IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF PENNSYLVANIA

IKN, INC.	:	CIVIL ACTION
	:	
v.	:	No. 05-185
	:	
CEMPROTEC GMBH	:	

MEMORANDUM AND ORDER

Juan R. Sánchez, J. **September 18 , 2006**

CemProTec GmbH, the manufacturer of the accused product in this patent-infringement lawsuit, moves for summary judgment, arguing its Smart Blades grate system does not infringe U.S. Patent No. 5,299,555 (the '555 Patent) either in use or under the doctrine of equivalents. IKN, Inc., the holder of the '555 Patent by assignment, contends there are genuine issues of material fact precluding the grant of summary judgment. Even viewing the evidence in the light most favorable to IKN, I conclude there is no infringement of the '555 Patent and will grant CemProTec's motion for summary judgment.

FACTS

IKN's German parent, IKN GmbH, and CemProTec, another German entity, both manufacture clinker coolers, which are grate assemblies used in the cement-manufacturing process. The clinker-cooler grate assembly produced by IKN GmbH is comprised of frame elements, which, when fastened together, form a rigid surface for supporting hot clinker granules. Each frame element in the grate assembly embodies the claims in the '555 Patent, which IKN, the U.S. subsidiary to IKN GmbH, holds by assignment. CemProTec's Smart Blades grate system is also comprised of individual frame elements, which IKN complains infringe the '555 Patent.

The '555 Patent relates to improvements in the design of a rectangular frame element that, when assembled with other elements, forms a grate used to support, aerate, and convey "clinkers" – large granules from which cement is ultimately manufactured. Plates extending transversely between the opposing surfaces of the frame for the grate's surface. Clinkers are formed in a kiln and thereafter deposited on a grate assembly for cooling. The clinker granules are abrasive, and their movement across the grate causes the surface plates to wear, especially those located at the forward section of each frame element. In a conventional grate assembly, the frame and surface plates are an integral structural unit. To replace worn plates in this type of assembly, the entire grate element, including the frame's non-worn portions, must be removed and a new element installed in its place. The removal and replacement of the individual elements disturbs the alignment of the grate assembly and results in high material replacement costs.

To obviate the need to replace the entire grate element when just some of the surface plates become worn, Jean-Claude Claes, an engineer for a Belgian foundry, invented a grate element in which the frame and surface plates are structurally separate from one another. Replacement of the individual plates in Claes's invention is accomplished with minimal disassembly of the frame, which remains structurally intact with the grate assembly. Longitudinal guide profiles extend along the inner surfaces of the side members, and the plates have a conforming counter-profile. This arrangement permits easy insertion and removal of the plates, eliminating the need to realign the assembly, and greatly reducing the down-time associated with replacement of worn plates. To aerate the clinkers on the surface of the grate, Claes's invention incorporates gas-venting slots between the plate members.

In 1994, the United States Patent and Trademark Office (PTO) issued the '555 Patent to

Claes for his invention. IKN, as assignee of the '555 Patent, alleges CemProTec's Smart Blades infringe the '555 Patent.

DISCUSSION

This Court in its claim construction, determined as a matter of law "the meaning and scope of the patent claims asserted to be infringed." *Markman v. Westview Inst., Inc.*, 52 F.3d 967, 976 (Fed. Cir. 1995). Patent infringement occurs "when a device (or composition or method), that is literally covered by the claims or is equivalent to the claimed subject matter, is made, used, or sold, without the authorization of the patent holder, during the term of the patent." *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1476 (Fed. Cir. 1998) (citing 35 U.S.C. § 271). "To establish literal infringement, every limitation set forth in a claim must be found in an accused product, exactly." *Southwall Technologies, Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1575 (Fed. Cir. 1995).

CemProTec , in its motion for summary judgment, contends the undisputed facts preclude a reasonable juror from finding Smart Blades infringe the claims in '555 Patent. In response, IKN argues it has presented evidence raising a genuine issue for trial on whether the '555 Patent has been infringed either literally or under the doctrine of equivalents. I agree with CemProTec's position and conclude there is no material issue of fact.

CemProTec argues there can be no literal infringement because IKN failed to adduce any evidence all limitations embodied in the claims of the '555 Patent are present in the Smart Blades product. Although I denied IKN's motion for summary judgment of literal infringement, IKN contends that even under the claim construction this Court could find literal infringement in use or under the doctrine of equivalents.

Summary judgment "shall be rendered forthwith if the pleadings, depositions, answers to

interrogatories, and admissions on file, together with the affidavits, if any, show there is no genuine issue of material fact and that the moving party is entitled to judgment as a matter of law." Fed. R. Civ. P. 56(c); *Cook Biotech Inc. v. Acell, Inc.*, – F.3d – (Fed. Cir. 2006). The Court must resolve reasonable factual inferences in favor of IKN and then decide whether a reasonable jury could find infringement. *IMS Technology, Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1429 (Fed. Cir. 2000). IKN must "come forward with specific facts showing there is a genuine issue for trial." *Matsushita Elec. Indus. Co. v. Zenith Radio Corp.*, 475 U.S. 574, 587 (1986) (citing Fed. R. Civ. P. 56(e)).

Summary judgment on the issue of infringement is proper when no reasonable jury could find every limitation recited in a properly construed claim either is or is not found in the accused device either literally or under the doctrine of equivalents. *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353-54 (Fed. Cir. 1998).

IKN identifies the following as material disputed facts, precluding summary judgment :

1. The portion of the grate assembly shown in CemProTec's Exhibits A to K is not the accused product because it does not include the front plate and associated bolts.
2. IKN says there is a friction fit between the plate members and the inner walls of the side members under foreseeable operating conditions, disputing CemProTec's contention there is a gap between the blades and the opposing surfaces.
3. IKN claims Exhibit D of CemProTec's brief – a color drawing of the Smart Blades – is doctored.
4. IKN claims it cannot tell if the sample Smart Blade provided to the Court is representative because it has not been able to inspect it. Further, the frame is not authentic if it does not have the front plate and bolts.
5. CemProTec's exhibits do not have an accompanying declaration or affidavit of authentication.

Of the five identified disputed facts, only the second, the question of a friction fit in use, is a material fact sufficient to overcome a motion for summary judgment.

Infringement in use requires the same two step analysis this Court applied to its earlier decision on literal infringement. "First, the claim must be properly construed to determine its scope and meaning. Second, the claim as properly construed must be compared to the accused device or process." *Carroll Touch, Inc. v. Electro Mech. Sys., Inc.*, 15 F.3d 1573, 1576 (Fed. Cir. 1993). Literal infringement requires each limitation in the asserted claim to exist in the accused device. *Allen Eng'r Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1345 (Fed. Cir. 2002). "Any deviation[] from the claim limitations precludes a finding of literal infringement." *Lantech, Inc. v. Keip Mach. Co.*, 32 F.3d 542, 547 (Fed. Cir. 1994); *Fisher-Price, Inc. v. Safety 1st, Inc.*, 279 F. Supp. 2d 530, 540 (D. Del. 2003).

The claim, in its entirety, reads as follows:

> The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:
>
> **1**. A grate element for forming a grate, comprising a frame means having two spaced-apart and elongated side members which include opposing surfaces, several plate members arranged one next to the other in a longitudinal direction of said side members, said plate members being supported on and extending transversely between said opposing surfaces of said side members, means defining a gas-venting slot between said plate members, and said plate members each being constructed as individual structural parts releasably connectable to said opposing surfaces of said side members.

Frame Element for Forming a Grate, U.S. Patent No. 5,299,555 col.6 l.17-30 (filed Sept. 8, 1992) (issued Apr. 5, 1994).

This Court has construed the term "side members which include opposing surfaces" as "side members, each having an inner surface that faces or looks toward the corresponding surface of the other side member." The phrase "supported on . . . said opposing surfaces" in this Court's construction means "the plate members are held up and in position and their weight is borne by the

surface of each of the two side members that faces or looks toward the corresponding surface of the other side member." The "releasably connectable" limitation is construed as requiring each individual plate member to be "connected directly to the opposing surfaces of the two side members in such a manner that it is capable of being freed from the opposing surfaces of the two side members." Order, November 22, 2005.

CemProTec makes Smart Blades in a reciprocating version with six plates and a rectangular frame and a static version with 13 plates and a longer frame to accommodate the plates. The frame has upper edges on all four sides and the side members have a shoulder on the inside surface. In the Smart Blades, the plate members do not touch the shoulders or any other part of the inner surfaces of the side members. There is a gap of three millimeters, large enough to allow the plates to move from side to side.

CemProTec argues there is no literal infringement because none of the plate members in the Smart Blades are ***supported on the opposing surfaces of the side members***, none of the plate members ***extends transversely between the opposing surfaces*** of the side members, and none of the plate members are ***releasably connectable to the opposing surfaces of the side members***. (Language from '555 claim in bold italic) .

In opposing CemProTec's motion for summary judgment, IKN argues the Smart Blades grate infringes the '555 Patent in a foreseeable operating condition known as upset, which happens when clinkers from the kiln enter the cooler so quickly the temperature of the cooler plates rises.[1] IKN's expert, Ladd Parsons, a retired cement company executive, states upset conditions happen frequently

[1]Raw materials are combined in the kiln and heated to more than 1400 degrees centigrade to recombine to form cement. The recombined compounds are cooled on the grates before being ground to the familiar grey powder used in concrete.

enough so as to be a foreseeable operating condition. CemProTec disputes this claim and argues its instructions to its customers on how to handle an upset condition are in case of emergency only.

IKN argues in upset conditions the heat from the clinkers causes the plates in a Smart Blade frame to swell and form a friction fit with the opposing side members, creating a condition of infringement. IKN argues the clinkers increase the temperature of the clinker cooler plate members causing the plates to expand into a friction fit with the vertical surfaces of the side members of the frame that face each other. The friction fit holds the plate members in place against the opposing surfaces which bear the weight of the plate members. According to IKN, this friction fit meets the "***supported on***" and "***releasably connectable***" limitations because the heat-enlarged plates are now supported by the inner surfaces from which they are also releasable. IKN also argues the patent requires events which happen sequentially because the plates cannot be simultaneously inserted and removed; thus, the '555 claim must mean a capacity to be inserted and removed. From that, IKN concludes the friction fit connection must also be read over the period of time required for heating and cooling.

IKN says its expert, Parsons, proves CemProTec's blades form a friction fit in use when temperatures reach 500 to 600 degrees centigrade.[2] Parsons states when the cooler assembly operates in an upset condition, the plate members heat to 500 to 600 degrees centigrade. Parsons concludes the increased heat causes the plate members "to expand relative to the frame such that the plate members come in contact with and are supported on the inner vertical walls of the side members of the CemProTec Grate Assembly by a friction fit." Affidavit of Ladd Parsons at 8.

Parsons relies on a videotaped plate expansion test and affidavit by Charles Wilson which

[2]Measurement devices were attached to Smart Blades in use at a plant in Union Bridge, Maryland.

"shows the plate member forms a friction fit with the inner vertical surfaces of the side members of the frame when the temperature of the top surface of the plate member is about . . . 510 deg. C." Parsons affidavit at 9. Wilson is a plumber who heated a CemProTec grate to more than 950 degrees Fahrenheit and turned the grate over to show the plate would not fall out. Wilson affidavit at 3. Wilson then allowed the grate to cool, tapped plate with a hammer and then was able to lift the plate out. *Id.*

Despite this evidence, which the Court views in the light most favorable to IKN, IKN has failed as a matter of law to prove infringement by CemProTec. The Smart Blade assembly rests on the frame's upper edges, not the opposing side members, none of the plates extends transversely between the opposing surfaces and none of the plates is releasably connected to the opposing surfaces. IKN has only arguably proved that occasionally the plate members extend transversely and are arguably supported by the opposing surfaces. But, at the moment that those two conditions might be true, the plates are not releasably connected. As proved by the Wilson test, the plate is only releasable once it has cooled sufficiently to release its friction fit. IKN has failed to prove infringement in use by friction fit because at any time at least one of the limitations is always not met.

IKN's second theory of infringement is under the doctrine of equivalents. To prove equivalence, IKN must present "particularized evidence and linking argument as to the insubstantiality of the differences between the claimed invention and the accused device. . . ." *Texas Instruments, Inc. v. Cypress Semiconductor Corp.,* 90 F.3d 1558, 1567 (Fed. Cir. 1996). Conclusory statements regarding equivalence do not raise any genuine issues of material fact. *PC Connector Solutions LLC v. SmartDisk Corp*., 406 F.3d 1359, 1364 (Fed. Cir. 2005).

The tripartite test of the doctrine of equivalents is whether it 1) performs substantially the same function 2) in substantially the same way 3) to obtain the same result. *Graver Tank & Mfg. Co. v. Linde Air Products Co.*, 339 U.S. 605, 607-10 (1950). The doctrine of equivalents allows infringement to be found in some cases where the elements of the accused device are substantially equivalent to the corresponding elements of the asserted claim. *Warner-Jenkinson Co. v. Hilton Davis Chemical Co.*, 520 U.S. 17, 29 (1997). Infringement under the doctrine of equivalents is a question of fact. *Graver Tank*, 339 U.S. at 609. But, limitations on the doctrine of equivalents are questions of law. *Warner-Jenkinson,* 520 U.S. at 39 n. 8 (stating "[o]f course, the various legal limitations on the application of the doctrine of equivalents are to be determined by the court.").

If a reasonable jury could find no substantial difference between the two grates, then summary judgment would be appropriate in favor of IKN. But if the two grates represent two distinct structural approaches to performing essentially the same function, the Court may enter judgment in favor of CemProTec, finding no infringement under the doctrine of equivalents. If the prosecution history of the '555 Patent disclaims broader definitions of "supported on" and "opposing surfaces," then summary judgment is appropriate as a matter of law. *Frank's Casing Crew & Rental Tools, Inc. v. Weatherford International Inc.*, 389 F.3d 1370, 1376 (Fed. Cir. 2004).

The doctrine of equivalents does not allow a patent to encompass subject matter existing in the prior art. *Wilson Sporting Goods Co. v. David Geoffrey & Assoc.*, 904 F.2d 677, 684 (Fed. Cir. 1990) (holding "[A] patentee should not be able to obtain, under the doctrine of equivalents, coverage which he could not lawfully have obtained from the PTO by literal claims."). The text of the claim must be closely followed: "[e]ach element contained in a patent claim is deemed material to defining the scope of the patented invention, and thus the doctrine of equivalents must be applied

to individual elements of the claim, not to the invention as a whole." *Warner-Jenkinson,* 520 U.S. at 29. The doctrine of equivalents cannot be used to vitiate an element from the claim in its entirety. *Warner-Jenkinson,* 520 U.S. at 29; *see also Tronzo v. Biomet, Inc.,* 156 F.3d 1154, 1160 (Fed. Cir.1998) (holding "If a theory of equivalence would vitiate a claim limitation, however, then there can be no infringement under the doctrine of equivalents as a matter of law."). Whether an amendment was made for reasons of patentability is a legal question. *Cybor Corp. v. FAS Technologies, Inc.,* 138 F.3d 1448, 1460 (Fed. Cir. 1998) (en banc) (application of prosecution history estoppel is a question of law).

A patentee may not use the doctrine to recover surrendered subject matter. Prosecution history estoppel excludes any subject matter relinquished through amendment or argument during prosecution from the doctrine of equivalents. *Warner-Jenkinson,* 520 U.S. at 30-31. Particular subject matter disclosed in the patent specification but not claimed is deemed to have been surrendered. *Maxwell v. J. Baker, Inc.*, 86 F.3d 1098, 1106-07 (Fed. Cir. 1996). Again, these are questions of law. In *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 344 F.3d 1359 (Fed. Cir. 2003) (*Festo III*), the Court stated "rebuttal of the presumption of surrender is a question of law to be determined by the court, not a jury." *Id.* at 1367.

In this case, the amendments after the PTO rejected the first claim are shown as follows with removed words in brackets and added words underlined:

> **1**. (Amended). A [frame] grate element for forming a grate, [including] comprising a frame means having two spaced-apart and elongated side members which include opposing surfaces, [and] several plate members arranged one next to the other in a longitudinal direction of [the] said side members, said plate members being supported on and extending transversely between said opposing surfaces of said side members, means defining a gas-venting slot between [which] said plate members [is provided a gas-venting slot], [wherein the side members are formed by two opposing

> surfaces of a frame], and [wherein the] said plate members [are] each being constructed as individual structural parts releasably connectable to [the] said opposing surfaces of said side members.

Frame Element for Forming a Grate, U.S. Patent No. 5,299,555 col.6 l.17-30 (filed Sept. 8, 1992) (issued Apr. 5, 1994).

The amendments narrowed the scope of the '555 Patent by adding the limitations that the plate members are supported on the opposing surfaces and are releasably connectable to the opposing surfaces. A narrowing amendment is presumed to relate to patentability. *Festo III*, 344 F.3d at 1366-67; *Warner-Jenkinson*, 520 U.S. at 33. IKN has not overcome that presumption. The Patent Office rejected the first iteration of the '555 Patent under 35 U.S.C. § 102(b) as anticipated by prior art. In response, the patentee narrowed the claim to include the references to opposing surfaces. After the narrowing, the patent was granted. CemProTec's Smart Blades are not supported on the opposing surfaces, except arguably for the purposes of summary judgment in a friction fit, and are never both supported on and releasably connectable to the opposing surfaces because when the blades are heated enough to form a friction fit, the blades are not releasable until cooled.

IKN argues the structure of the CemProTec Smart Blades is insubstantially different, that is equivalent, to the structure of the '555 patented structure. IKN argues its original claim inherently states the plate members are supported on and extend transversely between the opposing surfaces. IKN further argues the addition of supported on and releasably connected to the opposing surfaces were not narrowing amendments and, thus, do not represent a surrender of claim scope.

The "all elements rule" requires IKN to compare each element of its product to each element of the accused product rather than comparing the whole of one to the other. *General American Transportation Corp. v. Cryo-Trans, Inc*., 93 F.3d 766, 771 (Fed. Cir. 1996) (reversing a claim

construction which made elements superfluous).

Under the "all elements rule," a limitation totally missing from the accused product is not entitled to equivalency and there is no infringement as a matter of law when a claim limitation is missing from the accused devise. *Id*.

The doctrine of equivalents cannot, as a matter of law, be used to expand the '555 claims to cover the CemProTec grate. IKN asserts under the function-way-result test the top surfaces of the side members of the CemProTec Smart Blade is substantially equivalent to the "plate members being supported on and extending transversely between said opposing surfaces" required by the claims of the '555 Patent. CemProTech argues IKN, during prosecution and reexamination, surrendered any subject matter encompassing support on the upper edges of the frame element. We agree with CemProTech; the doctrine of equivalents, as a matter of law, cannot encompass the accused product because the addition of limitations to opposing surfaces has the effect of relinquishing a claim to a scope including support on the upper edges of the frame. The doctrine of equivalents cannot, as a matter of law, expand the '555 patent to encompass support on the upper edges. To hold otherwise would allow the '555 patent, through the doctrine of equivalents, to cover subject matter that could not have been legally patented in the first instance. *Cf. Wilson Sporting Goods,* 904 F.2d at 684.

The patentee, during prosecution, made amendments that would lead a reasonable competitor to objectively conclude that the subject matter of upper edge support was relinquished. *See, e.g., Sextant Avionique,* 172 F.3d at 826-27 (holding "The scope of the estoppel, *i.e.,* what subject matter has been surrendered during prosecution by the patentee, is to be determined from the vantage point of a reasonable competitor of the patentee."). First, the opposing surfaces limitation of the '555 claims was added in response to the examiner's rejection of the claims in light of the Steiner

reference. During reexamination the phrase "opposing surfaces" was added to the claims. One of ordinary skill in the art would clearly conclude support by the upper surfaces was relinquished. Thus, the Smart Blade could not infringe the '555 Patent under the doctrine of equivalents.

IKN's second claim, that of indirect infringement, fails as a matter of law when there is no literal infringement. 35 U.S.C. § 371; *nCube Corp. v. Seachange International, Inc.*, 436 F.3d 1317, 1324 (Fed. Cir. 2006). Without infringement, there can be no indirect infringement because indirect infringement occurs only when direct infringement is found. 35 U.S.C. § 271(b) and (c).

The final issue before the Court is CemProTec's counterclaim that IKN's patent is invalid. This Court must resolve a claim for a declaratory judgment of patent invalidity. *Cardinal Chemical Co. v. Morton Intern., Inc,*, 508 U.S. 83, 96 (1993) (holding ruling on infringement does not necessarily end a claim for invalidity). Any patent is presumed to be valid. 35 U.S.C. § 282. Nothing in the patent and its prosecution history suggests invalidity, nor has CemProTec offered evidence the '555 Patent is invalid as anticipated, lacking in novelty, obvious or lacking in utility.

An appropriate order follows.