IP 05-0439-C H/K Aero v DeMonte Fabricating [2]
Judge David F. Hamilton Signed on 3/27/09

NOT INTENDED FOR PUBLICATION IN PRINT

UNITED STATES DISTRICT COURT
SOUTHERN DISTRICT OF INDIANA
INDIANAPOLIS DIVISION

AERO INDUSTRIES, INC.,	)	
	)	
Plaintiff,	)	
vs.	)	NO. 1:05-cv-00439-DFH-TAB
	)	
DE MONTE FABRICATING, LTD.,	)	
QUICK DRAW TARPAULIN SYSTEMS,	)	
INC.,	)	
	)	
Defendants.	)	

UNITED STATES DISTRICT COURT
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AERO INDUSTRIES, INC.,	)	
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Plaintiff,	)	
	)	
v.	)	CASE NO. 1:05-cv-0439-DFH-TAB
	)	
QUICK DRAW TARPAULIN SYSTEMS, INC., DE MONTE FABRICATING, LTD.,	)	
	)	
Defendants.	)	

ENTRY ON CLAIM CONSTRUCTION AND
CROSS-MOTIONS FOR SUMMARY JUDGMENT

Flatbed truck trailers carry some types of freight that can benefit from protection from the weather and the spray, grit, and mud thrown up by tires on the road. Plaintiff Aero Industries, Inc. manufactures and sells under the trade name "Conestoga" a system of U-shaped frames that can be covered with a tarp and retracted and extended to cover and uncover the freight on a flatbed trailer. Defendants DeMonte Fabricating, Ltd. and Quick Draw Tarpaulin Systems, Inc. (together "DeMonte") manufacture and sell a competing system under the name "Quick Draw."

Plaintiff Aero holds the rights to U.S. Patent No. 4,711,484 and U.S. Patent No. 5,538,313 and has sued DeMonte for infringing those patents. (The '484 patent has expired, but Aero still has claims for damages based on allegations of

earlier infringement.) The art is a crowded one. The older of the two patents asserted in this case cites a line of related patents running back to 1918, U.S. Patent No. 1,263,759, for a retractable cover system for a flat bed of a truck, including guide rails, bows, a fabric cover, and a hand-cranked drive assembly.

The parties have presented several issues of claim construction for the court to resolve as a matter of law pursuant to *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996). The parties have also filed several separate motions for summary judgment. Aero has moved for summary judgment finding that defendants' Quick Draw system literally infringes the '484 patent. DeMonte has moved for summary judgment finding that the Quick Draw system does not infringe the '484 patent. DeMonte has also moved for summary judgment finding that the Quick Draw system does not infringe the '313 patent, and Aero has moved for summary judgment finding that the Quick Draw System does infringe the '313 patent. DeMonte has also moved for summary judgment finding that claims 19 and 21 of the '313 patent are invalid based on the one year "on sale" bar in 35 U.S.C. § 102(b). DeMonte has moved for summary judgment finding that the doctrine of laches bars Aero from recovering any damages for any infringement that occurred before Aero filed this lawsuit in 2005. Because some of the infringement issues revolve around claim construction issues, the court turns first to the '484 patent claim construction issues and then to the '484 patent infringement issues. The court then turns to the '313 patent claim construction

issues, then to the ’313 infringement issues, and finally to the invalidity and laches issues.

I. *The ’484 Patent Claim Construction*

The ’484 patent describes a tarp cover system for flat bed vehicles. The ’484 patent issued on December 8, 1987. It expired while this lawsuit was pending, but plaintiff Aero still has claims for damages. Tarp systems for protecting freight on flatbed trailers were developed early in the automobile age. The principal object of the ’484 patent was an improvement in which the tarp extends below the moving mechanisms that support the bows and tarp, so as to protect the mechanism itself from road debris, spray, etc. Ex. A, Col. 1, lines 30-35 and lines 46-64.

All of the claim construction issues under the ’484 patent arise under independent claim 1, which claims:

> 1. A tarp system for covering a load arranged on a flat bed vehicle, comprising:
>
> (a) a pair of longitudinal guide tracks adapted for mounting adjacent the opposite sides of the vehicle flat bed;
> (b) a plurality of longitudinally arranged inverted U-shaped bow members each having a first generally horizontal portion extending transversely in spaced relation above the vehicle flat bed, and a pair of downwardly depending vertical leg portions the lower ends of which terminate adjacent said guide tracks, respectively;
> (c) a plurality of carrier means connecting the lower ends of said bow leg portions for sliding movement relative to the associated guide track, respectively, said bow members normally having an expanded

vehicle-covered condition relative to each other in which said bow members are spaced longitudinally of the flat bed vehicle;

(d) a sheet-like flexible tarp cover member supported by said bow members to enclose at least a portion of the space above the flat bed vehicle when said bow members are in said expanded vehicle-covered condition, said tarp member having a top portion supported by said bow horizontal portions, a pair of said portions extending downwardly adjacent the external surfaces of said bow leg portions, respectively, and a pair of horizontal bottom flap portions that extend inwardly from the lower ends of said side portions beneath said carrier means and said guide rails, respectively; and

(e) means for relatively displacing said bow members between said expanded conditions and a collapsed vehicle-uncovered condition in which said bow members are adjacent each other and said tarp member is collapsed to uncover said flat bed portion.

Ex. A, Col. 5, lines 9-44.

A. *Standards for Claim Construction*

The claims of the patent define the invention that the patentee has the right to exclude others from practicing. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312 (Fed. Cir. 2005) (*en banc*). When there are disputes about the scope or meaning of a claim, the issue is one of law for the courts to resolve. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 391 (1996), *affirming* 52 F.3d 967, 970-71 (Fed. Cir. 1995 (*en banc*); *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996).

In determining the meaning of a claim, the court looks to the words of the claims themselves, giving them their ordinary and customary meaning in most instances, though a patentee may choose to "be his own lexicographer" and use

words in a special manner if the unusual meaning is clearly indicated in the specification or prosecution history. *E.g.*, *Vitronics*, 90 F.3d at 1582. The court must always consider the specification, which is "the single best guide to the meaning of a disputed term." *Id.* Words should ordinarily be interpreted as a person of ordinary skill in the art in question would understand them. *Phillips*, 415 F.3d at 1313. The process of claim construction requires the court to consider the entire patent, including other claims and the specification. *Id.*, citing *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1998).

Both elements (c) and (e) of claim 1 are in the form of "means-plus-function" elements within the scope of 35 U.S.C. § 112, ¶ 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.

Construction of a means-plus-function element follows some specialized rules dictated by the statutory requirements. The court must follow two steps: first, identify the claimed function, and then determine what structure, if any, disclosed in the specification corresponds to the claimed function. *Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002). The key condition for using a means-plus-function element in a claim is that the specification must link the relevant structure to the function. *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1380 (Fed. Cir. 1999). To qualify

as "corresponding structure" within the meaning of the statute, "the structure must not only perform the claimed function, but the specification must clearly associate the structure with performance of the function." *Cardiac Pacemakers*, 296 F.3d at 1113, citing *Medtronic, Inc. v. Advanced Cardiovascular Systems, Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001).

The Federal Circuit has described this duty to link the structure to the function as "the *quid pro quo* for the convenience of employing" 35 U.S.C. § 112, paragraph 6. *B. Braun Medical, Inc. v. Abbott Labs*, 124 F.3d 1419, 1424 (Fed. Cir. 1997) ("We hold that, pursuant to this provision, structure disclosed in the specification is 'corresponding' structure only if the specification or prosecution history clearly links or associates that structure to the function recited in the claim."), citing *O.I. Corp. v. Tekmar Co.*, 115 F.3d 1576, 1583 (Fed. Cir. 1997). Applying this holding, the court noted in *B. Braun Medical* that the specification clearly linked one structure to the claimed function, and the court rejected the patentee's argument that the specification disclosed another structure that could perform the same function, but did not link that structure to the claimed function. *Id.* at 1424-25; accord, *Medtronic, Inc. v. Advanced Cardiovascular Systems, Inc.*, 248 F.3d at 1312 (holding claim invalid where specification disclosed structure to perform claimed function but failed to provide "clear link or association" between the disclosed structures and the claimed function). With these principles in mind, the court turns to the disputed claim elements under the '484 patent.

B. *"Means for Relatively Displacing Said Bow Members"*

Element (e) of claim 1 is "means for relatively displacing said bow members between said expanded condition and a collapsed vehicle-uncovered condition in which said bow members are adjacent each other and said tarp member is collapsed to uncover said flat bed portion." Defendants argue that the '484 patent either fails to link any structure to this function in claim 1 or links structure for which defendants' products have no counterpart, thus negating any infringement claim.

The specification does not use the phrase "means for relatively displacing" the bow members. The specification comes closest to linking any structure to this function when it addresses displacement of the bow members in the following passage:

> In order to displace the bow members between their expanded and collapsed portions illustrated in FIGS. 1 and 3, respectively, the rearwardmost carrier means 12 are longitudinally driven via a pair of endless sprocket chains 50 arranged within the guide tracks 14 and 16, respectively. The lower runs of the endless guide chains 50 are connected by connecting means 52 with the plate members 20 of carrier means 12, the upper runs of the chains being supported by idler sprockets 54, as shown in FIGS. 4-6. At its forward end, each of the sprocket chains 50 is mounted on a drive sprocket 58 that is secured to the associated end of transverse shaft 60 that is driven from motor M via drive chain 62, sprocket gear 64, intermediate shaft 66, sprocket gear 68, and intermediate sprocket chian 70. The motor end drive chain means are mounted on the fixed forward vertical wall 6a of the flat bed vehicle 6. Of course, if desired, the drive chains 50 could be driven manually by suitable hand crank means, not shown.

Col. 4, lines 15-34.

If the "means for relatively displacing said bow members" includes the endless sprocket chains described in this passage, then defendants' products do not infringe the '484 patent. Defendants' products have no comparable or equivalent structure.[1]

To avoid this result, plaintiff Aero argues that the structure for the "means for relatively displacing said bow members" in element 1(e) is the same "carrier means" structure disclosed for element 1(c). The specification provides this description of the structure for the carrier means:

> The carrier means 12 includes a vertically arranged, longitudinally extending carrier plate 20 to which are rotatably connected pairs of upper and lower wheels 22 and 24, respectively, that are arranged for rotation about horizontal transverse axes, which rollers contain in their outer peripheries circumferential grooves that receive the upper and lower inner guide rails 14e and 14e', respectively.

Col. 3, lines 10-17. To support this argument, Aero cites cases teaching that the same structure may perform more than one function. See *Intellectual Property*

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[1]Although section 112, paragraph 6 refers only to disclosures in the specification, *B. Braun Medical* and other cases allow a patentee to rely at least in part on the prosecution history to identify the structure to perform the specified function. 124 F.3d. at 1424; see also *Intellectual Property Development, Inc. v. UA-Columbia Cablevision of Westchester, Inc.*, 336 F.3d 1308, 1320 (Fed. Cir. 2003) (reversing finding of invalidity where prosecution history clearly linked the function to structure disclosed in specification). Aero has not relied on the prosecution history of the '484 patent to disclose or link structure for the displacing means.

Development, Inc. v. UA-Columbia Cablevision of Westchester, Inc., 336 F.3d 1308, 1320 & n.9 (Fed. Cir. 2003), citing *In re Kelley*, 305 F.2d 909, 915-16 (C.C.P.A. 1962).

Plaintiff's theory does not apply here. The specification provides no clear link between the displacing function and the carrier means. Instead, the specification provides a clear link between the displacing function and the endless sprocket chain: "In order to displace the bow members between their expanded and collapsed positions illustrated in FIGS. 1 and 3, respectively, the rearwardmost carrier means 12 are longitudinally driven via a pair of endless sprocket chains 50 arranged within the guide tracks 14 and 16, respectively. . . ." Col. 4, lines 15-20. Nothing in the specification discloses the carrier means as also carrying out the displacing function. See *Medtronic, Inc.*, 248 F.3d at 1312 (affirming judgment as a matter of law for accused infringer where patent specification disclosed structure that could perform the claimed function but did not provide a clear link or association between the disclosed structures and the claimed function).

Structure that merely *enables* the function in question (here, the fact that the bow members can roll forward and backward on the carrier means) is not structure that actually *performs* the function in question (here, the actual displacing of the bow members forward and backward along the length of the trailer). See *Asyst Technologies v. Empak, Inc.*, 268 F.3d 1364, 1371 (Fed. Cir.

2001) ("The corresponding structure to a function set forth in a means-plus-function limitation must actually perform the recited function, not merely enable the pertinent structure to operate as intended, which is the case for the structure identified as line 51."). Along these lines, the specification refers to the carrier means as "longitudinally displaceable." Col. 2, line 67. In other words, the carrier means *can be displaced*, but the carrier means themselves do not carry out the function of actually *displacing*. They enable the displacement, but they do not perform the displacement.

Thus, the problem with Aero's argument on this score is that the "carrier means" simply do not displace the bow members, relatively or otherwise. What is needed is a clear link to structure that actually displaces the bow members relatively to each other when the system is extended or retracted, not merely structure that enables the displacing function. The carrier means do not actually displace the bow members relative to each other when the system is extended or retracted.

Aero also argues that treating the endless sprocket chains as the "means for relatively displacing said bow members" conflicts with the principle of claim differentiation, which presumes that each claim in a patent is different in scope from the others. Aero relies, for example, on *Wenger Manufacturing, Inc. v. Coating Machinery Systems, Inc.*, 239 F.3d 1225, 1233-34 (Fed. Cir. 2001), which addressed the doctrine of claim differentiation based on dependent claims when

interpreting a means-plus-function element in an independent claim. Aero bases its argument on dependent claims 10 and 11, which claim:

> 10. Apparatus as defined in claim 1, and further including drive means for simultaneously displacing said carrier means longitudinally of said guide tracks.
>
> 11. Apparatus as defined in claim 10, wherein said drive means comprise a pair of drive members associated with said guide tracks, respectively, said drive members being connected with the rearmost said carrier means associated with each of said guide tracks, respectively.

The drive means is disclosed in the specification as a motor connected to the endless sprocket chain, or as a manual hand crank. Col. 6, lines 24-33.

Aero's reliance on *Wenger Manufacturing* does not avoid the problem. The Federal Circuit has explained that the judge-made doctrine of claim differentiation cannot relieve the patentee of the obligation under section 112, paragraph 6 to link clearly the claimed function with the relevant structure in the specification:

> Simply stated, the judicially developed guide to claim interpretation known as "claim differentiation" cannot override the statute. A means-plus-function limitation is not made open-ended by the presence of another claim specifically claiming the disclosed structure which underlies the means clause or an equivalent of that structure. If Laitram's argument were adopted, it would provide a convenient way of avoiding the express mandate of section 112(6). *We hold that one cannot escape that mandate by merely adding a claim or claims specifically reciting such structure or structures.*

Laitram Corp. v. Rexnord, Inc., 939 F.2d 1533, 1538 (Fed. Cir. 1991) (emphasis added); accord, *Cross Medical Products, Inc. v. Medtronic Sofamor Danek, Inc.*,

424 F.3d 1293, 1304 (Fed. Cir. 2005) (rejecting claim differentiation argument that would have undermined requirements of section 112, paragraph 6).

In *Wenger Manufacturing*, the Federal Circuit cautioned against an overly broad reading of *Laitram* that would require the court to disregard other claims when interpreting means-plus-function claim elements. 239 F.3d at 1233. But the court adhered to the view that claim differentiation could not serve as a substitute for the requirement to link function and structure under paragraph 6:

> Thus, *Laitram* held that the stringencies of a means-plus-function limitation are not to be avoided by the mere addition of a dependent claim that recites the corresponding structure disclosed in the specification. However, *Laitram* does not stand for the broader proposition suggested by CMS, *viz*., that a means-plus-function limitation must be interpreted without regard to other claims.
>
> We agree with Wenger that the examination of other claims in a patent may provide guidance and context for interpreting a disputed means-plus-function limitation, especially if they recite additional functions. Because claim 3 recites a separate and distinct function (*i.e.*, "recirculating"), one that is not recited in claim 1, the doctrine of claim differentiation indicates that these claims are presumptively different in scope. The dependency of claim 3 on claim 1 strengthens this presumption. * * * Accordingly, the doctrine of claim differentiation supports the conclusion that the "air circulation means" limitation in claim 1 should be limited to structure for performing the recited function of circulating air, and should not be interpreted as requiring structure capable of performing the additional function of recirculation, which is expressly recited in dependent claim 3 and not found in claim 1.

Wenger Mfg., Inc., 239 F.3d at1234 (citations omitted). *Wenger Manufacturing* thus shows that the court cannot close its eyes to the dependent claims here, but its discussion of *Laitram* shows that the patentee must still be able to show how the

specification links the claimed function to structure disclosed in the specification. Accord, *Cross Medical Products*, 424 F.3d at 1304 (rejecting argument for claim differentiation, which was overcome by the contrary construction mandated by 35 U.S.C. § 112 ¶ 6.

The problem for Aero in this case is that the addition of dependent claims 10 and 11 does not show that Aero actually disclosed any other structure for performing the "displacing means," let alone clearly linked the structure and the function, as the law required it to do. Even if the court were to adopt Aero's claim differentiation argument and reject defendants' suggestion that the displacing means is the endless sprocket chain apparently identified as the "drive means" in dependent claims 10 and 11, that still would not answer the key question: What structure performs the "displacing" function? If it is not the endless sprocket chain identified in the specification (col. 4, lines 15-20), what is it? Without a disclosure of structure clearly linked to the claimed function, the claim would not be valid. *E.g.*, *Cardiac Pacemakers*, 296 F.3d at 1116-17 (affirming finding that claim was invalid where patentee failed to disclose structure that performed claimed function).

The claim differentiation argument also is not persuasive on its own terms. First, Aero's own argument showing that the same structure can perform two claimed functions applies to defendants' argument that the endless sprocket chain can be both the displacing means and part of the drive means. Even under Aero's

theory, those elements of structure perform both the displacing and driving functions (though it makes more sense to treat the endless sprocket chain as the displacing means and the motor or hand-crank as the drive means). And the phrasing of claim 10 – "drive means for simultaneously displacing said carrier means longitudinally of said guide tracks" – clearly implies that the carrier means do not do the displacing, while the drive means (including the sprocket chain) perform that function.

If the patentee had really intended for the carrier means structure to be the means for displacing as well, he concealed that intention well. Section 112 paragraph 6 does not impose elaborate requirements on the patentee, but it is not too much to ask the patentee to identify clearly the relevant structure in the specification. *Medtronic, Inc.*, 248 F.3d at 1311-12 (affirming finding of invalidity as a matter of law where patentee failed to link clearly the disclosed structure and the claimed function); *B. Braun Medical*, 124 F.3d at 1424 (construing means-plus-function claim element to apply only to disclosed structure that was clearly linked to the function, and not to alternative structure that was disclosed but not linked to the function). The specification for the '484 patent does not link the carrier means structure to the claimed displacing function, clearly or otherwise. As *Medtronic* and *B. Braun Medical* show, the public and competitors should not be required to guess about the relevant structure for performing the claimed function. The '484 patent fails to provide that link between the displacing function and the carrier means. The closest the specification comes to linking the

means for displacing to structure is in the quoted passage that begins: "In order to displace the bow members between their expanded and collapsed positions. . . ," which identifies the endless sprocket chain and related structure as the relevant structure. Col. 4, lines 15-20.

Accordingly, the court construes the "means for relatively displacing said bow members between said expanded condition and a collapsed vehicle-uncovered condition in which said bow members are adjacent each other and said tarp member is collapsed to uncover said flat bed portion" as defendants propose: a motor or hand crank connected to the rearward most carrier means via a sprocket gear, a drive chain, a plurality of sprocket gears secured to a transverse shaft, and a pair of endless guide chains connected to the rear carrier means, all as shown in the '484 patent, Figure 9, or an insubstantially different equivalent thereof.

C. "*Carrier Means*"

The parties also dispute the scope of the "carrier means" in element (c) of claim 1 of the '484 patent. The element reads:

> (c) a plurality of carrier means connecting the lower ends of said bow leg portions for sliding movement relative to the associated guide track, respectively, said bow members normally having an expanded vehicle-covered condition relative to each other in which said bow members are spaced longitudinally of the flat bed vehicle.

The parties agree that this is a means-plus-function element, so the task is to identify the structure disclosed in the specification. The task is easier in this case than with the displacing means. The specification explains:

> The carrier means 12 includes a vertically arranged, longitudinally extending carrier plate 20 to which are rotatably connected pairs of upper and lower wheels 22 and 24, respectively, that are arranged for rotation about horizontal transverse axes, which rollers contain in their outer peripheries circumferential grooves that receive the upper and lower inner guide rails 14e and 14e', respectively. The carrier plate 20 is connected with the associated bow member 4 by a bow support member 28 having a horizontal portion 28a that is connected at one end with the carrier plate 20, the other end of the horizontal portion 28a being connected with the lower end of the associated bow leg portion by the vertical portion 28b of the carrier support member 28. In accordance with an important feature of the present invention, the bow support member 28 is also provided with a tongue portion 28c that is carried by a lower end of the vertical portion 28d and extends inwardly below the longitudinal guide rail 14, as shown in FIG. 6.

'484, col. 3, lines 10-29.

Defendants propose that the court construe the carrier means element to be:

> A vertically arranged, longitudinally extending carrier plate, to which pairs of upper and lower wheels are rotatably connected, the wheels having circumferential grooves formed in their outer peripheries that receive the upper and lower guide rails therein, and a bow support member connected at one end with the carrier plate, and which includes a horizontal portion connected at one end to the carrier plate, a vertical portion, and a tongue portion that extends inwardly below the lower guide rail.

Dkt. No. 82 at 12 (Def. Claim Const. Br.).

Aero contends that defendants' version unnecessarily incorporates "the entirety of the illustrative embodiment of the invention" into its proposed construction. Aero contends that the only disclosed structure that is actually required to perform the carrier function is "a carrier plate connected to the lower end of the bow leg portion of an associated bow member with one or more wheels rotatably connected to the carrier plate and movable on the associated guide track to achieve the sliding movement of the bow leg portions relative to that guide track, and equivalents thereof." Dkt. No. 84 at 9 (Pl. Claim Const. Br.).

The Federal Circuit often warns district courts and patent lawyers to avoid reading details of the specification into broader claim language, a danger inherent in light of the need to consult the specification to construe claim language. *E.g.*, *Phillips*, 415 F.3d at 1323 (collecting cases). That warning does not apply with full force when the patentee has chosen to take advantage of the means-plus-function option for a claim element, as with the carrier means in element (c). For such elements, the statute itself directs the reader to the specification: "such claim shall be construed to cover the corresponding structure, material, or acts described in the specification and equivalents thereof." 35 U.S.C. § 112, ¶ 6. In the case of the carrier means element of '484 claim 1, the reader turns to the specification and finds the language quoted above, which describes what the carrier means "includes." That seems clear enough.

Plaintiff Aero's construction of the carrier means would eliminate the following structures identified in the specification as included in the carrier means: (1) the vertical arrangement and longitudinal extension of the carrier plate, (2) the pairs of upper and lower wheels, (3) the horizontal alignment of the axes of all the wheels, (4) the circumferential grooves on the wheels that receive the guide rails, and (5) the horizontal, vertical, and tongue portions of the bow support member.

To support these exclusions, plaintiff Aero again relies on the doctrine of claim differentiation. Dependent claims 2, 4, and 5 add these various details to the carrier means claim element:

> 2. Apparatus as defined in claim 1, wherein said carrier means include horizontal tongue portions that extend inwardly of said flat bed vehicle beneath said guide tracks, respectively, said tarp flap portions extending beneath, and being fastened to, said tongue portions, respectively.
>
> * * *
>
> 4. Apparatus as defined in claim 2, wherein each of said guide tracks contains on its outer side surface a longitudinally extending opening, said guide tracks further including opposed pairs of parallel laterally-spaced longitudinally-extending inner and outer guide rails mounted in said opening;
>
> and further wherein each of said carrier means includes:
>
> (1) a vertically-arranged longitudinally extending carrier plate mounted in the opening contained in the associated guide track; and
>
> (2) upper and lower pairs of longitudinally spaced circumferentially grooved guide wheels connected with said carrier plate for rotation about transverse horizontal axis relative to said flat bed, respectively;
>
> (3) the grooved wheels of successive carrier means associated with a given guide track being mounted on alternate pairs of said

> guide rails, respectively, thereby to cause the adjacent ends of the carrier means to overlap when the bow members are in the collapsed second condition, whereby tight packing of the bow members and attendant collapsing of the tarp member are achieved.

> 5. Apparatus as defined in claim 4, wherein each of said carrier means further includes a bow support member having a horizontal portion extending at one end from said carrier plate laterally outwardly of the associated opening, and a vertical portion connecting the free end of said horizontal portion with the lower end of the leg portion of the associated bow member.

Aero's reliance on claim differentiation on this point also is not persuasive. First, each of the dependent claims adds additional detail beyond what is set forth in the specification's description of the carrier means structure. Dependent claim 2 adds the requirement that the tarp flap extend beneath and be fastened to the tongue portions of the carrier means. Dependent claim 4 is much more detailed than the carrier means structure described in the specification. Dependent claim 5 similarly includes all the additional structure of claim 4 and adds further to the disclosure in the specification by requiring a horizontal portion of the bow support member extending outwardly from the associated opening. Because each of these dependent claims adds one or more elements that are not included in either defendant's proposed construction or the specification's description of the structure of the carrier means of claim 1(c), the doctrine of claim differentiation, even on its own terms, would not require the court to eliminate the details of the structure disclosed in the specification as the carrier means.

Aero's reliance on claim differentiation also is not persuasive because of the burden that section 112, paragraph 6 imposes on the patentee, in return for its benefits: to link clearly the structure and the function. See *B. Braun Medical*, 124 F.3d at 1424. Defendants' proposed construction follows closely the clear link in the specification between the function and the identified structure. Aero's argument would allow a patentee to obscure and expand the boundaries of a means-plus-function claim element by adding a posse of dependent claims and then leaving readers to try to divine which portions of the structure disclosed in the specification are necessary to perform the claimed function, as the patentee seeks to interpret it. Without repeating the discussion from above regarding the means for displacing the bow members, recall that the Federal Circuit rejected such an effort in *Laitram*, 939 F.2d at 1538.

"To determine whether a claim limitation is met literally, where expressed as a means for performing a stated function, the court must compare the accused structure *with the disclosed structure*, and must find equivalent *structure* as well as *identity* of claimed *function* for that structure." *Pennwalt Corp. v. Durand-Wayland, Inc.*, 833 F.2d 931, 934 (Fed. Cir. 1987) (*en banc*) (emphasis in original); accord, *Chiuminatta Concrete Concepts, Inc. v. Cardinal Industries, Inc.*,145 F.3d 1303, 1308 (Fed. Cir. 1998). Applying this standard, the court adopts the defendants' proposed construction of the carrier means element (c) of claim 1 of the '484 patent:

A vertically arranged, longitudinally extending carrier plate, to which pairs of upper and lower wheels are rotatably connected, the wheels having circumferential grooves formed in their outer peripheries that receive the upper and lower guide rails therein, and a bow support member connected at one end with the carrier plate, and which includes a horizontal portion connected at one end to the carrier plate, a vertical portion, and a tongue portion that extends inwardly below the lower guide rail, and insubstantially different equivalents thereof.

D. "*Adjacent*"

The parties also disagree on the meaning of the word "adjacent," which appears in several places in the '484 patent claims. Defendants propose "next to or adjoining something else." Dkt. No. 82 at 12. They argue that the term must mean that if two portions of the apparatus are "adjacent" to one another, no other structure is between them. Plaintiff Aero proposes "close to, next to or lying near," and argues against the requirement that no structure be between the two "adjacent" structures, asserting that "abuts" would be a better word for that narrower meaning. Dkt. No. 84 at 10. Dictionary definitions of "adjacent" encompass both meanings. See *Free Motion Fitness, Inc. v. Cybex Intern., Inc.*, 423 F.3d 1343, 1349 (Fed. Cir. 2005) (explaining that Webster's Third New International Dictionary provided several different definitions of "adjacent," including "not distant" and "relatively near and having nothing of the same kind intervening"; court held that "not distant" was more consistent with the specification). Defendants have not pointed to indications of the narrower meaning in the specification or prosecution history here. The court agrees with plaintiff Aero that the term "adjacent" in the '484 patent claims does not require that no other structure be between the two structures described as "adjacent."

E. "*Horizontal*"

The parties disagree on the meaning of the word "horizontal." Defendants argue for "in a plane that is parallel to the plane of the flat bed trailer." Plaintiff

wants to add the word "generally," so that the term would be defined as "in a plane that is generally parallel to the plane of the flat bed trailer." The court sees no reason to introduce the expansive "generally" when the claim uses the term "horizontal." When the patentee meant a term to be as broad as "generally," the patentee added that word. In claim element 1(b), for example, the patentee described the U-shaped bow members as "each having a first generally horizontal portion . . . above the vehicle flat bed." Col. 5, lines 15-17. There is no reason to add "generally" to broaden the scope of the claim where the patentee did not do so when obtaining the patent.

F. *"Guide tracks"*

Through the briefing, the parties have agreed that the phrase "guide tracks" means "tracks for guiding sliding movement of components of the tarp system carrying the bow members."

G. *"Said Guide Rails"*

Element (d) of claim 1 says in part that the tarp member of the apparatus must have "a pair of horizontal bottom flap portions that extend inwardly from the lower ends of said side portions beneath said carrier means and said guide rails, respectively." This drafting is unfortunate because the reference to "said guide rails" has no apparent antecedent. Plaintiff Aero argues that "said guide rails" actually refers to the "guide tracks" included in claim element 1(a). The problem

is that the specification, which the court must consider to clarify such problems, carefully distinguishes between "guide track" and "guide rail." For example, the specification describes Figure 6, which is a cross section of these structures:

> Referring now to FIG. 6, it will be seen that the guide track 14 has a generally C-shaped configuration including upper and lower flange portions 14a and 14b that are connected by a vertical center portion 14c, thereby defining a longitudinally extending lateral opening 18. *The guide track includes vertically spaced outer and inner guide rails 14d and 14e*, respectively, that extend longitudinally of the vehicle bed 6.

Col. 3, lines 3-10 (emphasis added). Figure 6 shows the "guide rails" to be small portions of the larger "guide track" structure. The guide rails are the small rails that fit into the grooves on the circumferences of the wheels of the carrier means.

Plaintiff offers unsupported arguments for why "said guide rails" in claim 1(d) should really mean the entire "guide track," but the arguments are not persuasive when the specification uses the two terms so distinctly.[2] The court adopts the defense proposal: guide rails are rails that fit within the guide tracks and provide support for the wheels of the carriage member.

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[2]Plaintiff points out that the defendants confused the two terms in their claim construction brief when addressing this problem. See Dkt. No. 84 at 13 n.5 (Pl. Claim Const. Br.). The point is noted, but such drafting problems are much more serious in a patent claim – a form of property – than in a brief.

III. *'484 Patent Infringement Issues*

Both sides have moved for summary judgment on the issue of infringement of the '484 patent. The court grants defendants' motion and denies plaintiff's motion on infringement of the '484 patent.

A. *"Displacing Means"*

Based on the court's construction of the "displacing means" element of claim 1, the undisputed facts show that the defendants' Quick Draw system does not infringe. Plaintiff agrees that there is no structure in the Quick Draw system that fits the court's construction of that element. See Dkt. No. 133 at 18-19; Dkt. No. 143 at 2. Plaintiff has not come forward with evidence that would allow a reasonable jury to conclude that there is any equivalent structure in defendants' Quick Draw products.

B. *"Horizontal" Bottom Flap*

Apart from the displacing means element, the parties have debated whether the defendants' products include "horizontal bottom flap portions" of the tarp as required by claim element (d). The undisputed facts show that the defendants' products include this claim element. Portions of the flaps of the tarp on defendants' products are diagonal, but portions are also shown as horizontal in

the DeMontes' patent. See '759 patent, Fig. 8, item 22. This claim element is present in defendants' products.

Claim element (d) also requires that the horizontal bottom flap portions "extend inwardly from the lower ends of said side portions beneath said carrier means and said guide rails, respectively." Those portions of the flaps appear to extend beneath whatever carrier means and guide rails defendants' products have. See '759 patent, Fig. 8, item 22.

Defendants argue that the horizontal bottom flap portions on their products extend above the guide rails rather than beneath them. They contend that their '759 patent is drafted so that the "lower bumper flange 42" is part of the guide rail. On defendants' product, the horizontal bottom flap portions are above the "lower bumper flange" portion of the guide rail, so defendants contend there is no infringement because the flap portions do not terminate "beneath . . . said guide rails." The argument is not persuasive. The fact that the lower bumper flange is part of the same extrusion does not prevent the horizontal bottom flap portions from being beneath the portions of the extrusion that actually act as the guide rails.

C. *Bow Members Terminating "Adjacent" Said Guide Tracks*

An additional infringement issue is whether the lower ends of the vertical leg portions of the U-shaped bow members "terminate adjacent said guide tracks," as required by claim element (b). The court has agreed with plaintiff that "adjacent" need not mean that there is no structure in between the lower ends and the guide tracks. The undisputed facts show that this particular element is present in defendants' product. The court is not persuaded by defendants' argument that there is an issue of fact as to whether the four or five inch space between the ends of the bow members and the guide tracks prevents them from being "adjacent."

D. *Carrier Means*

An additional infringement issue is whether defendants' products have the carrier means required by claim element (c). As construed by the court, the undisputed facts show that the element is not present in defendants' product. Defendants' products do not use pairs of upper and lower wheels arranged to rotate around horizontal transverse axes. Instead, they use one upper wheel on a horizontal transverse axis and a lower wheel on a vertical axis. Defendants' products also do not use grooves in the outer circumference of the wheels to run along guide rails. Defendants' wheels have no such grooves, but are guided with different structure.

Under 35 U.S.C. § 112, paragraph 6, the claim covers both the corresponding structure disclosed in the specification and equivalents thereof. In this case, plaintiff Aero has failed to present sufficient evidence to allow a reasonable jury to find that defendants' structure is equivalent to the structure claimed by this means-plus-function element, for plaintiff's evidence consists of unsupported and unexplained conclusions from its expert witness. An expert's mere conclusion of equivalence is not enough. See *TechSearch L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1371-72 (Fed. Cir. 2002) (affirming summary judgment finding no infringement despite expert's conclusions to the contrary); *Moore U.S.A., Inc. v. Standard Register Co.*, 229 F.3d 1091, 1112-13 (Fed. Cir. 2000) (affirming summary judgment finding no infringement where patentee offered only conclusions of equivalence); *Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 876 (Fed. Cir. 1998) (affirming summary judgment finding no infringement where patentee offered only expert's conclusions to show infringement). The undisputed facts show that the "carrier means" element is missing from defendants' products, so this provides an additional basis for granting summary judgment for defendants on the issue of infringement of the '484 patent.

III. *The '313 Patent Claim Construction Issues*

The court will not repeat the general summary of claim construction principles set forth above at pages 4-6. Claim 18 of the '313 patent claims:

A tarp system for a flat bed trailer having a longitudinal axis and front and rear ends, comprising:

(a) a pair of horizontal parallel guide rail means adapted for mounting on the opposite sides of the trailer, respectively;
(b) a plurality of generally U-shaped inverted front end, intermediate, and rear end bow means initially arranged in transverse longitudinally spaced relation relative to said trailer, each of said bow means having a horizontal upper bridging portion and a pair of downwardly extending leg portions;
(c) carriage means connecting the lower ends of said bow leg portions for horizontal displacement relative to said guide rail means, respectively, each of said carriage means including a carriage vertical wall having a lower horizontal edge portion that terminates at an elevation lower than the associated guide rail means;
(d) first means for releasably connecting the front end bow means with the front end of the trailer;
(e) second means for releasably connecting the rear end bow means with the rear end of the trailer;
(f) a tarp cover supported by said bow means for covering and enclosing a given cargo space above the trailer, whereby upon releasing either of said first and second connecting means, said bow means may be slidably displaced relative to the trailer to uncover the associated end of the trailer; and
(g) a pair of horizontal bump rails adapted for connection with the trailer flat bed in parallel spaced relation below said pair of guide rail means, respectively, each of said bump rails extending laterally outwardly from said trailer flat bed in spaced relation below the associated guide rail means and below the lower edge portion of the associated carriage vertical wall.

Claim 19 of the ’313 patent claims:

A tarp system for a flat bed trailer having a longitudinal axis and front and rear ends, comprising:

(a) a pair of horizontal parallel guide rail means adapted for mounting on the opposite sides of the trailer, respectively;
(b) a plurality of generally U-shaped inverted front end, intermediate, and rear end bow means initially arranged in transverse longitudinally spaced relation relative to said trailer, each of said bow

means having a horizontal upper bridging portion and a pair of downwardly extending leg portions;

(c) a plurality of carriage means connecting the lower ends of said bow leg portions for horizontal displacement relative to said guide rail means, respectively, each of said carriage means including at least two longitudinally spaced wheels having parallel horizontal axis extending normal to the longitudinal axis of the trailer, said wheels being rotatably supported by said guide rail means;

(d) first means for releasably connecting the front end bow means with the front end of the trailer;

(e) second means for releasably connecting the rear end bow means with the rear end of the trailer;

(f) a tarp cover supported by said bow means for covering and enclosing a given cargo space above the trailer, whereby upon releasing either of said first and second connecting means, said bow means may be slidably displaced relative to the trailer to uncover the associated end of the trailer; and

(g) at least one of said front end and rear end bow means comprising an assembly including a pair of parallel spaced rigidly connected bows the legs of which are connected with the associated end carriage means, respectively, and further wherein the spacing distance between the wheels of each end carriage means associated with said at least one end bow means is greater than the spacing distance between the wheels of the carriage means associated with the intermediate bow means.

A. *"First Means for Releasably Connecting"*

The first disputed claim term is the "first means for releasably connecting the front end bow means with the front end of the trailer." The parties agree this is another means-plus-function element subject to section 112, paragraph 6. The first step is to identify the function, which is simply to connect the front end bow means with and to release it from the front end of the trailer. The next step is to identify the structure disclosed in the specification for performing this function.

The specification discloses the structure for the first means for releasably connecting at the bottom of column 3 and top of column 4:

> Referring now to FIGS. 11-13, the bulkhead 18 that is secured by bolts or welding to the front end portion 16a of the flat bed 16 includes a pair of U-shaped bows 18a and 18b that are connected by longitudinally extending horizontal cross members 18c. Connected for vertical sliding movement relative to the leg portions of the bulkhead 18 are a pair of vertical locking bars 60 having catch members 62 arranged for locking cooperation with latch pins 64 fixed to the adjacent bow 24b of the front end bow assembly 24. The locking bars 60 are displaced simultaneously vertically by the horizontal connecting shaft 66 that is journaled in fixed bearing 68 and which is manually rotated in the opposite directions by the hand crank. 70. The front end carriage 72 is connected to the lower end of the leg portions of the front bow means 24, which carriage is provided with wheels or pulleys 74 that ride on the associated guide rail that is secured to the trailer flat bed.

Col. 3, line 63 to col. 4, line 12. The specification also discloses the following regarding the operation of the invention:

> In operation, assume that it is desired to fully cover the flat bed 16 of the trailer apparatus of FIG. 4. The operator manually displaces the front end bow assembly 24 into engagement with the bulkhead 18, whereupon the crank arm 70 is operated to elevate the locking bars 60, and then rotated in the opposite direction to effect locking engagement between the latch 62 and the locking pin 64, thereby to lock the front bow assembly to the bulkhead as shown in FIG. 13.

Col. 4, lines 58-65.

Based on the specification, defendants advocate the following interpretation of the first means:

> A bulkhead affixed to the front end of the trailer connected with a pair of vertical locking bars having catch members arranged for locking with latch pins fixed to the front end bow; the locking bars are connected to the horizontal connecting shaft that is manually rotatable in opposite directions by a hand crank, all of which is shown in the 313 patent, Fig. 11, or an insubstantially different equivalent thereof.

Dkt. No. 82 at 17 (Def. Claim Constr. Br.). Plaintiff proposes a broader interpretation:

> at least one vertical bar having a catch portion that locks by manual movement of the vertical bar with a corresponding latch portion, wherein one of the bar or the latch portion is mounted to the front end of the trailer, while the other of the vertical bar or latch portion is mounted to the front end bow means, and equivalents thereof.

Dkt. No. 84 at 15 (Pl. Claim Constr. Br.). Plaintiff's version reduces the pair of vertical locking bars to "at least one" such bar, eliminates the bulkhead, broadens latch pins to a more general latching device, and eliminates the horizontal connecting shaft that is rotatable with a hand crank. Plaintiff contends that its broader definition includes all of the possible structures contemplated and described in the '313 patent for accomplishing the function of the means for releasably locking a bow means to the front end of the trailer or flat bed vehicle.

Plaintiff argues that defendants' version is too narrow and improperly imports too many details from the specification into the claim language, citing *Phillips v. AWH Corp.*, 415 F.3d 1303, 1323 (Fed. Cir. 2005) (*en banc*), and *Serrano v. Telular Corp.*, 111 F.3d 1578, 1583 (Fed. Cir. 1997). Again, the general caution is important in claim construction, but *Phillips* did not deal with a means-plus-

function element, see 415 F.3d at 1311, and *Serrano* dealt with a means-plus-function element where the specification disclosed two structures, and the court held that the means-plus-function element extended to both structures and not only to the preferred embodiment. The statutory language of section 112, paragraph 6 requires the court to focus on the specification and the structure it discloses.

Only defendants' version follows the linkage established in the patent's specification. Plaintiff Aero does not point to any other portion of the specification that discloses the first means for releasably connecting in the specification. Plaintiff points out that the specification refers to some other means, but the cited portion is the description of the inadequacies of the prior art. The description of prior art describes how the operator must connect, tighten, and release the mechanism at the rear of the trailer, using ratchet straps, hooks, ratchets, binders, and bolts with wing nuts:

> the operator must manually place the rear carriage and bow assembly adjacent the posts, extend the ratchet straps and hooks from the post to the rear bow and carriage assembly, and lock the system, usually with four ratchets, binders or bolts with wing nuts. These connecting means are costly and require considerable time and effort, and are unattractive in appearance.

Col. 1, lines 28-35. The court does not see how this *criticism* of the prior art can amount to a disclosure of the structure of the claimed *improvement* on that prior art. See *Sofamor Danek Group, Inc. v. DePuy-Motech, Inc.*, 74 F.3d 1216, 1220

(Fed. Cir. 1996) (affirming denial of preliminary injunction; where patent taught away from prior technology, means-plus-function element should not be construed to include the criticized technology). Using the criticism of prior art to disclose the structure of the claimed improvement does not meet the patentee's obligation under section 112, paragraph 6: to link clearly the claimed function and the relevant structure. *E.g.*, *B. Braun Medical, Inc. v. Abbott Labs.*, 124 F.3d 1419, 1424 (Fed. Cir. 1997); accord, *Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc.*, 296 F.3d 1106, 1113 (Fed. Cir. 2002), citing *Medtronic, Inc. v. Advanced Cardiovascular Systems, Inc.*, 248 F.3d 1303, 1311 (Fed. Cir. 2001); *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1378-79 (Fed. Cir. 1999).

In the absence of any other disclosure in the specification or prosecution history, the court agrees with defendants' proposed construction of the first means for releasably connecting:

> A bulkhead affixed to the front end of the trailer connected with a pair of vertical locking bars having catch members arranged for locking with latch pins fixed to the front end bow; the locking bars are connected to a horizontal connecting shaft that is manually rotatable in opposite directions by a hand crank, all of which is shown in the 313 patent, Fig. 11, or an insubstantially different equivalent thereof.

B. *"Second Means for Releasably Connecting"*

The next disputed element is another means-plus-function element, the "second means for releasably connecting the rear end bow means with the rear

end of the trailer" in claim 18(e) and 19(e). This issue echoes the dispute over the first means. The function is simple: to connect the rear end bow means with, and release it from, the rear end of the trailer. The specification discloses the following structure:

> Referring now to FIGS. 14 and 15, the rear end bow assembly 26, with an aluminum external skin layer 27, is locked to the rear end portions 16b of the flat bed by a pair of locking rods 80 that are connected at their upper ends with the rear most bow member 26a by cam means 82. At their lower ends, the locking bars 80 extend through slots 84 contained in the lowermost transverse member 26c of the leg portion of the rear end bow assembly 26. The length of each locking rod 80 is such as to extend downwardly for engagement to a fixed receptacle 86 which is secured (for example, by welding) with the upper surface of the flat bed 16.

Col. 4, lines 26-37; see also Figures 14 and 15.

Defendants argue for the following construction:

> Second means for releasable connecting the rear end bow means with the rear end of the trailer. A pair of locking rods disposed on opposite sides of the rear end bow means, the locking rods being connected at their upper ends with cam means which are in turn connected to opposite sides of the rear bow member, along with fixed receptacles secured to the upper surface of the trailer bed, where the lower ends of the locking rods are capable of fitting into and being engaged in the fixed receptacles, and handles for activating the cam means, all of which is shown in Fig. 14 or an insubstantially different equivalent structure.

Dkt. No. 82 at 18-19. Plaintiff argues for the following construction:

> at least one vertical bar having a catch portion that locks by manual movement of the vertical bar with a corresponding latch portion, wherein

> one of the bar or the latch portion is mounted to the rear end of the trailer, while the other of the vertical bar or latch portion is mounted to the rear end bow means, and equivalents thereof.

Dkt. No. 84 at 16-17. In the alternative, plaintiff proposes a narrower construction:

> a locking rod connected at an upper end to the rear end bow means, the rod having a lower end that is configured to engage a receptacle disposed at the rear end of the trailer upon manual movement of the rod, and equivalents thereof.

Id. at 17.

Plaintiff's arguments on this issue are summaries of its arguments on the first means for releasably connecting, and the court's analysis from above applies to this issue. Defendants' proposed construction follows the statutory instructions and relies on the structure that the patentee actually disclosed in the specification. Accordingly, the court will construe the second means for releasably connecting the rear end bow means with the rear end of the trailer as:

> a pair of locking rods disposed on opposite sides of the rear end bow means, the locking rods being connected at their upper ends with cam means which are in turn connected to opposite sides of the rear bow member, along with fixed receptacles secured to the upper surface of the trailer bed, where the lower ends of the locking rods are capable of fitting into and being engaged in the fixed receptacles, and handles for activating the cam means, all of which is shown in Fig. 14 or an insubstantially different equivalent structure.

C. *"Guide Rail Means"*

The independent claims of the '313 patent include as element (a) "a pair of horizontal guide rail means adapted for mounting on the opposite sides of the trailer respectively." Defendants argue that this is a means-plus-function element. Plaintiff disagrees. The court agrees with plaintiff. The element uses the word "means" but does not identify a function, so section 112, paragraph 6 does not apply. See *Apex, Inc. v. Raritan Computer, Inc.*, 325 F.3d 1364, 1372 (Fed. Cir. 2003); *York Products, Inc. v. Central Tractor Farm & Family Center*, 99 F.3d 1568, 1574 (Fed. Cir. 1996). The court sees no need for further interpretation of this element at this point.

D. *"Carriage Means"*

Claim 18 of the '313 patent includes as element (c):

> carriage means connecting the lower ends of said bow leg portions for horizontal displacement relative to said guide rail means, respectively, each of said carriage means including a carriage vertical wall having a lower horizontal edge portion that terminates at an elevation lower than the associated guide rail means.

Claim 19 includes similar language, with a few significant differences, including the plurality and the reference to wheels instead of a vertical wall:

> a plurality of carriage means connecting the lower ends of said bow leg portions for horizontal displacement relative to said guide rails means, respectively, each of said carriage means including at least two longitudinally spaced wheels having parallel horizontal axis extending normal to the longitudinal axis of the trailer, said wheels being rotatably supported by said guide rail means.

The parties agree that the carriage means element in both claims is a means-plus-function element subject to section 112, paragraph 6. The function is to support the lower ends of the bows to enable horizontal displacement along an associated guide rail. The issue is the associated structure disclosed in the specification. Defendants argue that the "carriage means" should be construed as:

> a pair of spaced parallel shafts supporting wheels having a concave V-shaped peripheral groove that engages insert bar 36 of the guide rail means, a body portion of the carriage defined by a flat vertical plate having a horizontally bent upper flange with a leg portion of the bow bolted thereon, and an angularly inwardly inclined lower flange extending below the associated guide rail.

Dkt. No. 82 at 21, citing '313 patent, col. 3, lines 32-43 and Figs. 7-10. Plaintiff Aero argues that the "carriage means" should be construed as:

> at least one wheel rotatably supported on a vertical plate, the at least one wheel configured for horizontal movement along a guide rail, the plate including an upper flange that is connected to corresponding bows so that the bows move with the vertical plate relative to the guide rail.

Dkt. No. 84 at 21. Either definition would also need to include equivalents of the identified structure.

Because the carriage means element is governed by section 112, paragraph 6, the court must turn to the specification for disclosure of the structure:

> Slideably mounted on the guide rails are a plurality of intermediate carriages 38 associated with the intermediate U-shaped bows 28,

> respectively. Each carriage 38 carries a pair of spaced parallel shafts 40 upon which are journaled steel wheels or pulleys 42 that ride on the steel support bar inserts 36. Each pulley 42 contains a peripheral groove 42a of a configuration that corresponds with the convex V-shaped upper surface of the steel insert bar 36. The body portion of the carriage 38 is defined by a vertical flat plate having a horizontally bent upper flange 38a, and an angularly inwardly inclined lower flange 38b that extends below the associated guide rail 30. The leg portion 28a of the associated intermediate bow 28 is bolted to the upper flange portion 38a of the carriage. As best shown in FIG. 9, the tarp side wall 22b extends downwardly adjacent the external surface of the carriage 38 and downwardly and inwardly about the lower flange portion 38b.

Col. 3, lines 31-48. To support the less specific construction it proposes, plaintiff Aero again relies on principles of claim differentiation.

For reasons set forth above, the claim differentiation argument does not avoid Aero's obligation to link clearly the function and the associated structure in the specification. The court construes the carriage means element in claims 18(c) and 19(c) to mean:

> a pair of spaced parallel shafts supporting wheels having a concave V-shaped peripheral groove that engages insert bar of the guide rail means, a body portion of the carriage defined by a flat vertical plate having a horizontally bent upper flange with a leg portion of the bow bolted thereon, and an angularly inwardly inclined lower flange extending below the associated guide rail, and equivalents thereof.

E. *"Bump Rails"*

Element (g) in claim 18 requires:

> a pair of horizontal bump rails adapted for connection with the trailer flat bed in parallel spaced relation below said pair of guide rail means, respectively, each of said bump rails extending laterally outwardly from said trailer flat bed in spaced relation below the associated guide rail means and below the lower edge portion of the associated carriage vertical wall.

Defendants argue that this element should be construed by importing some details from the specification, but defendants have not identified any ambiguities in this element that would require construction, let alone the delicate task of turning to the specification for guidance without importing details into the claim. See generally *Phillips v. AWH Corp.*, 415 F.3d at 1323 (cautioning against this common mistake in claim construction). No interpretation is needed.

F. *"Receptacles" and "Spacing Distance Between the Wheels"*

The parties dispute the meaning of these terms but have not identified any concrete dispute. The court declines to address the issues in the abstract when the case is being resolved on other grounds.

IV. *'313 Patent Infringement Issues*

Plaintiff Aero has moved for summary judgment finding that defendants' products literally infringe claims 18 and 19 of the '313 patent. Defendants' motion for summary judgment seeks a finding of non-infringement as a matter of law. The briefing on these motions has provided both sides an opportunity to continue at length the debates over claim construction.

A. *"First Means for Releasably Connecting"*

Defendants' Quick Draw system uses ratchets and ratchet straps to connect the front bow means to the front end of the trailer. The undisputed facts show that defendants' products do not use the vertical bars with catch portions and latch pins disclosed in the specification of the '313 patent.

The issue is whether plaintiff Aero can show that defendants' ratchets and straps are equivalent to the structure disclosed in the '313 patent. The '313 patent refers to ratchets and straps only when it criticizes the prior art: "These connecting means are costly and require considerable time and effort, and are unattractive in appearance. *The present invention was developed to avoid the above and other drawbacks of the known tarp cover systems*." Col. 1, lines 33-37 (emphasis added). This criticism has the effect of expressly excluding the criticized structure from the means-plus-function claim element. *Sofamor Danek Group, Inc. v. DePuy-Motech, Inc.*, 74 F.3d 1216, 1220 (Fed. Cir. 1996); *Display Technologies, LLC v. Mechtronics Corp.*, 335 F. Supp. 2d 431, 439 (S.D.N.Y. 2004) (prior art structures are not claimed when the patent teaches away from them and when they are "in no way described as part of any embodiment of the claimed invention"); see also *Dawn Equipment Co. v. Kentucky Farms, Inc.*, 140 F.3d 1009, 1016 (Fed. Cir. 1998) (reversing denial of defendant's motion for judgment as matter of law after jury found infringement under doctrine of equivalents; patent

disclosed problems with the mechanisms used by alleged infringer and claimed the new patented invention solved those problems).

Plaintiff responds to this point by observing that ratchets and straps were a known connection mechanism and contends that defendants' argument would allow them to "usurp the inventive contributions of the '313 patent" by leaving out a few structural details. It was the patentee, however, who chose to draft the claims with the means-plus-function element and who drafted the specification to teach away from the ratchet and strap connecting means. As noted above, the relevant art here is crowded, and fine distinctions can justify new and narrow patent claims. Under the reasoning of *Sofamor Danek*, that mechanism may not be treated as equivalent to the vertical bars with latches disclosed by the '313 patent.

Plaintiff Aero also relies on the Bredemeyer affidavit to show equivalence. Bredemeyer said in his affidavit on this subject only the following:

> I have reviewed claims 18 and 19 of the '313 Patent, and particularly the first and second means of releasably connecting the end bows to the trailer. In my opinion, a person in this field would understand those terms to mean front and rear locks for the sliding cover system that are necessary to lock the ends of the system to the trailer. With respect to the first and second means for releasably connecting in claims 18 and 19, the structure of the front and rear locking mechanisms of the Quick Draw system are equivalent to the structure of the locking mechanisms disclosed in the '313 Patent.

Dkt. No. 119, Bredemeyer Aff. ¶ 5(h).

Such a bare conclusion of equivalence, even from an expert witness, is not enough to avoid summary judgment. See *TechSearch, L.L.C. v. Intel Corp.*, 286 F.3d 1360, 1371-74 (Fed. Cir. 2002) (affirming summary judgment finding no infringement despite expert's conclusions to the contrary); *Moore U.S.A., Inc. v. Standard Register Co.*, 229 F.3d 1091, 1112-13 (Fed. Cir. 2000) (affirming summary judgment finding no infringement where patentee offered only conclusions of equivalence); *Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 876 (Fed. Cir. 1998) (affirming summary judgment finding no infringement where patentee offered only expert's conclusions to show infringement).

Plaintiff also argues that the ratchet and strap mechanism does not perform the claimed function of releasably "connecting" the bow means to the trailer but performs the separate, additional function of "tightening the tarping system." The argument fails. The undisputed facts show that the straps are the structure that connects the front bow means to the front of the trailer on defendants' system.

The undisputed facts show that defendants' accused products lack the element of the first means for releasably connecting the front end bow means with the front end of the trailer, either literally or under the doctrine of equivalents. The first means is an element of all asserted claims under the '313 patent. On this basis, defendants are entitled to summary judgment holding that their accused products do not infringe the '313 patent.

B. *Claim 18 – Bump Rail Below the Guide Rails*

The remaining issues on infringement of the ’313 patent would come into play only if another court were to disagree about the first means element. Defendants argue that issues of fact would defeat plaintiff’s motion for summary judgment on infringement with respect to several other claim elements. Claim 18(g) of the ’313 patent requires “a pair of horizontal bump rails . . . below said pair of guide rail means.” Defendants argue that their product does not have the required pair of bump rails *below* the guide rails because the structure in question is actually part of the guide rail itself. A side-by-side comparison of Figure 9 of the ’313 patent and Figure 8 of defendants’ 759 patent illustrates the point. The bump rail in the ’313 patent is item 52 in Figure 9, which is shown as a cross-section of an extruded metal rail that is bolted onto the side wall of the flatbed trailer (item 16). Defendants’ product uses a single extrusion that includes a portion that functionally seems to be in the same place as, and to perform the same function as, the bump rail on plaintiff’s invention, but defendants call that portion of the piece (item 42 on Figure 8 of the ’759 patent) the “lower flange.”

The court is not persuaded that defendants’ choice to produce these two functionally different portions of the structure as part of one piece of metal raises a genuine issue of fact as to whether this claim element is present. The undisputed facts show that this claim element is present.

C. *Carriage Vertical Wall*

Claim 18(c) requires "a carriage vertical wall having a lower horizontal edge portion that terminates at an elevation lower than the associated guide rail means." This issue presents a problem very similar to the bump rail issue, and for essentially the same reasons, plaintiff is entitled to summary judgment on this issue.

D. *Carriage Means*

Defendants do not use the same carriage means structure that is claimed in the '313 patent. The issue of infringement for this element depends on equivalence under section 112, paragraph 6. On this issue, plaintiff relies on Bredemeyer, who offers the following concerning equivalence:

> Although the carriers in the Quick Draw system includes [sic] some structural differences from the carriers disclosed in the 313 Patent, the Quick Draw carriers perform the same function, namely to connect the bows for horizontal displacement along the guide rails. In addition, the structure of the Quick draw carriers is equivalent to the structure disclosed in the '313 Patent. Like the structure in the '313 Patent, the Quick Draw carriers includes [sic] a pair of parallel shafts support wheels. Although the wheels of the Quick Draw carriers do not include v-shaped grooves as described in the '313 Patent, the Quick Draw carrier wheels are structurally equivalent to the wheels disclosed in the '313 Patent with respect to the carriers means in claims 18 and 19. The Quick Draw carriers include a vertical plate, as disclosed in the '313 Patent, and a horizontal flange element for connecting to a bow, which is equivalent to the horizontal upper flange disclosed in the '313 patent. The quick Draw carriers further include tarp clips attached to the vertical plate that are inwardly inclined below the guide rail, which is equivalent to the inwardly inclined lower flange of the carrier plate disclosed in the '313 Patent.

Bredemeyer Aff. ¶ 5(c). This testimony does not present a genuine issue of material fact concerning equivalence. The fact that the carrier means perform the same function is only the beginning of the inquiry under section 112, paragraph 6. The question is whether defendants' structure is equivalent to the carrier means structure disclosed in the '313 patent. Bredemeyer's assertion of equivalence with respect to the wheels, in particular, is just a bare conclusion that does not even address the differences between the two structures.

These bare conclusions of the expert are not sufficient to support summary judgment in favor of plaintiff on the carriage means element. See, *e.g.*, *Dynacore Holdings Corp. v. U.S. Philips Corp.*, 363 F.3d 1263, 1278 (Fed. Cir. 2004) (affirming summary judgment finding no infringement despite experts' conclusory opinion to the contrary); *Arthur A. Collins, Inc. v. Northern Telecom Ltd.*, 216 F.3d 1042, 1046 (Fed. Cir. 2000) (same); *Phillips Petroleum Co. v. Huntsman Polymers Corp.*, 157 F.3d 866, 876 (Fed. Cir. 1998) (same).

There are clearly some differences in the designs and structures of the two sides' carriage means. Those differences – not addressed by Bredemeyer – apparently were enough to enable the DeMontes to secure the '759 patent based on the different arrangement of wheels, with one rotating on a horizontal axis to allow longitudinal movement and the other rotating on a vertical axis to provide lateral stability. The grant of that patent indicates that the differences between the two structures are substantial enough to defeat a claim of equivalence. See

Roton Barrier, Inc. v. Stanley Works, 79 F.3d 1112, 1128 (Fed. Cir. 1996) (Nies, J., concurring) (a second patent granted over prior art containing all of the claimed elements except one change in the prior art indicates that the change is not "insubstantial"). Whether the different structures are equivalent appears to present at least a genuine issue of material fact that cannot be answered by Mr. Bredemeyer's conclusions alone. Aero has not shown that it is entitled to summary judgment finding that this element is present in the accused products.

E. *Second Means for Releasably Connecting*

The court is construing the second means for releasably connecting the rear end bow means with the rear end of the trailer as:

> a pair of locking rods disposed on opposite sides of the rear end bow means, the locking rods being connected at their upper ends with cam means which are in turn connected to opposite sides of the rear bow member, along with fixed receptacles secured to the upper surface of the trailer bed, where the lower ends of the locking rods are capable of fitting into and being engaged in the fixed receptacles, and handles for activating the cam means, all of which is shown in Fig. 14 or an insubstantially different equivalent structure.

Defendants' products do not have a pair of locking rods in which the lower ends of the locking rods engage fixed receptacles secured to the upper surface of the trailer bed. On defendants' products, the vertical rods, which do not lock, engage a horizontal member in a triangular brace, and not a fixed receptacle secured to the trailer bed. To show infringement regarding this element, plaintiff relies on the unexplained conclusions of its expert witness, which are not

sufficient for reasons noted above. Plaintiff has not met its burden of showing that defendants' structure is equivalent to the claimed structure. Plaintiff is not entitled to summary judgment finding that this element is present in the accused products.

V. *The "On-Sale" Bar and the '313 Patent*

Defendants also move for summary judgment on almost all claims asserted under the '313 patent based on the one year "on-sale" bar of 35 U.S.C. § 102(b). (The exception is claim 18, which contains the "bump rail" element.) Under the statute, a patent is invalid if two conditions were satisfied more than one year before the patent application was filed. First, the claimed invention must have been the subject of a commercial sale or offer for sale. Second, the claimed invention must have been "ready for patenting." *Cargill, Inc. v. Canbra Foods, Ltd.*, 476 F.3d 1359, 1368 (Fed. Cir. 2007) (affirming summary judgment of invalidity). Defendants have the burden of proving invalidity on this basis by clear and convincing evidence. *Invitrogen Corp. v. Biocrest Manufacturing*, L.P., 424 F.3d 1374, 1378 (Fed. Cir. 2005). The application for the '313 patent was filed on November 23, 1994, so the critical date is one year earlier, November 23, 1993.

To show invalidity under section 102(b), defendants rely on evidence from a patent infringement lawsuit by Sundance, Inc. against Aero Industries filed in the Western District of Pennsylvania in 1997. *Sundance, Inc. v. Aero Industries,*

Inc., No. 97-637 (W.D. Pa.). In that case, Aero and its CEO repeatedly told the court that plaintiff's Conestoga 2000 product – which embodies all contested claims of the '313 patent except claim 18 – was available for sale in May 1993, which would mean that all but one of the claims asserted under the '313 patent are invalid.

On May 28, 1998, Aero's CEO James R. Tuerk signed an affidavit in the *Sundance* case that stated in relevant part:

> 13. Aero had not been pleased with the performance and operational durability of the early versions of the tarp cover system for flatbed trucks and trailers, and Aero continuously attempted to improve the product. One particular problem that was identified in the early cover system was the drive assembly for driving the bows between their extended and collapsed positions relative to the flatbed truck or trailer. To permit further development and improvement of the product, Aero discontinued production of the initial CONESTOGA tarp system on December 19, 1991.
>
> 14. Following further extensive research and development, Aero reintroduced the improved tarp cover system for flatbed trucks and trailers in May, 1993 under the trademark 2000. This improved redesigned 2000 system is shown in the accompanying Aero brochure entitled "2000 TAMPING SYSTEM" [Exhibit No. 6], and in the Aero video entitled "2000". [Exhibit No. 20]

Def. Ex. G.

On July 15, 1998, Aero moved for summary judgment in the *Sundance* case and submitted a statement of undisputed material facts. Aero described how its management had learned of the issuance of the Sundance patent at issue in 1991, and then asserted as undisputed facts:

> 27. Aero discontinued manufacture of its CONESTOGA tarp system for flatbed trailers on December 19, 1991, and conducted extensive research and development on the product. [James Tuerk Affidavit].
>
> 28. In May 1993, AERO introduced the redesigned tarp cover system for flatbed trucks and trailers under the trademark CONESTOGA 2000. One major change in the redesigned product was the elimination of any type of drive means for operating the tarp cover between open and closed conditions. In the CONESTOGA 2000 systems, the cover is manually operated by an operator who merely pushes the lead bow as he walks from one end of the flatbed to the other. [James Tuerk Affidavit]

Def. Ex. N.

On November 22, 1999, Aero submitted its amended pretrial narrative statement to the *Sundance* court. Aero again wrote: "Because of recurring problems with the CONESTOGA drive assembly for the U-shaped bows, Aero discontinued production of its CONESTOGA tarp system in December 1991 until it could devise a more reliable system. Following extensive research and development, an improved CONESTOGA 2000 Tarping System was introduced in May 1993." Def. Ex. M. at 3.

It is clear that the Conestoga 2000 product embodies the invention claimed in Claims [1, 2, 10-14, 19, and 21] of the '313 patent. Def. Ex. C at 109, 158-59 (Tuerk Dep. in this case). Aero told the court in the *Sundance* case: "The CONESTOGA 2000 tarping system first sold in 1993 is the same system being sold today and is the system which Sundance, Inc. ('Sundance') alleges infringes the '109 patent and patent No. 5,080,423 (Exhibit K.)." Def. Ex. M at 3.

If Tuerk's affidavit and the submissions to the court can be taken as true, then portions of the '313 patent are invalid under the on-sale bar. In this case, however, Tuerk testified in a deposition in 2007 that his earlier affidavit and the other submissions in the *Sundance* case were false. He claimed the May 1993 date was inaccurate and that the Conestoga 2000 product was introduced in November 1993 rather than May 1993, as he and Aero had previously asserted. Def. Ex. C at 103, 158-59. The question here is whether Tuerk's testimony in this case is sufficient to create a genuine issue of material fact when compared with his own prior testimony and Aero's repeated submissions to the court in the *Sundance* case.

Tuerk was asked in this case about documents that would shed light on the issue. He testified that he presumed that when he signed the 1998 affidavit in the *Sundance* litigation, Aero had documents that would have supported Aero's position, but those documents no longer existed. Def. Ex. C at 241. He also testified that he knew of no documents that would show his 1998 affidavit was false. *Id*. at 175.

To oppose the invalidity argument, Aero tries to explain away this earlier evidence. Aero writes: "Defendants' only 'evidence' are non-critical statements from a prior litigation that were clarified by Jim Tuerk in his deposition." Dkt. No. 133 at 23. Aero's use of quotation marks around "evidence" is curious. An affidavit and judicial admissions both amount to real evidence. Even more

curious is that Aero did not put quotation marks around the verb "clarified." Tuerk did not clarify the earlier evidence. He flatly contradicted it. He even described it as "false." Def. Ex. C at 103. That is by no stretch of legal imagination a "clarification."

In his 2007 deposition, Tuerk was asked to explain the earlier "mistake." He testified that he had "no idea" why the May 1993 date was in his affidavit and the court submissions. Def. Ex. C at 172. But Aero and Tuerk now blame the May 18, 1993 on a mistake by the attorney in the *Sundance* litigation, saying *the attorney* looked at an invoice for repair of a Conestoga system and described it as a sale by mistake. Dkt. No. 133 at 15. Aero has come forward with two old computer printouts that list the May 18, 1993 work as repair/rework. Pl. Br., Ex. B (Tuerk Aff.), Exhibits A and B. Aero's assertion that the "undisputed facts establish that there was no sale or offer for sale of the Conestoga 2000 prior to the critical date" is incorrect. Tuerk's affidavit and Aero's additional admissions in the court submissions provide ample evidence to the contrary.

In his affidavit in opposition to summary judgment, Tuerk himself offers the explanation that Aero's counsel misinterpreted an invoice. Pl. Br., Ex. B, ¶ 3. This explanation brings to mind the autobiography of former NBA star Charles Barkley. When the book was released, one passage attracted some unexpected controversy. Mr. Barkley responded to the controversy by saying that he had been "misquoted" in his own autobiography. The court knows, of course, that lawyers

often draft affidavits for their clients, just as celebrities receive help from ghost-writers. But at the risk of being too simplistic about this, the law does not treat Aero's lawyer as the person responsible for the content of the affidavit. When Tuerk signed the affidavit under penalty of perjury, it became *his* testimony, no matter who drafted it. It is also hard to understand how Tuerk can testify to this explanation now when he testified in his deposition that he had "no idea" why the supposedly wrong date was in his own affidavit.

Aero also tries to excuse the earlier testimony by saying that the date was just not that critical to the issues in the *Sundance* litigation: "Aero did not recognize that this May 1993 date was erroneously identified in the pleadings for the Sundance litigation as the date on which the Conestoga 2000 was introduced, and since the critical date of the patents-in-suit was well prior to the actual introduction of the Conestoga 2000, Aero was not triggered [sic] to more closely review this date in the pleadings." Dkt. No. 133 at 16. There is no doubt, of course, that Aero itself was the source of the information, and one wonders how seriously to take any testimony from Tuerk or Aero.

The issue, then, is whether Aero can create a genuine issue of fact by having Tuerk (a) contradict his earlier sworn testimony and the company's repeated statements to the court and (b) explain the contradiction by offering an explanation that he did not provide when he was asked for one in his deposition. Defendants argue that Tuerk's new deposition testimony and affidavit

contradicting his earlier testimony are not adequate to create a genuine issue of fact. Defendants rely on the line of cases rejecting parties' efforts to create sham issues of material fact by submitting affidavits contradicting their sworn deposition answers. Among many such cases, see, *e.g.*, *Stinnett v. Iron Works Gym*, 301 F.3d 610, 614-15 (7th Cir. 2002); *Russell v. Acme-Evans Co.*, 51 F.3d 64, 67-68 (7th Cir. 1995). There are also cases allowing parties and other witnesses to correct or clarify answers, especially if they found the questions confusing. See, *e.g.*, *Maldonado v. U.S. Bank*, 186 F.3d 759, 769 (7th Cir. 1999) (affirming denial of plaintiff's motion to strike defense affidavit correcting errors from deposition after witness consulted relevant files; district court had discretion to treat explanation as legitimate reason for changing deposition testimony); *Bank of Illinois v. Allied Signal Safety Restraint Systems*, 75 F.3d 1162, 1169-70 (7th Cir. 1996) (collecting examples on both sides of the problem).

Witnesses and parties sometimes make mistakes. That is true of both plaintiffs and defendants. And not every contradiction between sworn statements is a case of deliberate perjury. In a decision allowing a party to explain away damaging deposition testimony, the Seventh Circuit has explained:

> The purpose of summary judgment is to separate real, genuine issues from those which are formal or pretended. To allow every failure of memory or variation in a witness's testimony to be disregarded as a sham would require far too much from lay witnesses and would deprive the trier of fact of the traditional opportunity to determine which point in time and with which words the witness (in this case, the affiant) was stating the truth. Variations in a witness's testimony and any failure of memory throughout the course of discovery create an issue of credibility as to which part of the

> testimony should be given the greatest weight if credited at all. Issues concerning the credibility of witnesses and weight of the evidence are questions of fact which require resolution by the trier of fact.

Bank of Illinois, 75 F.3d at 1170, quoting *Tippens v. Celotex Corp.*, 805 F.2d 949, 953-54 (11th Cir. 1986). At the same time, to allow a party to disavow repeated sworn testimony in the absence of any legitimate explanation of confusion would too easily make a mockery of the oath and the obligation to tell courts the truth.

In this case, the court is persuaded that Tuerk's later testimony and affidavits contradicting both his own earlier affidavit and Aero's repeated statements to the court in the *Sundance* litigation are not sufficient to create a genuine issue of material fact on the on-sale bar. First, this is not a case where the party is trying to explain deposition answers in response to confusing questions or where he had a momentary failure of memory under the pressure of the deposition. Instead, Tuerk is trying to contradict his own affidavit, drafted and prepared with ample time to review and revise if necessary. Second, Aero and Tuerk are not trying to contradict just one statement, which might be explained as an isolated mistake. They are trying to contradict repeated statements they made in the affidavit and in submissions to the court. Third, when Tuerk was confronted with the contradiction and was asked to explain it, he swore under oath that he had "no idea" what had happened. He also said there were no documents that could explain the supposed mistake. Only later, after his deposition in this case, did Aero and Tuerk come up with some documents and

a new explanation that blamed Aero's lawyers in the *Sundance* case for having misinterpreted a business record. Even if that belated explanation were plausible, and the court finds that it is not sufficiently plausible to present a genuine issue of material fact, it provides no explanation for how Tuerk himself managed to swear under oath that the affidavit was true. On this record, the undisputed facts show that the on-sale bar applies to Aero's claims under the '313 patent, except for claim 18, which is not subject to the bar.

VI. *Laches*

Defendants also seek partial summary judgment on the defense of laches. Laches is the "neglect or delay in bringing suit to remedy an alleged wrong, which taken together with the lapse of time and other circumstances, causes prejudice to the adverse party and operates as an equitable bar." *A.C. Aukerman Co. v. R.L. Chaides Construction Co.*, 960 F.2d 1020, 1028-29 (Fed. Cir. 1992). To show laches, a defendant must show "the plaintiff delayed filing suit for an unreasonable and inexcusable length of time from the time the plaintiff knew or reasonably should have known of its claim against the defendant," and that "the delay operated to the prejudice or injury of the defendant." *Id*. at 1032. If defendants can show laches, then plaintiff would not be entitled to damages for any infringement before this lawsuit was filed in 2005. *Id*. at 1028. When the delay is more than six years after the plaintiff had either actual or constructive

knowledge of the alleged infringement, prejudice is presumed, though the presumption may be rebutted. *Id*. at 1035-36.

Constructive knowledge is sufficient to start the laches clock. *Id*.; *Wanlass v. General Electric Co.*, 148 F.3d 1334, 1338 (Fed. Cir. 1998), quoting *Johnston v. Standard Mining Co.*, 148 U.S. 360, 370 (1893). Constructive knowledge may be shown by activities such as sales, marketing, publication, or public use of a product similar to the patented invention, such that the patent holder has a duty to investigate to protect its rights. *Wanlass*, 148 F.3d at 1338.

Aero filed this lawsuit on March 25, 2005, so the threshold issue is whether Aero had actual or constructive knowledge of defendants' alleged infringement before March 25, 1999. Plaintiff admits having seen defendants' Quick Draw product in the summer of 1999 and determined then that it appeared to infringe both the '484 and '313 patents. Plaintiff still waited nearly six years to file this lawsuit, but six years is the key boundary. The issue is whether the undisputed facts show that plaintiff had actual or constructive knowledge earlier than March 25, 1999.

In 1992, Aero learned that defendants had become only its second competitor in the United States selling tarp covering systems. Def. Ex. C at 55, 63 (Tuerk Dep.). Tuerk testified that in 1992, he and a representative of Aero's Canadian distributor entered the premises of DeMonte Fabricating in Windsor,

Ontario (without permission) and took photographs of defendants' QDTS system. Those photographs showed Tuerk that the QDTS contained, at least in his view, all the elements of claim 1 of the '484 patent except for "a pair of horizontal bottom flap portions that extend inwardly from the lower ends of [the] side portions beneath [the] carrier means and [the] guide rails." *Id*. at 54, 60-61.

On the timing of its actual knowledge of the QDTS system, Aero has provided shifting answers. In interrogatory answers signed in May 2006, Aero stated that Tuerk and others saw a promotion of the QDTS system at the Louisville Truck show, and they "believed" that this occurred in 1999. Def. Ex. Z, Response 2. The Louisville Truck Show occurred in February or March, according to Tuerk. Def. Ex. C at 185. (Defendants have offered undisputed evidence that it actually occurred March 25-27, 1999, exactly six years before the suit was filed. Def. Ex. BB.) At his deposition in March 2007, Tuerk testified that he had provided the information for the interrogatory answer, but the answer was incorrect and the correct answer was Detroit in the summer of 1999, just inside the laches boundary. Def. Ex. C at 185-87. Aero later changed its interrogatory answers on this point to say that it believed the Louisville show was in 2000 or 2001. Def. Ex. AA. Unlike Tuerk's testimony relevant to the on-sale bar issue discussed above, there is enough ambiguity in the original answer that these shifting answers present issues of credibility that the court cannot decide on summary judgment that Aero had *actual* knowledge soon enough to support a finding of laches as a matter of law.

Constructive knowledge can also be sufficient to show laches, and a patentee has a duty to police its rights. *Wanlass v. General Electric Co.*, 148 F.3d 1334, 1338 (Fed. Cir. 1998) (patentee "must be diligent and make such inquiry and investigation as the circumstances reasonably suggest"), quoting *Potash Co. of America v. International Minerals & Chemical Corp.*, 213 F.2d 153, 155 (10th Cir. 1954). The relevant circumstances include "pervasive, open, and notorious activities" that a reasonable patentee would suspect were infringing. *Wanlass*, 148 F.3d at 1338, quoting *Hall v. Aqua Queen Manufacturing, Inc.*, 93 F.3d 1548, 1553 (Fed. Cir. 1996).

The accused QDTS system was on sale in the United States in May 1996. Dkt. No. 124 at 15-16. There is evidence that Aero knew of the defendants' product in 1997, based on its monitoring of the market, and Aero had only two competitors to keep track of in the United States. Yet plaintiff has offered evidence that only 84 trucks in the entire United States were equipped with the QDTS before the key March 25, 1999 date. Def. Ex. CC. Was there a duty to investigate here? The key feature that had been missing from defendants' earlier product was advertised as the new feature of the QDTS in 1997 and 1998. See *Wanlass*, 148 F.3d 1334, 1338 ("For example, sales, marketing, publication, or public use of a product similar to or embodying technology similar to the patented invention, or published descriptions of the defendant's potentially infringing activities, give rise to a duty to investigate whether there is infringement."). Defendants' activities were "open," but it is hard to describe them, at least as a

matter of law, as "pervasive" or "notorious" when fewer than 84 trucks in the entire nation were equipped with the product at the relevant time.

Constructive knowledge requires proof of "pervasive, open, and notorious activities" that a reasonable patentee would suspect were infringing. *Wanlass*, 148 F.3d at 1338. The content of defendants' advertising presents a close factual question about whether the allegedly infringing characteristics of the new product should have been noticed by Aero. Cf. *Wanlass v. Fedders Corp.*, 145 F.3d 1461, 1465 (Fed. Cir. 1998) (reversing summary judgment finding of laches based on constructive knowledge). Keeping in mind that laches involves a court's exercise of discretion in light of all relevant circumstances, *A.C. Aukerman Co.*, 960 F.2d at 1032, the court is satisfied that Aero has managed to raise a genuine issue of fact as to whether defendants' activities in the United States were sufficient to put Aero on notice to investigate.[3]

If defendants can show prejudice, and if another court were to disagree with this court's analysis of the on-sale bar discussed above, then defendants have come forward with compelling evidence of evidentiary prejudice from Aero's delay, in the form of the loss of documents. During the *Sundance* litigation, Aero claimed that it had invoices showing when it first sold its Conestoga product, relevant to the on-sale defense discussed above. Def. Ex. C. at 241 (Tuerk Dep.). Those

[3]The court does not address Aero's excuses that it was too busy dealing with Department of Transportation regulations and another patent suit to worry about whether defendants were infringing the '313 patent.

documents have been lost or destroyed, leaving defendants to have to work with Mr. Tuerk's memory, with all the contradictions and shifts discussed above. Prejudice is not a required element of the laches defense in patent law, but evidence of real prejudice may still be relevant.

Conclusion

For the reasons stated above, the undisputed facts show that defendants' products do not infringe either the '484 patent or the '313 patent, and that all claims under the '313 patent, except claims for infringement of claim 18, are barred by the on-sale bar of 35 U.S.C. § 102(b). Accordingly, defendants' motion for summary judgment (Dkt. No. 123) is granted in part and denied in part; plaintiff's motion for summary judgment of infringement of the '313 patent is denied; plaintiff's motion for summary judgment of infringement of the '484 patent is denied; and the parties' motions for claim construction are granted to the extent set forth above. The court will enter final judgment in favor of defendants.

So ordered.

Date: March 27, 2009

DAVID F. HAMILTON, CHIEF JUDGE
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Southern District of Indiana

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