which was identical to application claim 1 except that it

included application claim 2 and the flange language as additional limitations. Thus, the rigid-rim-with-flanges language was instrumental in obtaining allowance.

In response, Lynch filed another amendment, modifying application claims 3 and 4 as directed, cancelling claim 5, and rewriting it as claim 11, but still eliminating the "rigid rim" with flanges element and using the mounting plate in its stead, thus reading on Figure 2. FN1 The Examiner stated that application claims 3, 4, 6, and 8 were allowable if some amendments were made, but rejected application claims 1, 2, and 9-12 on the grounds that they would have been obvious in light of the prior art. Finally, Lynch cancelled all application claims other than 6, 8, 3, and 4, which became claims 1-4 of the '251 patent, respectively. Thus, the allowed claims included only those with the rigid-rim-with-flanges element.

This prosecution history presents the Court with the situation where the patentee limits the claims in order to obtain allowance over the prior art and then asserts a broad interpretation for litigation purposes that renders the claim invalid. Accordingly, the Court must reject Plaintiffs' proposed claim interpretation. As the Federal Circuit explained in *Lemelson*, a patentee "cannot acquiesce to a rejection and to an agreed alternative, and now years later shift his stance 180 degrees to argue for a second bite at the abandoned apple." 968 F.2d at 1208.

## **B. Literal Infringement**

Having interpreted the rigid rim element of claim 3 as requiring separately identifiable flanges such that it does not read on Figure 2 of the '251 patent, the Court is compelled to hold that the accused devices, which read only on Figure 2 for lack of a flanged rigid rim, do not literally infringe claim 3. Indeed, in objecting to the R&R, Plaintiffs have not even argued that literal infringement is possible under the Magistrate Judge's claim interpretation. Thus, the Court accepts and adopts the Magistrate Judge's recommendation that the Court grant Defendants summary judgment as to literal infringement of claim 3 of the '251 patent.

## **C. Doctrine of Equivalents & Prosecution History Estoppel**

Defendants moved for summary judgment on the doctrine of equivalents under prosecution history estoppel grounds. The R&R does not address the doctrine of equivalents except to state that under its interpretation "the accused devices do not comprise every element of Claim 3 of the '251 patent. Where an element called for in a patent is completely missing in the accused device, a court may find noninfringement as a matter of law." (R&R at 31). Further, Defendants point out that "HBB presents no evidence or argument in support of infringement of claim 3 of the '251 Patent under the doctrine of equivalents." (Def.'s Reply at 7). Thus, Defendants are entitled to summary judgment on the doctrine of equivalents because they have "point[ed] out the absence of evidence in the record directed to proof of a matter on which [[Plaintiffs] bore the burden of proof and which was necessary to establish its case." *Becton Dickinson & Co. v. C.R. Bard, Inc.*, 922 F.2d 792 (Fed. Cir. 1990); *see also Lemelson*, 968 F.2d at 1208. Accordingly the Court accepts and adopts the Magistrate Judge's recommendation and GRANTS Defendants summary judgment on noninfringement of claim 3 of the '251 patent.

## **III. Count III Noninfringement**

In Count III Plaintiffs complained that Defendants infringed claims 7 and 8 of the '351 patent. Defendants have moved for summary judgment that the accused devices neither literally nor equivalently infringe the asserted patent. The Magistrate Judge recommends that the Court grant Defendants' Motion as to both claims. Both parties have filed objections and responses.

### **A. Claim 7 of the '351 Patent**

Claim 7 of the '351 Patent states:

A gas generator for an automobile passenger restraint system comprising:

*a gas generator cartridge having a closed end and an open end;*

a gas generating composition in the cartridge;

means at the closed end of the cartridge for igniting the gas generating composition;

a sound baffling array of wires in the flow path of gas from the gas generating composition for causing gas flow to follow a tortuous path;

a plurality of apertures downstream from the array of wires;

*a gas passage having a gradually increasing cross-sectional area* between the apertures and an outlet over which an inflatable gas bag may be placed; and

*means for partially obstructing the gas flow passage* between the apertures and the gas bag to have a cross-sectional area in the obstructed region of the same order of magnitude as the aggregate cross-sectional area of the apertures.

(emphasis added). Defendants move for summary judgment on the grounds that the first limitation and elements of the six and seventh limitations are not present in the accused devices.

### **1. "Means for Partially Obstructing the Gas Flow Passage"**

Because the Court can dispose of the claim 7 Motion based upon the "means for partially obstructing the gas flow passage" element, the Court will not address Defendants' remaining grounds for summary judgment. First, Plaintiffs argued to the Magistrate Judge that this element is present in the accused devices as the "openings on the outer circumference of the Morton driver's side inflator assembly and the walls, baffles and screens in the area surrounding the openings through which the gas exits the inflators." (Resp. at 99). Plaintiffs contended that "[w]hen examining the flow of gas out of the Morton inflator driver's side ... one can clearly see that the gas passes through the barrier foil and openings into the diffuser chamber where it is forced against a deflector ring at which point the gas flow rebounds through the passages formed by the combustion screen assembly until it reaches the circumferential openings in the inflator assembly container whereupon it enters and fills the air bag. This path is a tortuous path as described in the '351 patent and partially obstructs the flow of gas from the gas generator cartridge to the air bag." ( Id. at 100).

Second, Plaintiffs argued that "the same limitation is found in the Talley/TRW Series 90 inflator assembly," as "the apertures of the combustion chamber direct the gas flow first against the slag screen and standoff and then through the diffuser screens out of the openings formed in the top portion of the [[[accused device]]. These elements cooperate to partially obstruct the gas flow passage between the apertures and an outlet over which the inflatable gas bag may be placed."

Third, Plaintiffs identified the limitation in the Morton passenger side module as the portion that surrounds the gas generating cartridge. Finally, Plaintiffs found the limitation in the Talley/TRW passenger side device as follows: the gas flow "is restricted at the bottom and that restriction constitutes a partial obstruction of the gas flow which ultimately flows into the bag." ( Id. at 102).

In reply, Defendants pointed to the baffles in Figure 2 of the specification and quoted the specification's description of the baffles:

The gas passes through the large holes 26 between the cylinder 11 and the diffuser section 14 and then pass

[sic] through the tortuous path around the baffles 27 in the diffuser section. When the gases reach the open outlet of the diffuser they enter the gas bag 23 so as to inflate it. ... The baffles 27 in the diffuser section require the gas to flow through a tortuous path with rebounds against several solid surfaces, which to some extent tends to muffle the noise, but more particularly assures that flow out of the diffuser is subsonic.

('351 patent, col. 7, ln. 49-54; col. 8 ln. 39-43) (quoted in Reply at 6). The specification further provides that: "if sonic flow should occur in the region adjacent the holes 26, the baffles 27, which force the gas to flow through a tortuous path and serve to reflect shock waves, prevent any sonic flow of shock wave from reaching the gas bag itself."

The R&R's entire analysis of the "means for partially obstructing the gas flow passage" element of claim 7 is as follows:

Plaintiffs find that the support structure surrounding the cylinder that serves as a diverging passage also results in a "means for partially obstructing the gas flow passage." Yet in the patent specification itself, [the inventor] sought to distinguish his invention from the prior art by noting that the obstructions were for the purpose of preventing sonic flow of the gases. ('351 patent, col. 8, ln. 57 - col. 9, ln. 7). All of Defendants' devices lack obstructions for the purpose of preventing sonic flow; in fact, the devices are specifically designed to operate with the gases travelling at sonic speeds. This element is wholly lacking in both the passenger and driver's side devices, thus precluding a finding of infringement. *See* London, 946 F.2d at 1539.

Plaintiffs object to these findings, arguing that the Magistrate Judge improperly imputed a subsonic flow limitation from the specification. Rather, submit Plaintiffs, "[t]he specification describes some of the attributes of having a partially obstructed gas flow passage." (Obj. at 21). However, as Plaintiffs acknowledge, this element is written in "means plus function" form and, thus, is governed by 35 U.S.C. s. 112 para. 6, which provides: "An element in a claim for a combination may be expressed as a means or step for performing a specified function without the recital of structure, material, or acts in support thereof, and such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." The Federal Circuit interprets para. 6 as restricting the scope of claim coverage that would otherwise be available, by limiting the types of means that could literally satisfy the claim language to those described in the specification or their equivalents. *Johnston v. Ivac Corp.*, 885 F.2d 1574, 1580 (Fed. Cir. 1989). Further, "[i]f the required function is not performed *exactly* in the accused device, it must be borne in mind that section 112, paragraph 6, equivalency is not involved. Section 112, paragraph 6 plays no role in determining whether an equivalent function is performed by the accused device under the doctrine of equivalents." *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934 (Fed. Cir. 1987) (en banc), *cert. denied*, 485 U.S. 961 & 1009 (1988).

Thus, if the structure Plaintiffs identify in the accused devices are the same as or equivalent to the baffles in the specification and perform exactly the same function, the accused devices literally infringe that limitation of the '351 patent. Clearly, as evidenced by Plaintiffs' argument to the Magistrate Judge described above, the accused passenger side devices do not have any structure that corresponds to the baffles of the '351 patent. Indeed, Plaintiffs were unable to identify any specific structure of the accused passenger side devices that satisfies the means for obstructing the gas flow element of claim 7, but rather made a brief reference to the gas flow in the accused devices. Thus, the Court finds that the accused passenger side devices do not literally infringe claim 7 of the '351 patent.

In contrast, Plaintiffs have identified specific structure in the accused driver's side devices that allegedly constitutes the limitation of claim 7 at issue. The parties' dispute hinges on their definition of the function that the means at issue performs. Plaintiffs define it as "to provide a cross-sectional area in the obstructed region of the same order of magnitude as the aggregate cross-sectional area of the apertures," (Pl.'s Obj. at 21), whereas Defendants define it as assuring subsonic flow into the gas bag, as described in the

specification. The definition is critical to the literal infringement analysis because the accused devices literally infringe only if the structure is both (1) the same or equivalent to the baffles disclosed in the specification and (2) performs exactly the same function. Thus, the Court must interpret the phrase "partially obstructing the gas flow." The above quoted portions of the specification indicate that the inventor meant the phrase to mean "assuring subsonic gas flow." Accordingly, because the accused devices do not have structure that assures subsonic flow and, thus, do not perform exactly the same function, the Court holds that, pursuant to 35 U.S.C. s. 112 para. 6, the accused devices do not literally infringe claim 7 of the '351 patent. Similarly, the Court grants Defendants' Motion for Summary Judgment that the accused devices do not infringe claim 7 under the doctrine of equivalents, because Plaintiffs have not offered evidence that the accused devices perform substantially the same function, namely, ensuring subsonic gas flow. Thus, the Court adopts the R&R as to claim 7 of the '351 patent, in part, and GRANTS Defendants summary judgment as to claim 7.

## **B. Claim 8 of the '351 Patent**

Claim 8 of the '351 patent states:

A gas generator for an inflatable bag automobile passenger restraint system comprising:

a generally cylindrical chamber;

*a gas generator cartridge connected to one end of the chamber;*

a gas generating composition in the cartridge;

means for igniting the gas generating composition;

a sound baffling array of wires in the chamber;

a plurality of apertures along a side wall of the chamber;

*a diverging passage having its relatively smaller inlet in fluid communication with the apertures;* and

means for connecting a gas bag over the relatively larger outlet of the diverging passage.

Defendants move for summary judgment, arguing that the second and seventh limitations are not found in the accused devices, either literally or equivalently. The Magistrate Judge recommends that the Court grant Defendants summary judgment on claim 8.

### **1. "A Diverging Passage"**

#### **(a) Claim Interpretation**

In concluding that the seventh limitation is not present in the accused devices, either literally or equivalently, the Magistrate Judge considered the following Prosecution History of the '351 patent, specifically, application claim 38, which became patented claim 8. In his initial application, the inventor included application claims 1 through 34, none of which the Examiner allowed. Application claims 35 through 38 were part of an amendment filed with corresponding remarks by the inventor. In support of his application, the inventor remarked: "Claim 38 is somewhat similar to Claim 35 but differs in many of the structural recitations. This claim also includes recitation of the gradually enlarging passage *in combination with a cylindrical chamber having apertures along its side wall.*" (emphasis added). The Examiner allowed claim 38.

Based on the inventor's above quoted remark that the gas passage is "in combination with a cylindrical chamber having apertures along its side wall," the Magistrate Judge interpreted claim 8 as requiring that the cylindrical expansion chamber with apertures be separate from, but connected to, the diverging gas passage. (R&R at 37 & 39). The claim language itself supports this interpretation: it distinguishes among the cartridge, the chamber, and the diverging passage. Thus, the Court adopts the R&R's interpretation.

### **(b) Literal Infringement**

The Magistrate Judge determined that, because the diverging passage element does not read on the accused devices, they do not literally infringe claim 8 of the '351 patent. The Magistrate Judge reasoned as follows: "if the diffuser chamber is the diverging passage, as Plaintiffs suggest, the cylindrical chamber must be missing from the accused driver's side devices. Conversely, if the diffuser chamber is the cylindrical chamber, then no diverging passage element exists. Thus at least one element of Claim 7 is wholly lacking in the accused driver's side inflators." The Magistrate Judge further explained: "There is no structure whatsoever in the accused passenger side devices that meets the structure requirement ... of a diverging passage which channels the gas flow between the 'chamber' and the air bag." (R&R at 38-39). The Court adopts this analysis and holds that the accused devices do not literally infringe claim 8 of the '351 patent.

### **(c) Infringement Under the Doctrine of Equivalents**

As explained above, the finding that the accused devices do not literally infringe on the asserted patent does not preclude a finding of infringement if the patentee establishes that the differences between the claimed and accused devices are "insubstantial." *Hilton*, 62 F.3d 1512, 1521-22 (Fed. Cir.), *supplemented by* 64 F.3d 675 (Fed. Cir. 1995). The differences are insubstantial if the accused product "performs substantially the same function in substantially the same way to obtain the same result." *Graver Tank & Mfg. Co. v. Linde Air Prods. Co.*, 339 U.S. 605, 608 (1950).

Plaintiffs allege that the accused devices contain the diverging passage because the gas flows in a diverging path, *i.e.*, it extends in different directions from a common point. (Resp. to Mot. for Summ. J. at 108-11). Defendants respond that the '351 patent "makes clear that the 'diverging passage' is a structure downstream from the expansion chamber, and that the walls defining the passage flare outward in the direction of the gas flow." (Reply at 14-15; Def.'s Resp. at 22). As the Federal Circuit has explained, "the concept of equivalency cannot embrace a structure that is specifically excluded from the scope of the claims." *Dolly, Inc. v. Spalding & Evenflo Co.*, 16 F.3d 394, 400 (Fed. Cir. 1994). Further, argue Defendants, "[t]he configuration and operation of the accused inflators and modules is substantially different from that of the inflator described in the '351 patent. For example, the specification points out that the specific configuration of the cartridge and expansion chamber results in unique low pressure performance characteristics. ('351 patent, col. 7, ln. 14-29). In contrast, it is undisputed that the accused inflators generate high pressures during combustion, create sonic gas flow, and have radial gas flow characteristics which are substantially different than those of the inflator described in claim 8. Thus, the accused devices not only operate in a substantially different way than the claimed invention, but also achieve a substantially different result." (Reply at 15; Def.'s Resp. at 22-23). The Court agrees and, thus, adopts the R&R, holding that the accused devices do not infringe claim 8 of the '351 patent under the doctrine of equivalents.

## **CONCLUSION**

For the reasons given, the Court adopts the R&R in part and GRANTS Defendants' Joint Motion for Summary Judgment as to Counts I, II, and III.

FN1. The Examiner refused to enter Lynch's second amendment because it was filed after the "final rejection," however, he issued an Advisory Action indicating that claims 3, 4, 6, and 8 would be allowable. Eventually, Lynch filed a continuation application in favor of his original application and later a preliminary amendment that incorporated all of the previous amendments made to the earlier application, including the

final amendment that the Examiner refused to consider. In addition, Lynch added application claim 12.

N.D.III.,1996.

HBB L.P. v. Ford Motor Co.

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