

Abstract

The Court considered whether a patentee's own published PCT application could be used as intervening prior art.

LAMPI CORPORATION, Plaintiff-Appellant, v. AMERICAN POWER PRODUCTS, INC., Defendant-Cross Appellant.

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

September 28, 2000, Decided

**COUNSEL:** David I. Roche, Baker & McKenzie, of Chicago, Illinois, argued for plaintiff-appellant. With him on the brief were Michael A. Pollard and Daniel J. O'Connor.

Charles W. Shifley, Banner & Witcoff, Ltd., of Chicago, Illinois, argued for defendant-cross appellant. Of counsel on the brief were G. Keith deBrucky, Matthew P. Becker and Pamela I. Banner, Law Office of G. Keith deBrucky, of Placentia, California.

**JUDGES:** Before MAYER, Chief Judge, RADER, and BRYSON, Circuit Judges.

**OPINIONBY:** BRYSON

**OPINION:**

BRYSON, Circuit Judge.

Lampi Corporation owns U.S. Patent No. 5,169,227 (the '227 patent), which is drawn to a miniature, self-supporting fluorescent light that can be plugged into a standard electrical outlet. Lampi brought a patent infringement suit against American Power Products, Inc., (APP) in the United States District Court for the Northern District of Illinois. After a bench trial, the district court found that APP had not infringed the asserted claims of the '227 patent, as construed by the court. The district court also concluded that the claims were not invalid. Lampi appeals from the portion of the judgment finding the claims not infringed, and APP cross-appeals from the portion of the judgment finding the claims not invalid. We affirm in part, vacate in part and remand.

The invention of the '227 patent is a small, self-supporting, plug-in fluorescent light that can be used, for example, as a night light. Generally stated, the patent claims a miniature fluorescent lamp comprising a miniature fluorescent tube, electrical means for operating the fluorescent tube, and a self-supporting housing. Figure 1 of the '227 patent, reproduced below, illustrates the claimed invention.

[SEE FIGURE 1 IN ORIGINAL]

Figure 1 shows a top view of a housing half-shell. Two such half-shells form a "connecting element which is shaped into a housing which supports a fluorescent lamp tube 5." '227 patent, col. 3, ll. 31-34. The patent further explains:

The interior of the housing formed by both half-shells 1 is shaped like sleeves 3, 4, which extend in a direction parallel to each other. The fluorescent lamp tube 5 is inserted into the first sleeve 3, the tube having connecting contacts 6 which snugly rest against electrical contact vanes 7 provided on the front sides 8 of the first sleeve 3 and which vanes establish electrical conductive contact with the electric wiring (not shown) housed in the second sleeve 4.

'227 patent, col. 3, ll. 35-45.

Lampi manufactures the "Micro Lampi" light, the commercial embodiment of the '227 patent and Lampi's U.S. Patent No. 4,965,875 (the '875 patent). The '227 patent is a continuation of the application that led to the '875 patent. APP is Lampi's competitor and manufactures the "Mini-Fluorescent," a small, self-supporting fluorescent light that can be plugged into a standard electrical outlet. Two models of the Mini-Fluorescent that are at issue in this case, model numbers 5544 and 7744, are shown below.

[SEE ILLUSTRATIONS IN ORIGINAL]

As the exploded view above shows, Model 5544 has a two-piece plastic casing enclosing electrical components of the light and a plastic form, and two mating, semi-circular brackets that extend out from the top and bottom parts of the casing to hold the fluorescent tube. Two plastic caps attach to the ends of the plastic casing pieces having the semi-circular brackets, and a translucent cover is attached. Model 7744 lacks the interior plastic form and the end caps, but the electrical components are still contained inside the two-piece plastic casing. Two cradles project from each of the casing pieces to hold the fluorescent tube, and a translucent cover is attached.

In 1993, Lampi filed the instant action alleging that the 5544 and 7744 models of APP's Mini-Fluorescent device infringed the '227 and '875 patents. The only claims still at issue are claims 1 and 11 of the '227 patent. Those claims are reproduced in pertinent part below, with the limitations disputed on appeal emphasized:

1. A miniature fluorescent lamp comprising:

a miniature fluorescent tube;

electrical means for operating said fluorescent tube . . . ;

a self-supporting elongated housing enclosing said electrical means and having support means for supporting said fluorescent tube, said housing having a first longitudinally-extending side defining a first interior channel in which said fluorescent tube is mounted, said first channel defining a window for the fluorescent tube and an opposite longitudinally-extending second side defining a second interior channel in which said electrical means is primarily housed, said electrical plug being in the form of plug blades, and extending generally outwardly and normally from said second housing side configured and dimensioned to support said housing and the fluorescent tube in a self-supporting manner when inserted into an electrical outlet, said housing additionally having two closed ends enclosing the ends of the fluorescent tube and including a conduit which connects said first interior channel to said second interior channel and allows said electrical means to pass therethrough.

11. A miniature fluorescent lamp comprising:

a miniature fluorescent tube;

electrical means for operating said fluorescent tube . . . ;

a self-supporting elongated housing having two separable half-shells, said half-shells being joined along a junction plane and . . . said housing enclosing and supporting said fluorescent tube and said electrical means, said housing having a first longitudinally-extending [side] defining a first interior channel in which said fluorescent tube is mounted, and an opposite longitudinally-extending second side defining a second interior channel in which said electrical means is primarily housed, said electrical plug extending generally outwardly and normally from said second housing side configured and dimensioned to support

said housing and the fluorescent tube in a self-supporting manner when inserted into an electrical outlet.

Before the trial court, the parties agreed that the "support means for supporting said fluorescent tube" limitation was a means-plus-function limitation, but they disputed what structure performed the claimed function. The district court concluded that "the first sleeve having front sides [is] the structure of the housing corresponding to the support means limitation." The district court construed "first interior channel" as "an interior sleeve where the fluorescent tube is contained." The district court's construction was based in part on statements made by the patentee during prosecution establishing that the term "sleeve," which is used throughout the specification and labeled in the drawings, was equivalent to the term "channel," which is used only in the claims. The court construed the term "half-shells" to mean "two equal or corresponding parts forming a hard or firm outer covering into which the housing of the fluorescent lamp is divided."

The case then proceeded to a bench trial on infringement. APP limited its non-infringement arguments to the following issues: whether Model 5544 has "support means" as required by claim 1; (2) whether Model 7744 has "support means" as required by claim 1; (3) whether Model 7744 has a "first interior channel" as required by claims 1 and 11; and (4) whether Model 5544 has "two half-shells" as required by claim 11.

APP also raised several issues of invalidity as an affirmative defense to infringement. First, APP asserted that the '227 patent was invalid under the on-sale bar of 35 U.S.C. § 102(b). APP's on-sale bar argument was primarily based on statements Lampi made to the Patent and Trademark Office (PTO) in its application to register the external design of the Micro Lampi as a trademark. Those statements, according to APP, established that the Micro Lampi was on sale in July 1985, before the '227 patent's critical date of January 31, 1986. During the trademark prosecution, the examiner rejected the application because, among other reasons, Lampi had failed to establish the distinctiveness of the Micro Lampi trademark. The examiner suggested that Lampi could overcome the rejection by adopting the following statement, based on assertions previously made by Lampi, if accurate: "The mark has . . . [been] used in commerce for at least seven years immediately before the date of this statement[.]" Lampi incorporated that statement into a response submitted on January 5, 1993. The PTO subsequently issued Lampi a trademark for the external design of the Micro Lampi.

Lampi also made other statements indicating that the Micro Lampi was on sale before the critical date. In declarations of Lampi officers, and in documents

signed by Lampi attorneys and submitted to the PTO during the trademark registration process, Lampi asserted that "the trademark was first used on the goods in July, 1985, was first used in commerce in July, 1985," and that "the mark has been used in commerce since July of 1985 due to the extensive sales of products embodying the mark by Lampi Corporation . . . ." In addition, Lampi asserted in its original and first amended complaints in the instant litigation that, "commencing in or about 1985, Lampi's products, as sold throughout the United States . . . have included a certain fluorescent lamp sold under the trademark Micro Lampi."

APP argued at trial that those statements established that the invention of the '227 patent was used in commerce prior to the critical date, and that the patent was therefore invalid. As additional grounds for invalidity, APP argued that the asserted claims were not entitled to the filing date of the parent application, i.e., the application that issued as the '875 patent, because the disclosure of the '875 patent did not adequately describe the claimed subject matter, as required by 35 U.S.C. § 112, P 1. Consequently, APP asserted, claims 1 and 11 were invalidated by the intervening publication of Lampi's Patent Cooperation Treaty (PCT) application and the sales of the Micro Lampi. APP also argued that the patent was invalid for obviousness under 35 U.S.C. § 103.

After trial, the district court issued its order concluding that the '227 patent was valid and that Lampi had failed to establish that the accused devices infringed the '227 patent, either literally or under the doctrine of equivalents. First, the court concluded that the accused devices did not meet the "support means" limitation. Reiterating its previous conclusion that the fluorescent tube in the '227 patent is held in the first sleeve by the front sides at the immediate ends of the tube, the court found that the semi-circular brackets in the 5544 device and the cradles in the 7744 device are not the same structure as the front sides disclosed in Lampi's patent. The court also found that the structures supporting the fluorescent tube in the accused devices are not equivalent to the structure disclosed in the '227 patent, because the front sides of the first sleeve in the '227 patent are sized to the length of the fluorescent tube to hold it in place without slack or movement, whereas the semi-circular brackets in the 5544 device and the cradles in the 7744 device provide support without touching the ends of the tube and without preventing lateral movement of the tube. As to the "first interior channel," the court found that Model 7744 did not meet that limitation, reasoning that the translucent cover or diffuser cannot be a part of the housing that defines the first interior channel in either claim 1 or claim 11. Finally, with respect to the "half-shells" limitation, the court found that Model 5544 lacks "half-shells" because its housing has five parts (the two pieces forming the plastic casing, the two end caps, and the translucent cover) and therefore does

not have two parts that are both "equal or corresponding" to form an "outer covering into which the housing . . . is divided."

The district court concluded that Lampi had not proved that the patent was infringed under the doctrine of equivalents because Lampi had presented no evidence on that issue. Applying a "function, way, result" analysis, the court also found that the accused devices do not infringe the asserted claims because they do not include equivalents for the "support means," "first interior channel," and "half-shells" of the patented invention.

The district court then rejected each of APP's invalidity arguments, finding that APP had failed to prove the '227 patent invalid by clear and convincing evidence. As to APP's on-sale-bar argument, the court found that Lampi's position at trial that the Micro Lampi was not on sale until September 1986 was directly contrary to representations Lampi had made to the PTO. The court held, however, that Lampi was not judicially estopped to deny the statements it made during the trademark registration process. At trial, the district court judge heard the testimony of Lampi's Chief Operating Officer, Heike Holderer, who had made several of the statements to the PTO. Ms. Holderer testified that she misunderstood the meaning of "use in commerce" when she submitted her declarations to the PTO. She stated that she mistakenly believed that submitting the preliminary plans to a tool and die maker to make the Micro Lampi constituted "use in commerce" and that "use in commerce" did not refer to sales. The court also noted that Lampi later amended its trademark application by changing the initial date for sales of the Micro Lampi in the United States from July 1985 to September 1986. Further, the court found that Lampi had not benefited from its representations to the PTO because Lampi did not have to establish that the Micro Lampi was on sale in the United States in July 1985 to satisfy the statutory requirements for trademark registration. Based on the foregoing evidence, the district court found that the inconsistency in Lampi's assertions was the product of inadvertence or mistake, and concluded that it would therefore be inappropriate to invoke judicial estoppel against Lampi. The court also found that Lampi had presented ample evidence to establish that the Micro Lampi was not on sale until September 1986, after the critical date of the '227 patent. Therefore, the court concluded, the patent was not invalid under the on-sale bar.

The court also found that the specification of the parent '875 patent meets the written description requirement of 35 U.S.C. § 112, P 1, relative to claims 1 and 11 of the '227 continuation patent. For that reason, the court rejected APP's other section 102(b) arguments. The court did not address APP's obviousness argument because it was conditioned on the court's adoption of Lampi's asserted

claim construction, which the court had rejected. Lampi appeals the district court's judgment, and APP cross-appeals.

## II

On appeal, Lampi argues that the district court misconstrued three claim terms in the patent: the "support means" limitation of claim 1, which affects the district court's non-infringement finding as to both the 5544 and the 7744 models; the "first interior channel" limitation of claims 1 and 11, which affects the non-infringement finding as to the 7744 model; and the "housing having two separable half-shells" in claim 11, which affects the non-infringement finding as to the 5544 model.

### A

The parties agreed at trial and do not dispute on appeal that the "support means" language must be read as a means-plus-function limitation. The dispute with respect to the "support means" limitation concerns the structure that performs the claimed function. Lampi argues that the "support means" disclosed in the '227 patent is "a rounded portion of the housing wherein the tube sits, with the glass making contact with the housing." Lampi relies on the patent drawings which, Lampi asserts, show that the tube is supported by a curved section of the housing, against which the glass portion of the tube rests. APP argues that the specification discloses that the support for the fluorescent tube is provided by the "front sides" of the first sleeve or channel, i.e., the two parallel plates at opposite ends of the first sleeve designated 8 in Figure 1, above.

The district court agreed with APP that the front sides of the first sleeve or channel constitute the structure that performs the function of supporting the fluorescent tube. The court rejected Lampi's argument that Figure 1 of the patent showed that the tube rests directly on a curved portion of the housing, and the court noted that Figures 2 and 3 of the patent likewise do not show the fluorescent tube resting on the rounded portion of the housing.

We agree with the district court's analysis on this issue. In discussing the sleeve and the fluorescent tube, the patent states, "the fluorescent lamp tube 5 is inserted into the first sleeve 3, the tube having connecting contacts 6 which snugly rest against electrical contact vanes 7 provided on the front sides 8 of the first sleeve 3." '227 patent, col. 3, ll. 39-43. Figure 1 shows that the electrical contact vanes rest on or within the front sides. The specification further states that "the shape of the first sleeve has been adapted to fit the fluorescent lamp so that the fluorescent tube can be inserted into this first sleeve and is held in the first sleeve without slack." '227 patent, col. 2, ll. 59-62. We interpret the

reference to the tube being "held . . . without slack" to mean that the tube cannot move from side to side, and the front sides are the only disclosed structure that prevents such movement. Thus, although the patent does not explicitly refer to the front sides as providing support--indeed, discussion of the structure of the support means in the specification is sparse at best--we conclude that the district court did not err in finding that the front ends provide the requisite structure for the support means.

Like the district court, we also reject Lampi's argument based on the patent drawings. Figure 1 is a top view of a half-shell that does not show any spatial relationship between the longitudinal side of the tube and the housing. Only Figures 2 and 3, cross-sectional views of the patented invention, show the relevant relationship.

[SEE FIGURES 2 AND 3 IN ORIGINAL]

These figures show a space, i.e., a separation, between the dashed line of the fluorescent tube 5 and the bottom of the half-shell. We reject Lampi's assertion that the dashed line does not represent the outside diameter of the tube. The patent states that "the fluorescent lamp tube 5 is indicated in Fig. 3 by a dashed rectangle." '227 patent, col. 4, ll. 15-16. This language suggests that the dashed line represents the space occupied by the whole of the tube; if Lampi intended it to mean something less, it could have so stated. It is difficult to see how the dashed line could depict any part of the fluorescent tube other than the outside diameter. The dashed line most likely indicates simply that the fluorescent tube is in the background of the picture or inside the housing half-shell, which is shown in solid lines. Thus, we agree with the district court that there is nothing in the written description or the drawings that associates the "support means" with an unspecified curved portion of the housing or shows the lamp in contact with such a portion of the housing. A "curved portion" of the housing is neither discussed in the specification nor designated in the drawings.

Finally, contrary to Lampi's contention, the district court did not misinterpret the claimed function of the "support means." Lampi's argument is based on the following statement in the district court's order: "The specification indicates that the fluorescent tube is supported by the front sides that allow the connecting contacts of the fluorescent tube to rest snugly against electrical contact vanes." That statement simply says that the front sides of the first sleeve, which perform the function of supporting the fluorescent tube, also provide electrical connections for the contacts of the fluorescent tube. It is perfectly permissible for the front sides of the first interior sleeve to provide both support for the fluorescent tube and electrical connections for the tube contacts. See *Rodime PLC v. Seagate Tech., Inc.*, 174 F.3d 1294, 1305, 50 U.S.P.Q.2D (BNA) 1429,



1436 (Fed. Cir. 1999) ("[A] particular means may perform more than one function.").

In the alternative, Lampi argues that even if the district court's claim construction is correct, both accused devices literally infringe the "support means" limitation. Lampi notes that both accused devices have electrical wires on either side of the fluorescent tube that connect the tube to the electrical components inside the plastic casing. Lampi argues that the wiring limits end-to-end movement of the tube and that each accused device therefore contains structure equivalent to that disclosed in the '227 patent.

The district court found, as a factual matter, that the accused devices did not contain structure equivalent to that disclosed in the '227 patent. On appeal, Lampi does not point to any evidence to support the contention in its brief that the wiring in the accused devices holds the fluorescent tube in place. We therefore conclude that the trial court's finding of non-infringement was not clearly erroneous.

## B

The district court interpreted the "first interior channel in which [the] fluorescent tube is mounted" limitation in claims 1 and 11 as meaning "an interior sleeve where the fluorescent tube is contained." Relying primarily on language in the claims and written description, the court concluded in its subsequent infringement analysis that the translucent cover of Model 7744 could not be part of the first interior channel, i.e., the court construed "first interior channel" as defined by elements of the housing that cannot include a translucent cover.

On appeal, Lampi argues that the district court erred in excluding the translucent cover, or plastic diffuser, of the 7744 model from being a part of the first interior channel. According to Lampi, the court misconstrued the words "comprising" in the preamble of claims 1 and 11, and the word "having" in the body of the claims as closed, i.e., excluding other components. In addition, Lampi contends that the court erred in construing the limitation as "an interior sleeve where the fluorescent tube is contained " because the claims themselves state that a fluorescent tube must be mounted in the first interior channel, rather than contained therein. In the alternative, Lampi argues that even if the district court's claim construction is correct, the accused device infringed under the doctrine of equivalents.

We conclude that the district court did not err in deciding that the translucent cover cannot be a part of the first interior channel, although our reasoning differs from that of the district court. Our conclusion is dictated by statements made by

Lampi during prosecution of the '227 patent. " Explicit arguments made during prosecution to overcome prior art can lead to narrow claim interpretations . . . . By distinguishing the claimed invention over the prior art, an applicant is indicating what the claims do not cover." *Spectrum Int'l, Inc. v. Sterilite Corp.*, 164 F.3d 1372, 1378-79, 49 U.S.P.Q.2D (BNA) 1065, 1069 (Fed. Cir. 1998) (citations and quotations omitted). In this case, the patentee made unambiguous statements relinquishing a first interior channel formed in part by a translucent cover.

In the second office action, the patent examiner rejected several claims under 35 U.S.C. §§ 102(b) and 103 based in part on U.S. Patent No. 4,045,665 (the '665 patent), issued to Williams et al. Williams claims a diffuser attachment for a fluorescent lamp fixture, as demonstrated below.

[SEE FIGURES 1 AND 3 IN ORIGINAL]

The figures "show a fluorescent lamp fixture A and a diffuser attachment B." '665 patent, col. 3, ll. 56-57. The patent explains,

The fixture body cover 10 acts as a housing for a fluorescent tube and the operative components required therefor. In [figure] 3, this fluorescent tube is generally designated 26 and is maintained in a position depending on from the [body] cover by a pair of conventional end mounted tube mounting and holding members, one of which is generally designated 28 in [figure] 3.

'665 patent, col. 4, ll. 12-18. Figure 3 is a cross-sectional view of the patented device, showing the walls of the translucent cover, denoted with numbers 52, 54, and 60, surrounding the fluorescent tube 26.

In response to the rejection, the patentee argued, "although Williams provides a housing, it does not have two interior channels, one of which houses the fluorescent tube and the second of which primarily houses the electrical means. . . Williams only has one channel in which the tube and electrical means are housed." Thus, the patentee's position during prosecution was that a "first interior channel in which [the] fluorescent tube is mounted" cannot encompass a translucent cover such as that taught by Williams. Lampi cannot now assert a contrary interpretation. See *Southwall Techs., Inc. v. Cardinal IG Co.*, 54 F.3d 1570, 1576, 34 U.S.P.Q.2D (BNA) 1673, 1676 (Fed. Cir. 1995) (stating that claims may not be construed one way in order to obtain their allowance and a different way against accused infringers). For the same reasons, Lampi is estopped from asserting that Model 7744 infringes the patent under the doctrine of equivalents. For that reason, we conclude that the district court did not err in construing "first interior channel" to exclude the translucent cover of the 7744

device, and in concluding that Model 7744 does not infringe claims 1 and 11, literally or under the doctrine of equivalents.

## C

The district court construed "half-shells" as "two equal or corresponding parts forming a hard or firm outer covering into which the housing of the fluorescent lamp is divided." The court did not explicitly address the meaning of the limitation "housing having two half-shells" as such, particularly the issue of whether "having" is an open or closed term in claim 11. In its infringement analysis, however, the court found that Model 5544 lacks "half-shells" because it "includes five parts and does not have two parts that are both 'equal or corresponding' to form an 'outer covering into which the housing . . . is divided.'" Thus, the district court construed "housing having two half-shells" as meaning a housing having only "two equal or corresponding parts forming a hard or firm outer covering into which the housing . . . is divided." That is, the court construed the term "having" as a "closed" transitional term, meaning that infringement is avoided by the addition of unclaimed elements. See *In re Gray*, 19 C.C.P.A. 745, 53 F.2d 520, 521, 11 U.S.P.Q. (BNA) 255, 256 (CCPA 1931) (noting that a closed transition term excludes elements not specified in the claim).

Lampi argues on appeal that the term "having" is used in an open sense in the context of the claim limitation at issue, and thus the inclusion of additional components, such as the end caps and translucent cover of the 5544 model, do not render the device non-infringing. See *Genentech, Inc. v. Chiron Corp.*, 112 F.3d 495, 501, 42 U.S.P.Q.2D (BNA) 1608, 1613 (Fed. Cir. 1997) (explaining that open term "means that the named elements are essential, but other elements may be added and still form a construct within the scope of the claim"). We agree with Lampi.

"Transitional phrases such as . . . 'having' . . . must be interpreted in light of the specification to determine whether open or closed language is intended." Manual of Patent Examining Procedure § 2111.03 (7th ed. rev. 2000); see also *Regents of the Univ. of Cal. v. Eli Lilly & Co.*, 119 F.3d 1559, 1573, 43 U.S.P.Q.2D (BNA) 1398, 1410 (Fed. Cir. 1997) (construing term "having" as permitting inclusion of other entities).

The specification in this case indicates that the patentee intended the word "having" in claim 11 to be open. The patent states that "the housing preferably consists of two separable half-shells." '227 patent, col. 2, ll. 18-19 (emphasis added). This language makes clear that it is merely a preferred embodiment of the invention that the housing be made of only two half-shells, "so that the

housing can be easily assembled, the fluorescent lamp tube easily replaced, the wiring required to operate the fluorescent lamp installed during fabrication, and . . . repaired if necessary[.]" '227 patent, col. 2, ll. 14-18. Thus, the specification indicates that the housing must have at least two half-shells, but that it may have other parts as well.

Our interpretation is also supported by comparison to claim 1. Like claim 11, claim 1 claims, in part, a "housing . . . having" various listed structures. Claim 8, which depends from claim 1, reads: "The lamp according to claim 1 wherein said housing comprises two separable half-shells." Because claim 8, a dependent claim, must be narrower than claim 1, from which it depends, the term "having" in claim 1 must be open. That interpretation of the term "having" in claim 1 supports the conclusion that the patentee intended to use the same language in claim 11 in the same manner.

Therefore, we conclude that the district court erred in ruling that half-shells must be the only two elements that form the housing in claim 11. The proper interpretation of the "housing having two half-shells" limitation is a "housing having at least two equal or corresponding parts forming a hard or firm outer covering into which the housing of the fluorescent lamp is divided." Because the district court erred in construing that limitation, we vacate that portion of the judgment and remand for the court to consider whether the 5544 model infringes under the claim construction set forth above.

### III

In its cross-appeal, APP argues that the '227 patent is invalid on several grounds: for violation of the on-sale bar of 35 U.S.C. § 102(b); for failure to meet the written description requirement of 35 U.S.C. § 112, P 1; and for obviousness, under 35 U.S.C. § 103.

#### A

APP contends that the statements made by Lampi to the PTO in the trademark registration process establish that the invention of the '227 patent was used in commerce prior to the patent's critical date. APP argues that Lampi is judicially estopped to deny those statements and that the patent is therefore invalid under the on-sale bar of 35 U.S.C. § 102(b). Lampi argues that it is not judicially estopped to deny its prior statements because Lampi's officers misunderstood the meaning of "use in commerce," and Lampi's attorneys inadvertently failed to correct that mistake.

Under Seventh Circuit law, which applies to this non-patent procedural issue, see *U.S. Philips Corp. v. Sears Roebuck & Co.*, 55 F.3d 592, 596 n.3, 34 U.S.P.Q.2D (BNA) 1699, 1703 n.3 (Fed. Cir. 1995), the doctrine of judicial estoppel is an equitable concept that prevents a party who prevails on one ground in a lawsuit from then repudiating that ground in order to prevail in another lawsuit, see *McNamara v. City of Chicago*, 138 F.3d 1219, 1225 (7th Cir. 1998). The doctrine also applies to administrative proceedings in which a party obtains a favorable order by making an argument that it seeks to repudiate in a subsequent judicial proceeding. See *Chaveriat v. Williams Pipe Line Co.*, 11 F.3d 1420, 1427 (7th Cir. 1993). The estoppel applies where intentional self-contradiction is being used as a means of obtaining an unfair advantage, see *Medcom Holding Co. v. Baxter Travenol Labs., Inc.*, 106 F.3d 1388, 1396 (7th Cir. 1997); the doctrine should not be applied when the former position was the result of inadvertence or mistake or when there is only an appearance of inconsistency between the two positions, see *In re Cassidy*, 892 F.2d 637, 642 (7th Cir. 1990). We review the district court's decision whether to apply judicial estoppel for an abuse of discretion. See *Haschmann v. Time Warner Entertainment Co.*, 151 F.3d 591, 605 (7th Cir. 1998).

Although we are troubled by the inconsistencies between Lampi's statements to the PTO--particularly the statements made by Lampi's attorneys--and the position taken by Lampi in this litigation, we cannot say that the district court abused its discretion in refusing to apply judicial estoppel in this case. At trial, the district court heard Ms. Holderer's testimony and found her explanation for the inconsistency credible. The district court also considered the subsequent amendment to the trademark application and correctly found that Lampi had not gained an unfair advantage before the PTO because trademark protection was available even if the Micro Lampi was not sold until September 1986. See 15 U.S.C. § 1052(f) (providing that proof of five or more years of continuous and exclusive use in commerce is prima facie evidence that a mark has become distinctive). In addition, the district court made the express finding, based on evidence submitted by Lampi, that the Micro Lampi was first on sale in the United States in September 1986. Thus, the conclusion that the statements had been made through inadvertence or mistake is well supported by the evidence before the district court, and the court's decision not to apply judicial estoppel was not an abuse of discretion.

In light of APP's failure to produce any contrary evidence as to the first date of sale, the district court's finding that the Micro Lampi was not on sale until September 1986 was not clear error. Therefore, the district court properly concluded that the patent is not invalid under the on-sale bar of 35 U.S.C. § 102(b).

## B

For a claim in a later-filed application to be entitled to the filing date of an earlier-filed application under 35 U.S.C. § 120, the earlier application must comply with the requirement of 35 U.S.C. § 112, P 1, that the specification "contain a written description of the invention." See *Lockwood v. American Airlines, Inc.*, 107 F.3d 1565, 1571, 41 U.S.P.Q.2D (BNA) 1961, 1965-66 (Fed. Cir. 1997). APP contends that claims 1 and 11 of the '227 patent, a continuation, are not entitled to the filing date of the parent application, which ultimately issued as Lampi's '875 patent, for failure to meet the written description requirement. Specifically, APP argues that the specification of the '875 patent describes only identical half-shells and thus does not provide sufficient support for claims 1 and 11 of the '227 patent, which encompass non-identical half-shells. Consequently, APP argues, the publication of the intervening PCT application and sales of the Micro Lampi invalidate the '227 patent under 35 U.S.C. § 102(b). The district court rejected APP's arguments and found that the specification of the '875 patent adequately conveys that non-identical half-shells were encompassed within the subject matter of that earlier-filed application, although non-identical half-shells were not claimed.

In order to satisfy the written description requirement, the disclosure as originally filed need not provide in haec verba support for the claimed subject matter at issue. See *Fujikawa v. Wattanasin*, 93 F.3d 1559, 1570, 39 U.S.P.Q.2D (BNA) 1895, 1904 (Fed. Cir. 1996). The requirement is met if "the disclosure of the application relied upon reasonably conveys to the artisan that the inventor had possession at that time of the later claimed subject matter." *Ralston Purina Co. v. Far-Mar-Co, Inc.*, 772 F.2d 1570, 1575, 227 U.S.P.Q. (BNA) 177, 179 (Fed. Cir. 1985) (internal quotations omitted). That inquiry is a factual one and must be assessed on a case-by-case basis. See *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1562, 19 U.S.P.Q.2D (BNA) 1111, 1116 (Fed. Cir. 1991). Whether a specification complies with the written description requirement of section 112, first paragraph, is a question of fact, which we review for clear error on appeal after a bench trial. See *id.* at 1563, 19 U.S.P.Q.2D (BNA) at 1116.

We conclude that the district court's finding on the written description issue did not constitute clear error. The specification of the '875 patent twice refers to "identically shaped" or "identical" half-shells. See '875 patent, col. 2, ll. 19-20 ("both half-shells are identically shaped"); col. 3, l. 30 (referring to an "identical half-shell"). Contrary to APP's position, however, identical half-shells are only a preferred embodiment of the invention. The '875 patent states:

So that the housing can be easily assembled, the fluorescent lamp tube easily replaced, the wiring required to operate the fluorescent lamp

installed during fabrication and, following operation of the fluorescent lamp, repaired if necessary, the housing preferably consists of two separable half-shells. To enable particularly easy and cost-effective manufacture of these two half-shells and to ensure especially easy assembly, and, in particular, by technically inexperienced individuals, both half-shells are identically shaped so that they are interchangeable.

'875 patent, col. 2, ll. 11-21. It is a familiar principle of patent law that a claim need not be limited to a preferred embodiment. See *Laitram Corp. v. Cambridge Wire Cloth Co.*, 863 F.2d 855, 865, 9 U.S.P.Q.2D (BNA) 1289, 1299 (Fed. Cir. 1988). The specification also includes references to half-shells without the modifier "identical" or "identically shaped," see '875 patent, col. 2, ll. 28, 32, indicating that identical half-shells are not critical to the invention. Although the patent drawings show only identical half-shells, see '875 patent, col. 3, ll. 29-30 ("Fig. 1 [showing the same embodiment as in Figs. 2 and 3] shows . . . a half-shell . . . together with a second, identical half-shell"), that does not compel the conclusion that the written description of the '875 patent is so narrowly tailored as to preclude Lampi from claiming non-identical half-shells in the '227 patent. Cf. *Tronzo v. Biomet, Inc.*, 156 F.3d 1154, 1159, 47 U.S.P.Q.2D (BNA) 1829, 1834 (Fed. Cir. 1998) (concluding that specification of parent application was so specific as to a particular shape of component in invention that it could not support subject matter that was generic as to shape, as claimed in later-filed application). The drawings in the patent are merely a "practical example" of the invention. See '875 patent, col. 3, l. 19. The district court therefore did not commit clear error in finding that the written description of the '875 patent was sufficient to support half-shells that are not identical, as claimed in the '227 patent.

## C

The district court did not address APP's obviousness argument because it was conditioned on the district court's acceptance of Lampi's proposed claim construction. Because we have construed the "housing having two half-shells" limitation differently than the district court, the court on remand should consider APP's arguments under 35 U.S.C. § 103 as to that limitation, under the claim construction set forth herein.

## IV

The case is remanded for consideration of whether the 5544 model infringes claim 11 of the '227 patent under the correct claim construction. In addition, the court should consider at that time APP's obviousness argument as an affirmative defense to infringement of that claim. With respect to all other issues raised in

Lampi's appeal and in APP's cross-appeal, we affirm the district court's judgment.

Each party shall bear its own costs for this appeal.

**AFFIRMED IN PART, VACATED IN PART AND REMANDED.**