

# United States Court of Appeals for the Federal Circuit

03-1534, -1535

LIGHTING WORLD, INC.,

Plaintiff-Appellant,

v.

BIRCHWOOD LIGHTING, INC.,

Defendant-Cross Appellant.

Ezra Sutton, of Woodbridge, New Jersey, argued for plaintiff-appellant.

Mark P. Wine, McDermott, Will & Emery, of Los Angeles, California, argued for defendant-cross appellant. With him on the brief were Krista L. Vink Venegas and Benjamin J. Hofileña, Jr.

Appealed from: United States District Court for the Central District of California

Judge Percy Anderson

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DECIDED: September 3, 2004

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Before BRYSON, Circuit Judge, PLAGER, Senior Circuit Judge, and LINN, Circuit Judge.

BRYSON, Circuit Judge.

The district court entered judgment for the defendant in this patent case following the plaintiff's case-in-chief at trial. Lighting World, Inc. v. Birchwood Lighting, Inc., No. CV 01-09329 PA (C.D. Cal. June 11, 2003). Plaintiff Lighting World, Inc., appeals from the judgment against it and contends that the district court should have entered summary judgment in its favor. Defendant Birchwood Lighting, Inc., has filed a cross-appeal raising several issues. With respect to Lighting World's appeal, we affirm the judgment in part and vacate it in part, but we deny Lighting World's request that we direct the district court to grant its motion for summary judgment of infringement. With respect to Birchwood's cross-appeal, we affirm the judgment as to one issue and dismiss the cross-appeal as to the other issues raised by Birchwood.

Lighting World owns U.S. Patent No. 5,448,460 (“the ’460 patent”) and U.S. Patent No. 5,221,139 (“the ’139 patent”), both of which are directed to commercial lighting fixtures. In its complaint, Lighting World asserted that Birchwood’s Sydney model of fluorescent lamp fixtures infringed claim 1 of the ’460 patent and claim 3 of the ’139 patent. Claim 1 of the ’460 patent recites a fluorescent lighting fixture that comprises a plurality of support members, each having a mounting surface for receiving a fluorescent lamp, sockets for receiving each fluorescent lamp, and a connector assembly for connecting each pair of support members, each connector assembly being “pivotally connected to said pair of adjacent support members.” Claim 3 of the ’139 patent recites a lighting fixture for mounting fluorescent lamps; the claimed fixture comprises a support member with an upper surface on which “a plurality of lamp supports” are mounted “for engaging and supporting said fluorescent lamps adjacent their non-socket ends.” The spacing of the sockets and lamp supports is such that each fluorescent lamp overlaps the socket end of an adjacent lamp so as to provide shadowless and continuous lighting over the length of the fixture.

The dispute as to the proper construction of claim 1 of the ’460 patent focuses on the limitation that recites “a connector assembly for connecting each pair of adjacent support members, said connector assembly being pivotally connected to said pair of adjacent support members.” The district court concluded that the “connector assembly” limitation “discloses the function to be performed, rather than the structure that accomplishes it.” The district court therefore construed the “connector assembly” limitation as a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6 and held that

the limitation was subject to the statutory provision restricting the scope of the limitation to the corresponding structure “described in the specification and equivalents thereof.” The district court concluded that if section 112 ¶ 6 were not applied, “this claim element would cover every conceivable structure that could connect two elements and pivot.”

The dispute as to the proper construction of claim 3 of the ’139 patent focuses on the limitation that recites “a plurality of lamp supports mounted on the upper surface of said support member for engaging and supporting said fluorescent lamps adjacent their non-socket ends.” The district court construed that limitation to require that the lamps be supported from below, i.e., against the force of gravity. The court based that construction on its conclusion that the patent as a whole indicates that “the lamp support contemplated by claim 3 is intended to support the lamp from below, in order to prevent the angled lamp from falling on the socket in front of it.”

With respect to infringement, Birchwood argued that its Sydney model lamp fixtures differ from the claimed fixtures in two critical respects. First, the support members of the Birchwood fixtures are not attached by connectors that pivot on hinges like the connectors disclosed in the written description of the ’460 patent. Instead, the support members of the Birchwood fixtures are connected by rods that enter an opening in each support member and have flanges at either end that keep the rods from pulling out of the support members. Second, the Birchwood support members, unlike the support members described in the ’139 patent, feature clips around each bulb so that the bulbs are supported regardless of the orientation of the lamps.

Based on its claim construction, the court denied Lighting World’s motions for summary judgment of literal infringement as to both patents. Instead, the court ruled

before trial that Birchwood's fixtures did not literally infringe either patent. With respect to the '460 patent, the court concluded that Birchwood's flanged connector rods were not the same as or equivalent to the hinged connector assemblies described in the specification, as required by section 112 ¶ 6, and that the "connector assembly" limitation therefore did not read on the Birchwood device. With respect to the '139 patent, the court concluded that Birchwood's lamp supports differed from the claimed supports because the lamp clips used on the Birchwood supports provided support from a multitude of directions and thus could support the lamps even against the force of gravity.

As an affirmative defense, Birchwood alleged the patents in suit were invalid on various grounds, including anticipation and obviousness. Before trial, Birchwood moved for summary judgment of invalidity as to the '460 patent based on anticipation. The district court, however, denied Birchwood's motion and left the issue of invalidity to be decided at trial.

The case proceeded to trial on the claims of infringement under the doctrine of equivalents. At the close of Lighting World's case-in-chief, the court granted Birchwood's motion for judgment as a matter of law ("JMOL") on the ground that Lighting World had not put forth evidence that a person of ordinary skill in the art would regard the Birchwood device as equivalent to the inventions claimed in either of the two patents. The court had no occasion to address the invalidity issue at trial because JMOL was granted in favor of Birchwood before Birchwood had to put on its defense.

## II

Lighting World asks this court to vacate the JMOL of no infringement under the doctrine of equivalents, to reverse the district court's pretrial ruling of no literal infringement, and to direct the entry of summary judgment of infringement with respect to both patents.

### A. Infringement under the Doctrine of Equivalents

Lighting World argues that the court applied the wrong legal standard in requiring it to present evidence as to the level of ordinary skill in the art as part of its proof of infringement under the doctrine of equivalents. In determining whether equivalence is established, "the vantage point of one of ordinary skill in the relevant art provides the perspective for assessing the substantiality of the differences" between the claimed invention and the accused device. Hilton Davis Chem. Co. v. Warner-Jenkinson Co., 62 F.3d 1512, 1519 (Fed. Cir. 1995), rev'd on other grounds, 520 U.S. 17 (1997). Contrary to Lighting World's contention, the requirement that equivalence be evaluated from the perspective of one of ordinary skill in the art applies whether equivalence is measured by the "function-way-result" test or by the "insubstantial differences" test. See Hilton Davis, 62 F.3d at 1518-19. The district court concluded that Lighting World failed to introduce evidence on that issue, and we see no reason to upset the court's ruling in that regard.

Lighting World does not appear to argue that the district court's claim construction prejudiced Lighting World's presentation of its case on equivalence (although it argues that it should have had the chance to prove literal infringement at trial). The defect in Lighting World's case was its failure to present evidence regarding

the perspective of one of skill in the art, and there is no suggestion that its failure in that respect was the result of any error in the court's claim construction. Thus, we sustain the district court's entry of JMOL of no infringement under the doctrine of equivalents with respect to both patents.

## B. Literal Infringement

Lighting World next argues that the district court committed errors in claim construction and therefore erred in ruling against Lighting World on the issue of literal infringement with respect to both patents. We agree with Lighting World that the court committed errors of claim construction as to both patents and that it therefore erred in granting summary disposition on both of Lighting World's claims of literal infringement.

### 1. The '460 patent

With respect to the '460 patent, the district court found that the "connector assembly" limitation is a means-plus-function limitation under 35 U.S.C. § 112 ¶ 6. The court acknowledged that the absence of the word "means" from the "connector assembly" limitation created a presumption that the limitation was not a means-plus-function limitation, but it found that the presumption was overcome because the phrase "connector assembly for connecting each pair of adjacent support members [and] being pivotally connected to said pair of adjacent support members" described only a function and not the structure that performed it.

As the district court recognized, this court's precedent provides that "[a] claim limitation that actually uses the word 'means' invokes a rebuttable presumption that § 112 ¶ 6 applies. By contrast, a claim term that does not use 'means' will trigger the rebuttable presumption that § 112 ¶ 6 does not apply." CCS Fitness, Inc. v. Brunswick

Corp., 288 F.3d 1359, 1369 (Fed. Cir. 2002). The use of the term “means” is “central to the analysis,” Personalized Media Communications, LLC v. Int’l Trade Comm’n, 161 F.3d 696, 703 (Fed. Cir. 1998), because the term “means,” particularly as used in the phrase “means for,” is “part of the classic template for functional claim elements,” Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1427 (Fed. Cir. 1997), and has come to be closely associated with means-plus-function claiming. See Apex, Inc. v. Raritan Computer, Inc., 325 F.3d 1364, 1373 (Fed. Cir. 2003); York Prods., Inc. v. Cent. Tractor Farm & Family Ctr., 99 F.3d 1568, 1574 (Fed. Cir. 1996).

The presumption that a limitation lacking the term “means” is not subject to section 112 ¶ 6 can be overcome if it is demonstrated that “the claim term fails to ‘recite sufficiently definite structure’ or else recites ‘function without reciting sufficient structure for performing that function.’” CCS Fitness, 288 F.3d at 1369 (quoting Watts v. XL Sys., Inc., 232 F.3d 877, 880 (Fed. Cir. 2000)). Our cases make clear, however, that the presumption flowing from the absence of the term “means” is a strong one that is not readily overcome. See, e.g., Al-Site Corp. v. VSI Int’l, Inc., 174 F.3d 1308, 1318-19 (Fed. Cir. 1999); Personalized Media Communications, 161 F.3d at 703-05.

The task of determining whether the limitation in question should be regarded as a means-plus-function limitation, like all claim construction issues, is a question of law for the court, even though it is a question on which evidence from experts may be relevant. Linear Tech. Corp. v. Impala Linear Corp., 371 F.3d 1364, 1371 (Fed. Cir. 2004); Wenger Mfg., Inc. v. Coating Mach. Sys., Inc., 239 F.3d 1225, 1231 (Fed. Cir. 2001); Personalized Media Communications, 161 F.3d at 702; see generally Markman



v. Westview Instruments, Inc., 517 U.S. 370 (1996). As the Supreme Court said in Markman:

It is, of course, true that credibility judgments have to be made about the experts who testify in patent cases, and in theory there could be a case in which a simple credibility judgment would suffice to choose between experts whose testimony was equally consistent with a patent's internal logic. But our own experience with document construction leaves us doubtful that trial courts will run into many cases like that. In the main, we expect, any credibility determinations will be subsumed within the necessarily sophisticated analysis of the whole document, required by the standard construction rule that a term can be defined only in a way that comports with the instrument as a whole.

Id. at 389. Thus, even when expert evidence has been offered with respect to the issue of claim construction, we must determine whether that evidence comports with the intrinsic evidence in the case. See Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1584 (Fed. Cir. 1996) ("Moreover, even if the judge permissibly decided to hear all the possible evidence before construing the claim, the expert testimony, which was inconsistent with the specification and file history, should have been accorded no weight.").

Claim 1 of the '460 patent recites:

A lighting fixture for fluorescent lighting comprising:

- a) a plurality of support members, each having a mounting surface for receiving a fluorescent lamp;
- b) a socket for receiving a fluorescent lamp mounted on said mounting surface;
- c) a connector assembly for connecting each pair of adjacent support members, said connector assembly being pivotally connected to said pair of adjacent support members; and
- d) said plurality of support members being movable relative to each other to form the lighting fixture into the desired shape.

'460 patent, col. 4, ll. 27-39 (emphasis added). Because the "connector assembly" limitation does not contain the term "means," we begin with the presumption that section

112 ¶ 6 does not apply to that limitation. The district court held that Birchwood successfully rebutted that presumption, but we disagree.

In an effort to rebut the presumption that section 112 ¶ 6 does not apply, Birchwood introduced the declaration of Dr. Andrew Wortman. Dr. Wortman declared that the term “connector” encompasses “at least a single infinity of possible devices” and that the term “would not provide [him] or others of ordinary skill in the lighting fixture art with sufficient structural information to put [him] on notice as to what device or component would read on the claim element.” Dr. Wortman’s declaration, however, does not address the central issue in determining whether section 112 ¶ 6 applies. Implicit in Dr. Wortman’s statement is the premise that in order to be regarded as structural for purposes of section 112 ¶ 6, a claim limitation must identify a specific structure and not use a generic term that includes a wide variety of structures. The district court adopted that view explicitly when it held that the claim language “connector assembly being pivotally connected to said pair of adjacent support members” was not structural because “it would cover every conceivable structure that could connect two elements and pivot.”

That approach is unduly restrictive. In considering whether a claim term recites sufficient structure to avoid application of section 112 ¶ 6, we have not required the claim term to denote a specific structure. Instead, we have held that it is sufficient if the claim term is used in common parlance or by persons of skill in the pertinent art to designate structure, even if the term covers a broad class of structures and even if the term identifies the structures by their function. See Greenberg v. Ethicon Endo-Surgery, Inc., 91 F.3d 1580, 1583 (Fed. Cir. 1996); see also Apex, 325 F.3d at 1372; CCS

Fitness, 288 F.3d at 1369; Watts, 232 F.3d at 880; Personalized Media Communications, 161 F.3d at 704.

In Greenberg, for example, we held that the trial court erred when it characterized the claim phrase “detent mechanism” as a means-plus-function limitation. The district court in Greenberg based its decision that section 112 ¶ 6 applied on the following observations: (1) detent mechanism “did not describe a particular structure but described any structure that performed a detent function,” 91 F.3d at 1583; (2) the proffered definitions for detent mechanism were expressed in functional terms, id.; and (3) the written description twice used the term “detent means” when referring to the specific structure disclosed and at other times used “detent mechanism,” leading the district court to conclude that “mechanism” was synonymous with “means.” In rejecting that evidence as insufficient to establish that the claim was subject to section 112 ¶ 6, we explained that “the fact that a particular mechanism . . . is defined in functional terms is not sufficient to convert a claim element containing that term into a ‘means for performing a specified function’ within the meaning of section 112(6).” Id. We noted that the definitions made “clear that the noun ‘detent’ denotes a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms.” Moreover, we rejected the claim that because a term does not bring to mind a particular structure, it invokes section 112 ¶ 6. Specifically, we said, “It is true that the term ‘detent’ does not call to mind a single well-defined structure, but the same could be said of other commonplace structural terms such as ‘clamp’ or ‘container.’” Id.

We have made the same point in other recent cases dealing with the question whether particular broad claim language should be considered functional for purposes of section 112 ¶ 6 even though it is not in the traditional “means for” format. In those cases, based on the same analysis, we have rejected arguments that broad terms such as “digital detector” (Personalized Media Communications), “eyeglass hanger member” (Al-Site Corp.), “reciprocating member” (CCS Fitness), and “sealingly connected” joints (Watts) trigger section 112 ¶ 6.

Thus, while it is true that the term “connector assembly” does not bring to mind a particular structure, that point is not dispositive. What is important is whether the term is one that is understood to describe structure, as opposed to a term that is simply a nonce word or a verbal construct that is not recognized as the name of structure and is simply a substitute for the term “means for.” The court in Personalized Media Communications drew the pertinent distinction in holding that the term “detector,” although broad, is still structural for purposes of section 112 ¶ 6 because it “is not a generic structural term such as ‘means,’ ‘element,’ or ‘device’; nor is it a coined term lacking a clear meaning such as ‘widget’ or ‘ram-a-fram.’” 161 F.3d at 704.

In Greenberg and subsequent cases, we have looked to the dictionary to determine if a disputed term has achieved recognition as a noun denoting structure, even if the noun is derived from the function performed. See Greenberg, 91 F.3d at 1583 (“Dictionary definitions make clear that the noun ‘detent’ denotes a type of device with a generally understood meaning in the mechanical arts, even though the definitions are expressed in functional terms.”); Linear Tech. Corp., 371 F.3d at 1371 (technical dictionary makes clear that “circuit” is structural); CCS Fitness, 288 F.3d at 1369

(dictionary definitions consulted to determine that an artisan of ordinary skill would understand the term in question to have an ordinary meaning); Personalized Media Communications, 161 F.3d at 704 (same). Dictionary definitions in this case disclose that the term “connector” has a reasonably well-understood meaning as a name for structure, even though the structure is defined in terms of the function it performs. “Connector” is defined by Webster’s Third New International Dictionary 481 (1993), as “something that connects.” “Connect” is defined as “to join, fasten, or link together usu. by means of something intervening.” Id. at 480; see also Random House Dictionary of the English Language 311 (1966) (“connector” defined as “one who or that which connects; . . . any of various devices for connecting one object to another.”) Thus, in the context of claim 1, the term “connector assembly” means a unit that joins, fastens, or links each pair of adjacent support members. The fact that more than one structure may be described by that term, or even that the term may encompass a multitude of structures, does not make the term “connector assembly” any less a name for structure.

In addition to the fact that the word “connector” has a generally understood meaning as demonstrated by the dictionary definitions of the terms, it is clear that the parties in this case have used that term to denote structure. The written description of the ’460 patent, for example, uses the term “connector assembly” as the name for structure. The patent recites:

The plurality of support and mounting sections 12a to 12h is connected in series to form the fluorescent lighting fixture track 20, wherein each pair of adjacent support members 12 is joined together by a connector assembly 22.

As shown in detail in FIGS. 1 and 2, each connector assembly 22 has a left and right hinge pin 24a and 24b that are hingedly or pivotally connected to hole openings 26 formed in the upper and lower surface walls 30 and 32 of the connector assembly 22, respectively. The hinge

pins 24a and 24b of each connector assembly 22 are also pivotally attached to the adjacent ends of each support member 12 at hole openings 34. However, the first and last support members 12 of lighting fixture track 20 has [sic] the connector assembly 22 attached only to one of the ends of support member 12.

'460 patent, col. 2, ll. 38-53 (emphases added). As Lighting World's expert pointed out, the same thing is true of Birchwood's patent application on the invention corresponding to the Sydney model lamp fixtures. That application uses the term "connector" more than 40 times, and the context makes it clear that the term is used not in a purely functional manner designed to invoke section 112 ¶ 6, but as a description of structure that is generally understood to persons of skill in the art. While the terms "connector" and "connector assembly" are certainly broad, and may in the end include any structure that performs the role of connecting, the same could be said of numerous other terms, such as "clamp," or "clip," or even "support member," another term that is used in the '460 patent. Those terms are routinely treated as structural by patent practitioners and courts, and we conclude that there is no reason to treat the term "connector assembly" any differently for purposes of section 112 ¶ 6. The consequence of defining the term "connector assembly" free of the constraints of section 112 ¶ 6 may be to render the claim more vulnerable to attack for invalidity, but that is a risk that a claim drafter assumes by choosing broad structural terms rather than choosing to claim in means-plus-function format under section 112 ¶ 6.

In light of the principles discussed above, it is not surprising that we have seldom held that a limitation not using the term "means" must be considered to be in means-plus-function form. In fact, we have identified only one published opinion since Greenberg in which we have done so, and that case provides a useful illustration of how

unusual the circumstances must be to overcome the presumption that a limitation lacking the word “means” is not in means-plus-function form.

The exceptional case is Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206 (Fed. Cir. 1998). In that case, we held that the terms “lever moving element” and “movable link member” recited in a patent to a high security combination lock were in means-plus-function form. Id. at 1213-15. In addressing “lever moving element,” the court stated, “While true that ‘[m]any devices take their names from the functions they perform,’ the ‘substantially non-resilient lever moving element’ of claim 3 is not one of them.” Id. at 1213 (quoting Greenberg, 91 F.3d at 1583). The only term in “lever moving element” that could denote structure is “element.” Although the term “element” may be recognized as structural in some fields of art, the Mas-Hamilton court noted that the patentee had not directed the court “to any evidence demonstrating that the district court erred in determining that the term ‘lever moving element’ lacks a reasonably well understood meaning” in the relevant art. Id. at 1214.

The court in Mas-Hamilton also upheld the district court’s ruling that there was no evidence that the term “movable link member” had a well-understood meaning in the art. Accordingly, the court held that the limitation reciting a “movable link member for holding the lever out of engagement with the cam surface before entry of a combination and for releasing the lever after entry of the combination” was in means-plus-function format. The court stated:

[W]e note that the subsequent functional language requires two functions: (1) “for holding the lever out of engagement with the cam surface before entry of a combination,” and (2) “for releasing the lever after entry of the combination.” Such language is precisely what was intended by the statutory phrase in section 112, ¶ 6 requiring that means-plus-function limitations provide “a specified function.” Further, we do not see that the

remaining terms in the claim limitation other than those defining the two functions, i.e., “a movable link member,” provide any structure as necessary to remove this limitation from the ambit of section 112, ¶ 6.

Id. at 1215 (citation omitted). Based on the entire record, the court concluded that the term “movable link member,” like the term “lever moving element,” was not a recognized term that identified structure, but was simply a way of describing any device that performed the recited functions. The prosecution record in Mas-Hamilton showed that the patentee had used the terms “member,” “element,” and “means” interchangeably, and in the patent itself the patentee described the “lever moving element” and the “movable link member” as the “[m]eans . . . for moving the lever,” and the “[m]eans . . . for releasably maintaining the pivotable lever in a position substantially disengaged.” U.S. Patent No. 5,307,656, col. 2, ll. 24-27. Thus, the court found that the terms “element” and “member,” as used in the disputed claims, were mere proxies for the term “means for” and held that the presumption flowing from the absence of the term “means for” was overcome.

Unlike in Mas-Hamilton, in this case the pertinent patents and dictionaries indicate that the term “connector assembly” refers to a device that takes its name from the function it performs. The term “connector assembly” is therefore more like the “detent mechanism” of Greenberg than the “lever moving element” or “movable link member” of Mas-Hamilton.

On this record, Birchwood has not demonstrated that section 112 ¶ 6 should apply to the “connector assembly” limitation. The only evidence supporting Birchwood’s position is the Wortman declaration, which as we have noted is based on an unduly restrictive standard that would require all structural terms to describe a particular device and would presumably treat general structural terms as functional in nature. Because

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the intrinsic record and dictionaries reflect that the terms “connector” and “connector assembly” are used as the names for structure, we conclude that the “connector assembly” limitation in claim 1 of the ’460 patent is not in means-plus-function form. Accordingly, we vacate the district court’s ruling that Birchwood’s product does not literally infringe the ’460 patent, and we remand the literal infringement issue to the district court for reconsideration in view of the proper claim construction.

## 2. The ’139 patent

Claim 3 of the ’139 patent recites:

A lighting fixture for mounting fluorescent lamps, comprising:

- a) a support member having an upper surface;
- b) a plurality of lamp supports mounted on the upper surface of said support member for engaging and supporting said fluorescent lamps adjacent their non-socket ends;
- c) said plurality of lamp supports being equally spaced apart in a straight line;
- d) a plurality of sockets corresponding to said plurality of lamp supports for receiving said fluorescent lamps mounted on the upper surface of said support member and being equally spaced apart in a straight line each of said plurality of sockets being adjacent the socket end of one of said fluorescent lamps; and
- e) the spacing between each of said plurality of sockets and each of said corresponding lamp supports being less than the length of one of said fluorescent lamps, so that the non-socket end of one fluorescent plurality of lamps mounted on one of said lamp supports overlaps the socket end of an adjacent fluorescent lamp so as to provide shadowless and continuous linear lighting.

’139 patent, col. 2, line 55, through col. 4, line 3 (emphasis added). Birchwood argues that the prosecution history of the ’139 patent requires that the “lamp supports” of claim 3 be limited to ramps. The district court disagreed with Birchwood, and so do we.

The original application that matured into the ’139 patent included three independent claims: claim 1, which recited ramps as the lamp supports; claim 3, which recited a plurality of lamp supports mounted adjacent to the non-socket ends of the lamps; and claim 5, which recited a plurality of lamp supports mounted adjacent to the

socket ends of the lamps. The examiner found that the application contained claims directed to patentably distinct species of the claimed invention and contained no generic claim. Accordingly, pursuant to 35 U.S.C. § 121, the examiner required the applicant to elect “a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable.” In response, the applicant cancelled claims 5 and 6, which recited lamp supports adjacent to the socket end of the lamps.

In its initial claim construction order, the district court construed “lamp supports” to be limited to ramps, because ramps were the only form of support disclosed in the drawings that related to elected claims 1 through 3. On Lighting World’s motion for reconsideration, however, the court reversed itself, holding that the examiner’s allowance of claim 4, which specifically claimed posts as lamp supports and was dependent on claim 3, necessarily indicated that the examiner had not required the application to be limited to lamp supports in the form of ramps.

We agree with the district court that the election did not require that the “lamp support” limitation be confined to ramps. The election had nothing to do with the type of lamp support claimed; rather, it had to do with whether the support was provided to the socket end of the support members or to the non-socket end. The ramp supports, like the posts recited in claim 4 and the lamp supports recited in claim 3, all provide support for the non-socket end of the lamps. Since the claims that remained upon issuance were all claims in which support was provided at the non-socket ends, the patent as issued was consistent with the applicant’s election. The court therefore properly declined to limit the lamp supports of claim 3 to ramps.

Although the district court rejected Birchwood's argument that claim 3 of the '139 patent is limited to ramps, the court agreed with Birchwood that claim 3 is limited in another respect that defeated Lighting World's claim of literal infringement. The court ruled that the claimed lamp supports were limited to those providing support from below, i.e., those that would work only if the lamps were oriented toward the ceiling and that would support the lamp against falling down into the socket end of an adjacent lamp. The court explained its ruling by stating that "reading the patent as a whole, it is clear that the lamp support contemplated by claim 3 is intended to support the lamp from below, in order to prevent the angled lamp from falling on the socket in front of it."

We disagree with that aspect of the court's claim construction. While it is clear that the claimed lamp supports provide support from below, we do not agree with Birchwood or the district court that claim 3 is limited to lamp supports that provide support only from below and that the claim does not include lamp supports that provide support when the lamp is in an orientation other than directly above the support.

Birchwood argues that the terms "engaging and supporting," as used in claim 3 of the '139 patent must be interpreted to mean engaging and supporting only from below. Birchwood contends that the figures of the '139 patent, in particular, depict various lamp supports, all of which consist of structures—such as ramps, posts, or brackets—on which the lamps rest. According to Birchwood, "[i]t is the force of gravity and the position of the lamp relative to the 'lamp supports' alone that causes the lamp to engage with and be supported by the 'lamp supports.'" Birchwood argues that the lamp supports depicted in the figures and described in the specification are all below the lamps and do not provide support for the lamps when the lamps are below the supports,

such as when the supports are attached to the ceiling. By contrast, the Birchwood lamp support features what the district court referred to as a “clip around the fluorescent lamp in order to provide support regardless of the orientation of the lighting fixture.” Birchwood thus distinguishes its lamp supports from those claimed in the ’139 patent by arguing that its lamp supports engage the lamp on all sides “and could engage and support the lamp regardless of the orientation of the lamp,” while the Lighting World lamp supports engage and support the lamps purely as a result of gravity and the lamps’ position relative to the lamp supports.

There are several problems with Birchwood’s analysis. First, the reference to “lamp supports” in claim 3 of the ’139 patent is not by its terms limited to supports that engage and support the lamps from below, and there is no language in the written description that limits the term “supporting and engaging” to support and engagement from below. Second, although several of the figures of the ’139 patent show lamp supports that provide support from below the lamps, the scope of the claims is not limited to particular embodiments depicted in the figures or described in the written description. The ordinary meaning of the terms “supporting and engaging” includes more than support or engagement from below, and the fact that the patentee has not included figures depicting support and engagement from other orientations is not sufficient to limit the claim language to the particular orientation depicted in the figures. Third, several of the figures of the ’139 patent include a device that appears to clip around the lamps and thus provides support and engagement for the lamps that would be effective in other lamp orientations. Birchwood argues that the clip is unclaimed and thus is dedicated to the public, but that argument misses the relevance of the clip.

Lighting World does not point to the clip as a claimed feature, but instead refers to the clip to show that its use of the terms “supporting and engaging” was not meant to be limited to support and engagement from below. Finally, Birchwood’s argument that its support mechanism provides support in many orientations rather than merely from below does not avoid the patent’s claim to a mechanism for “supporting and engaging” the lamps, but at most simply reflects an additional feature not present in the device claimed in the patent. Making improvements on a patented invention by adding features to a claimed device beyond those recited in the patent does not avoid infringement. Hoyt v. Horne, 145 U.S. 302, 309 (1892); A.B. Dick Co. v. Burroughs Corp., 713 F.2d 700, 703 (Fed. Cir. 1983).

Contrary to Birchwood’s argument, the use of the term “upper surface” in the ’139 patent does not indicate that the claimed lamp supports include only those that provide support solely from below. Birchwood’s argument is based on the limitation that requires a plurality of lamp supports to be mounted “on the upper surface of said support members.” Nothing in the patent suggests that the “upper surface” of the support member ceases to be the “upper surface” if the fixture is turned upside down or placed in some other orientation. Nor is there any suggestion in the patent that the fixture must always be oriented so that its “upper surface” faces upward.

In sum, we construe “support member” to refer to a member that is mounted to the same surface as the lamp and that supports the lamp at its non-socket end. Because summary judgment of no literal infringement of the ’139 patent necessarily rested on the district court’s erroneous claim construction, the district court’s ruling on that issue must be vacated.

### C. Denial of Summary Judgment of Infringement

Lighting World claims that the evidence is clear that, in light of the correct claim construction, Birchwood's devices infringe claim 3 of the '139 patent. Lighting World therefore contends that we should not only reverse the judgment for Birchwood but also direct the district court to grant summary judgment of literal infringement in Lighting World's favor.

The denial of a pretrial motion for summary judgment is not ordinarily appealable, see State Contracting & Eng'g Corp. v. Condotte Am., Inc., 346 F.3d 1057, 1067 (Fed. Cir. 2003), and although it is within our authority under 28 U.S.C. § 2106 to direct the entry of judgment in Lighting World's favor on remand, we decline the invitation to do so. The task of determining infringement in light of the proper claim construction is for the district court. We therefore remand to the district court for further proceedings regarding Lighting World's claim of literal infringement of claim 3 of the '139 patent and any defenses that Birchwood may raise in response.

### III

In its cross-appeal, Birchwood seeks to raise several issues. First, Birchwood contends that the district court should have granted its motion for summary judgment of invalidity as to the '460 patent. In fact, however, the district court merely denied Birchwood's motion for summary judgment and did not enter a final judgment against Birchwood as to the issue of invalidity. Because Birchwood raised invalidity only as an affirmative defense and not as a counterclaim, it became unnecessary for the court to enter a judgment as to the invalidity issue when the court entered judgment of noninfringement with respect to the '460 patent. See Hill-Rom Co. v. Kinetic Concepts,

Inc., 209 F.3d 1337, 1344 (Fed. Cir. 2000). Inasmuch as there was no final judgment against Birchwood on the invalidity issue, but only an order denying its request for summary judgment, it is improper for Birchwood to pursue a cross-appeal on that issue. See Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1313 (Fed. Cir. 1999). We therefore dismiss that portion of Birchwood's cross-appeal.

As its second ground for cross-appeal, Birchwood contends that the district court should have granted its motion for attorney fees under 35 U.S.C. § 285 based on its claims of litigation misconduct and its contention that the '460 patent was procured through inequitable conduct. We uphold the district court's order denying an award of attorney fees on the ground that the court did not commit clear error in finding that the case was not exceptional and thus did not abuse its discretion in ruling that this case was not an appropriate one for an award of fees. See Sulzer Textil A.G. v. Picanol N.V., 358 F.3d 1356, 1363 (Fed. Cir. 2004).

We decline to second-guess the district court's judgment that the defendant is not entitled to attorney fees based on litigation misconduct by the plaintiff. The district judge is in a far better position to assess that matter than we are, and nothing presented to us on appeal indicates that the district court's assessment is so clearly flawed as to justify our overturning the district court's ruling on that issue.

As for Birchwood's contention that it is entitled to attorney fees because the '460 patent was procured through inequitable conduct, the district court rejected that claim on the ground that the "high threshold" of proof of inequitable conduct had not been met. Birchwood has taken the unusual tack of raising inequitable conduct in its attorney fee request even though it did not litigate that issue prior to the entry of judgment on the

merits. In light of the belated raising of that issue, the district court was justified in not requiring a full trial on the issue of inequitable conduct as part of the attorney fee motion or in entering detailed findings of fact and conclusions of law on the issue, as Birchwood contends it should have. Nor would Birchwood be entitled to an award of attorney fees simply upon showing that the applicant engaged in inequitable conduct, as Birchwood appears to assume. A party's success on the merits of an ultimate issue in a patent case does not automatically render a case "exceptional" for purposes of the attorney fee statute. Based on Birchwood's belated raising of the inequitable conduct issue and the exacting standard applicable to attorney fee requests, we hold that the district court did not err in denying Birchwood's fee application on that ground.

Finally, Birchwood appears to include within its cross-appeal a challenge to the district court's denial of Birchwood's motion in limine to exclude from trial the testimony of Lighting World's expert. Reversal of the district court's ruling on that issue, however, would not alter the judgment in Birchwood's favor, so that issue is not properly presented as a cross-appeal. Bailey v. Dart Container Corp., 292 F.3d 1360, 1362 (Fed. Cir. 2002). Accordingly we dismiss the cross-appeal with respect to that issue as improper.

Each party shall bear its own costs for this appeal.

AFFIRMED IN PART, VACATED IN PART, DISMISSED IN PART, and REMANDED.