

UNITED STATES DISTRICT COURT
MIDDLE DISTRICT OF FLORIDA
TAMPA DIVISION

ADVANCED CARTRIDGE
TECHNOLOGIES, LLC,

Plaintiff,

v.

CASE NO.: 8:10-cv-486-T-23TGW

LEXMARK INTERNATIONAL, INC.,

Defendant.

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ORDER

Advanced Cartridge Technologies, LLC, (ACT) sues Lexmark International, Inc., for patent infringement. The parties seek claim construction in accord with *Markman v. Westview Instruments, Inc.*, 517 U.S. 370 (1996).

Lexmark designs and manufactures printers and printer products, including printer toner cartridges. Some Lexmark toner cartridges carry a computer chip that allows the cartridge to operate with a printer only while the cartridge contains the original toner supplied by Lexmark. The chip discourages a cartridge “re-manufacturer” from selling a used Lexmark cartridge filled with new toner.

Steven Miller founded ACT and invented the patents-in-suit. Miller and others each created a chip that, by either neutralizing or replacing a Lexmark chip, enables re-sale of a Lexmark cartridge. Larger than a Lexmark chip, a typical replacement

chip both overlaps a Lexmark chip and expands from a Lexmark chip in one direction. In other words, a rectangular replacement chip overlaps a smaller Lexmark chip.

In Patent Number 7,113,710 (the '710 patent), for a "structure preventing the use of an unauthorized circuit board"; in Patent Number 7,257,356 (the '356 patent), for an "ergonomic toner cartridge"; and in Patent Number 7,643,773 (the '773 patent), for a "user-friendly imaging cartridge" Miller patented a toner cartridge with a handle and a toner cartridge with a block that obstructs a replacement chip. Miller transferred each patent to ACT, and ACT alleges that Lexmark infringed each patent.

The three patents resemble one another, and most of the disputed terms appear in more than one of the patents. Each patent presents a cartridge with a "mounting surface" that connects with a printer's chip, also known as a "circuit board." Two of the cartridges include a "blocking structure" that fills the space above or below the "mounting surface." Two of the cartridges include a handle on the "trailing end" (the end not connecting with a printer) "sufficient to accommodate a user's fingers."

Determining the meaning of a disputed patent term "to one of ordinary skill in the art" (a question of law) can require a detailed analysis of the specification and the prosecution history, an inquiry into scientific principles and technical terms, or a plunge into the state of the art. *Am. Piledriving Equip., Inc. v. Geoquip, Inc.*, 637 F.3d

1324, 1332 (Fed. Cir. 2011). This action, on the other hand, “involves little more than the application of the widely accepted meaning of commonly understood words.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1314 (Fed. Cir. 2005). Unless a patent explicitly says otherwise, a specification that describes only one embodiment of an invention forecloses no other embodiments that the patent’s claims express. *Phillips*, 415 F.3d at 1323; *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004). Most of the claim construction disputes in this action arise because Lexmark attempts to narrow a patent claim with either the specification or asseveration.

To begin, Lexmark raises:

- “a flat mounting surface” and “a flat mounting surface adapted to receive” (‘356 patent, claims 1 and 3; ‘710 patent, claims 1 and 8; ‘773 patent, claims 1 and 2).

Lexmark proposes that, to accord with each drawing and each written description of each patent’s only embodiment, the “flat mounting surface” must contact the “entire” circuit board of a printer. ACT provides two correct responses. First, the patents never limit a claim’s scope to an embodiment; on the contrary, each patent states that the embodiment illustrates rather than delineates the invention. Second, nothing in an embodiment shows that a printer circuit board must overlap perfectly the “flat mounting surface.” No printer circuit board even appears in a patent drawing.

Lexmark attempts to introduce in several other places words not suggested by the claim language. For instance, Lexmark disputes:

- “an arch extending transversely across said waste bin’s trailing end” and “an arch extending transversely across said imaging cartridge’s trailing end” (‘356 patent, claims 2 and 3; ‘773 patent, claims 1 and 2).

Lexmark argues that the term means “an outwardly extending curved structural member spanning substantially all of the width of the trailing end” of the waste bin or imaging cartridge. Compared to the readily understandable word “arch,” “curved structural member” achieves no improvement; requiring the arch to “span[] substantially all of the width of the trailing end” narrows the claim without justification.

Next:

- “said arch rising to a height sufficient to accommodate a user’s fingers when said user’s thumb is positioned on said handle” (‘356 patent, claims 2 and 3; ‘773 patent, claims 1 and 2).

In place of this straightforward language, Lexmark suggests, “the arch’s curvature extending above the imaging cartridge’s body is sufficient to permit placement of a user’s fingers between the bottom of the arch and the top of the imaging cartridge when the user’s thumb is positioned on the handle.” The patent’s language efficiently describes a handle large enough to accommodate fingers. “Between the bottom of the arch and the top of the imaging cartridge” adds nothing to the idea that the handle “accommodates” fingers – “accommodate” conveys that a user can place

fingers on the handle. “Above” needlessly replaces (and potentially distorts the meaning of) “rising to a height.”

Also:

- “a handle in the center of an end of the cartridge, said handle adapted to direct a user’s hand to the center of the cartridge” (‘356 patent, claims 1 and 3; ‘773 patent, claims 1 and 2).

Lexmark contends that the “handle” in each patent must include a “thumb grip.” Each patent’s written description sometimes calls the handle a “thumb grip,” but again, the written description need not limit a claim. Even if “handle” requires a small elaboration, Lexmark tenders an aggressive constriction.

In support of construing “handle” to mean “thumb grip,” Lexmark cites a superficially contradictory passage in each specification that distinguishes two of the patents over prior art. *E.g.*, (Doc. 76, Ex. 2 at 57) The passage simultaneously suggests that each previous toner cartridge lacked a handle and that some previous toner cartridges included a small and useless handle. At any rate, the most natural interpretation of the passage conveys that some previous cartridges included a small handle that a user typically ignored, and ACT therefore may not claim each handle on the back of a toner cartridge. ACT may, however, claim more than a “thumb grip” handle on the back of a toner cartridge. Given that the small size of each earlier toner cartridge handle supposedly deters use, a handle “adapted” to direct a

user's hand to the center of the cartridge means a handle "sufficiently large" to direct a user's hand to the center of the cartridge.

Lexmark next attempts to narrow:

- "an upper blocking member extending from a point just above said flat mounting surface to a lower surface of said planar wing" ('710 patent, claim 16).

Lexmark claims that this term means "a curved structure extending from the top of the flat mounting surface to the planar wing." The '710 patent's embodiment features a curved blocking member, but as ACT states, a straight, stepped, jagged, or squiggly blocking member remains within the claim. No reason emerges to omit that the mounting surface attaches to "a lower surface" of the planar wing. Lexmark fails to justify altering a coherent and capable term.

Lexmark objects that two terms are indefinite. *See Young v. Lumenis, Inc.*, 492 F.3d 1336, 1345-46 (Fed. Cir. 2007). First:

- "the flat mounting surface has an upper extent terminating at a point substantially related to the first circuit board" ('710 patent, claims 7 and 15).

"Related" means, more or less, to share some connection or some association.

American Heritage Dictionary 1523 (3d ed. 1992) (defining "related" as "being connected; associated"). Any two items may share one or more from an innumerable array of "connections," close or distant, intimate or tenuous, obvious or obscure, etc., e.g., temporal, textural, tribal, structural, spatial, spectral, ontological –

on and on. Unless a speaker specifies (or, as occurs more often, implies) a quality or a category as well as a range of measure, to say that two items are “related” conveys no explicit information.

If “related” conveys nothing, adding “substantially” changes nothing. “Substantially” suggests a large magnitude (a test-taker can score “substantially” – that is, greatly – above average) or a close approximation (a robot might act “substantially” – almost – human). *See Epcon Gas Sys., Inc. v. Bauer Compressors, Inc.*, 279 F.3d 1022, 1031 (Fed. Cir. 2002); 3 Donald S. Chisum, *Chisum on Patents* § 8.03[3][c][vi] (2010) (providing several pertinent examples). Like “largely related,” “actually related,” or “really related,” “substantially related” communicates nothing unless “related” means something ascertainable. Even then, “substantially” suffers dysfunction – saying two items are “substantially” related seems no more coherent than saying a given number is “substantially” prime – although patent law contemplates an awkward use of a term. *See Anchor Wall Sys., Inc. v. Rockwood Retaining Walls, Inc.*, 340 F.3d 1298, 1310-11 (Fed. Cir. 2003) (allowing the term “generally parallel” in a patent). In any event, similar to how a person told only that an object is “brightly pastel” cannot name the object’s color, a person told only that two items are “substantially related” cannot describe the items’ connection. The conjunction of two inexact terms often creates only a double inexactitude.

Nevertheless, if the '710 patent's specification "provides a standard for measuring substantiality, relativity, or closeness such that one skilled in the art can determine whether a particular product [] falls within the language of the claim," the claim remains sufficiently definite. Chisum, *supra* § 8.03[3][c]; *Rockwood Retaining Walls, Inc.*, 340 F.3d at 1310-11. In the '710 patent, "substantially related" modifies the size or position of a space, the flat mounting surface's termination adjacent to the first circuit board. As the '710 patent states, "unauthorized circuit boards are substantially larger than [an] authorized board, so the presence of [] blocking members [] obstructs the placing of a 'piggy back' circuit board over the host circuit board." (Doc. 76, Ex. 1 at 111) In addition, the clause following the term that contains "substantially related" prohibits a "physical structure" large enough for the mounting of a replacement chip above the flat mounting surface. Accordingly, to ensure that the patented cartridge obstructs a replacement chip, the top of the flat mounting surface must end near, or "at a point substantially related to," the printer circuit board. The '710 patent's purpose, specification, and claims show that "substantially related" means "close enough to prevent the placement of a replacement circuit board between the end of the first circuit board and the beginning of the blocking structure."

The second clause that Lexmark finds indefinite immediately follows the first:

- “whereby no physical structure extends vertically from the flat mounting surface to which a circuit board can be mounted” (‘710 patent, claims 7, 15, and 16).

Lexmark complains that the word “vertically” in the second purportedly indefinite term conveys no direction. Aware of the dimensions of a typical replacement circuit board, aware that the patent term precludes a “physical structure” “to which a circuit board can be mounted,” and aided by the drawings in the ‘710 patent, a person of ordinary skill in the art can easily comprehend that “vertical” means above the flat mounting surface – “above” as applied to the cartridge’s orientation in nearly all of the patent’s drawings.

Finally, both parties seek construction of words in:

- “a blocking structure that prevents placement of a replacement circuit board into overlying relation to said first circuit board” and “an upper blocking member that prevents placement of a replacement circuit board into overlying relation to said first circuit board” (‘356 patent, claims 1 and 3; ‘710 patent, claims 1 and 8);

and in a similar term:

- “said upper blocking member obstructs the placing of a replacement circuit board over said first circuit board” and “said upper blocking member obstructs the placing of a second circuit board over said first circuit board” (‘710 patent, claims 3, 11, and 16).

Lexmark proposes that “a blocking structure” means “a pair of curved structures,” that “prevents” means “prohibit[s],” that “upper” blocking member means “extending from the top of the flat mounting surface,” and that “obstructs the placing

of” means “blocks the placement of.” Each new word in Lexmark’s constructions either introduces an unwarranted restriction or contributes nothing useful.

ACT reads both “overlying relation” and “over” to mean “between the contacts of the first circuit board and the contacts of the receiving printer.” The blocking structure aims to obstruct the placement of a replacement chip. A replacement chip situates between the contacts of a cartridge’s circuit board and the contacts of a printer’s circuit board in order to prevent the cartridge circuit board from communicating properly with the printer circuit board. Hence, ACT’s construction obeys the patent’s purpose and matches what “overlying relation” and “over” mean to one of ordinary skill in the art.

ACT argues that “replacement circuit board” means “a circuit board over a host circuit board, commonly known in the industry as a piggy back circuit board.” Lexmark concurs that a replacement circuit board is “a circuit board over a host circuit board.” As for “commonly known in the industry as a piggy back circuit board,” even if ACT correctly identifies “piggy back” as an informal term for a replacement circuit board, ACT fails to demonstrate that “piggy back” should attach to the definition of “replacement circuit board” in the claim construction.

* * *

To summarize, (1) a handle “adapted” to direct a user’s hand to the center of a toner cartridge means a handle “sufficiently large” to direct a user’s hand to the center of a toner cartridge; (2) the “substantially related” termination of a flat mounting surface and a first circuit board means a termination “close enough to prevent the placement of a replacement circuit board between the end of the first circuit board and the beginning of the blocking structure”; (3) “overlying relation” and “over” mean “between the contacts of the first circuit board and the contacts of the receiving printer”; and (4) “replacement circuit board” means “a circuit board over a host circuit board.” No other term requires construction.

ORDERED in Tampa, Florida, on February 21, 2012.

Steven D. Merryday
STEVEN D. MERRYDAY
UNITED STATES DISTRICT JUDGE