

United States Court of Appeals for the Federal Circuit

04-1200

PLAYTEX PRODUCTS, INC.,

Plaintiff-Appellant,

v.

PROCTER & GAMBLE COMPANY
and PROCTER & GAMBLE DISTRIBUTING COMPANY,

Defendants-Appellees,

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Appealed from: United States District Court for the Southern District of Ohio

Judge Thomas M. Rose

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Defendants-Appellees.

DECIDED: March 7, 2005

Before LOURIE, GAJARSA, and LINN, Circuit Judges.

GAJARSA, Circuit Judge.

DECISION

Playtex Products, Inc., ("Playtex") appeals from the judgment of the United States District Court for the Southern District of Ohio granting summary judgment to Procter & Gamble Company and Procter & Gamble Distributing Company (collectively, "P&G") on Playtex's claims of infringement of the United States Patent No. 4,536,178 (the "'178 patent"). Playtex Prods., Inc. v. Procter & Gamble Distrib. Co., 290 F. Supp. 2d 886 (S.D. Ohio 2003). Because we find that the district court erred in part of its claim construction, we vacate in part, affirm in part, and remand.

BACKGROUND

Playtex filed suit against P&G, alleging infringement of the '178 patent under 35 U.S.C. § 271 in the Southern District of Ohio. The district court, after construing the claims of the '178 patent and comparing the claims to the allegedly infringing product, granted P&G summary judgment of non-infringement.

A. The Patent and Prosecution History

Playtex, a tampon manufacturer, is the assignee of the '178 patent. The invention described in the '178 patent is a tampon applicator designed to enhance the user's control over tampon insertion and placement. The '178 patent describes a tampon applicator having a tapered end with diametrically opposed, flattened surfaces. The patent explains that these surfaces provide a superior grip, thereby enabling a user to "comfortably hold the applicator with little or no involuntary rotation and to eject the tampon from the applicator and more accurately control the placement of the tampon." '178 patent, col. 2, ll. 29-33. Contemporaneous applicator designs had cylindrically-shaped finger grip areas that allowed the tampon to rotate involuntary during insertion, making it difficult to properly position the tampon.

P&G manufactures and sells a tampon called Tampax Pearl Plastic. The Tampax Pearl applicator is almost identical to the applicator represented in the '178 patent, with the exception that its finger grip area is continuously curved. The curvature was added to the finger grip area of the product in an effort to design around the '178 patent.

The '178 patent was issued without amendment. It has a total of 14 claims.

Claims 1 and 11 are independent; the remaining claims are dependent. Only claims 1 and 9 are at issue in this proceeding.

Claim 1 provides:

1. A tampon applicator comprising:

a tubular barrel adapted to house and carry a tampon therein and a slideable, tubular plunger telescopically engageable with said barrel and operable to push the innermost end of the tampon within the barrel out of the forward end of the barrel into a vagina;

said tubular barrel comprising:

- (a) a cylindrical front portion adapted to house said tampon;
- (b) a rearward portion adapted to partially house and engage said plunger, said rearward portion of said barrel comprising two diametrically opposed, substantially flattened surfaces; and
- (c) a transitional section between said rearward portion and said front portion, said transitional section having a reduced diameter relative to said front portion of said barrel;

whereby said flattened surfaces and said transition section provide a finger and thumb hold enabling a user to comfortably eject and control the position of said tampon.

'178 patent, cols. 5-6 (emphasis added). The written description of the '178 patent does not specifically define the term "substantially flattened surfaces." However, during prosecution of the '178 patent, Playtex distinguished the claimed "substantially flattened surfaces" from those tampon applicators well-known in the art containing "substantially," "relatively," or "generally" cylindrical surfaces. As set forth in the '178 patent the "substantially flattened surfaces" perform two functions: (1) they provide the user with greater control of positioning and (2) they reduce rotational movement and play. '178 patent, col. 2, ll. 28-33.

The district court's construction of dependent claim 9 is also challenged on appeal. It reads as follows:

The applicator of claim 1 further comprising means for limiting the movement of said plunger through said rearward portion of said barrel.

'178 patent, col. 6 (emphasis added). The parties agree that claim 9 is a means-plus-function claim under 35 U.S.C. § 112 ¶ 6. The written description of the '178 patent expressly provides a corresponding structure for the limiting means. The abstract reveals that "[o]ne manner of limiting the movement of the plunger is by providing at least one curled lip integral with the inner end of the plunger and engageable with the angled shoulders and preferably a second curled lip integral with the outer end of the plunger and engageable with the plunger entry area of the barrel." '178 patent, col. 4-5 (emphases added). The only drawing in the specification depicting the limiting means shows a plunger with a curved lip at both ends.

B. The District Court Proceedings

Playtex filed suit in the Southern District of Ohio, alleging infringement by P&G of claims 1, 2, 3, 9, and 10 of the '178 patent both literally and under the doctrine of equivalents. The district court held a Markman hearing to construe the language in claims 1, 2, 3, and 9. The language of claim 10 was not disputed. The district court adopted the meaning put forth by Playtex for the disputed language in claims 2 and 3. These claims are not at issue on appeal. The district court, however, adopted P&G's construction of claims 1 and 9, which is being challenged on appeal.

1. Claim 1: "substantially flattened surfaces"

The district court acknowledged that "the plain and ordinary meaning" of "substantially flattened surfaces" is "two opposing surfaces with a curvature less than

either the barrel or the transitional portion of the prior art." But it reasoned that this interpretation excluded the preferred embodiment, which teaches "thumb and finger hold surfaces that are flat except for the addition of protruding ribs or an arcuate depression to the otherwise flat surface." Playtex Prods., Inc. v. Procter & Gamble Distrib. Co., No. C-1-02-391, slip. op. at 8 (S.D. Ohio Jun. 4, 2002). Recognizing that claim constructions that exclude the preferred embodiment are "rarely, if ever, correct," Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1583 (Fed. Cir. 1996), the district court found the intrinsic evidence ambiguous, warranting resort to extrinsic evidence to inform its construction.

The district court relied on the testimony by P&G's expert, Dr. James Moller, a mechanical engineering professor at Miami University of Ohio. Dr. Moller specializes in manufacturing processes and engineering materials. He testified that (1) the phrase "substantially flattened surfaces" has no plain meaning to a person of skill in the art of product manufacturing; and (2) one of skill in that art would view the flattened requirement as requiring surfaces within a manufacturing tolerance for flatness. Based on this evidence, the district court construed claim 1 to encompass a device with "two opposite or opposed surfaces that are flat within a geometric, manufacturing tolerance; the flat surfaces may or may not have imperfections or surface features such as ribs or treads." (Slip op. at 10-11); Playtex Prods., 290 F. Supp. 2d at 887.

Playtex argued that Dr. Moller was not skilled in the art of tampon applicator production and his testimony on the meaning of claims 1 and 9 was therefore irrelevant. In accepting Dr. Moller's testimony into evidence, the district court noted that the proper reference point for construing claims is "one of ordinary skill in the art to make and use

the invention." Markman v. Westview Instruments, Inc., 52 F.3d 967, 979 (Fed. Cir. 1995) (en banc), aff'd, 517 U.S. 370 (1996). Because tampon applicators are frequently constructed of plastic and Dr. Moller had expertise in plastic manufacturing, the district court concluded that Dr. Moller was one of skill in the art.

Playtex submitted two additional arguments in support of ascribing "substantially flattened surfaces" the plain meaning of each word. The district court rejected both arguments as unpersuasive. First, relying on the doctrine of claim differentiation, under which "each claim in a patent is presumptively different in scope," Intermatic Inc. v. Lamson & Sessions Co., 273 F.3d 1355, 1364 (Fed. Cir. 2001), Playtex asserted that the flatness of the thumb and finger holds cannot be related to surfaces having ribbing and threading, which was contemplated by dependent claim 3, and therefore already claimed. Second, noting that "the term 'substantially' is a descriptive term commonly used in patent claims to 'avoid a strict numerical boundary to the specified parameter,'" Verve, LLC v. Crane Cams, Inc., 311 F.3d 1116, 1120 (Fed. Cir. 2002), Playtex argued that it is improper to confine the term "substantially flattened surfaces" to surfaces within a geometric tolerance of flatness. Playtex further contended that the district court's construction improperly adds a strict numerical parameter to the claim which the patentee specifically tried to avoid by using the relative term substantially.

2. Claim 9: "means for limiting movement of the plunger"

The parties agreed that claim 9 is a means-plus-function claim under 35 U.S.C. § 112 ¶ 6 but disputed the corresponding structure of the limiting means. Playtex argued that the limiting means were found in the embodiment depicted in the drawing—that is the curved lip shown at each end of the plunger. The district court disagreed. It

looked instead to the written description and defined the limiting means as "a curved-shaped 'lip' or equivalent structure on at least one, and preferably both, ends of the plunger acting as a stop to prevent the plunger from separating from the barrel."

3. Summary judgment

The district court then compared claims 1 and 9 to P&G's Tampax Pearl plastic tampons. It granted P&G's motion for summary judgment of non-infringement as to claim 1, finding neither literal infringement nor infringement by equivalents. Playtex Prods., 290 F. Supp. 2d at 887. It rejected Playtex's contention that the Tampax Pearl literally infringes the '178 patent, even under the district court's claim construction, because portions of the Tampax Pearl's finger grip fall within \pm 0.305 mm of flatness, the Society of Plastic Industry's standard zone of manufacturing tolerance for "fine" low density polyethylene, the material comprising P&G's tampons. The district court found Playtex's argument for literal infringement unavailing because it concluded that the finger grip area, as a whole, was elliptical and hence could not fall within a manufacturing tolerance for flatness. The district court also refused to find infringement under the doctrine of equivalents, on the basis that (1) the Tampax Pearl lacked "two diametrically opposed, substantially flattened surfaces," a key element of the invention, and that (2) the Tampax Pearl finger grip provides improved tactile control in a different way from the invention of the '178 patent because it does so by means of a curved contoured surface.

The district court entered final judgment for P&G. Playtex timely appealed the claim construction of the language in claims 1 and 9 and the grant of summary judgment in favor of P&G. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1).

DISCUSSION

A. Standard of Review

This court reviews de novo the grant of summary judgment. Genzyme Corp. v. Transkaryotic Therapies, Inc., 346 F.3d 1094, 1096 (Fed. Cir. 2003); Pickholtz v. Rainbow Techs., Inc., 284 F.3d 1365, 1371 (Fed. Cir. 2002); Ethicon Endo-Surgery, Inc. v. U.S. Surgical Corp., 149 F.3d 1309, 1315 (Fed. Cir. 1998). Summary judgment is appropriate when there are no genuine issues of material fact and the moving party is entitled to judgment as a matter of law. Fed. R. Civ. P. 56(c); Anderson v. Liberty Lobby, Inc., 477 U.S. 242, 247-48 (1986); Moore U.S.A., Inc. v. Standard Register Co., 229 F.3d 1091, 1105 (Fed. Cir. 2000).

A determination of patent infringement consists of two steps: (1) the court must first interpret the claim, and (2) it must then compare the properly construed claims to the allegedly infringing device. See Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1454 (Fed. Cir. 1998) (en banc). The first step, claim construction, is a matter of law that we review de novo. Id. at 1456. No deference is given to the district court's claim construction. E-Pass Techs., Inc. v. 3COM Corp., 343 F.3d 1364, 1367 (Fed. Cir. 2003). Generally, the second step is a factual question that we review for clear error. Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353 (Fed. Cir. 1998). However, factual inferences that are material to the grant of a summary judgment are not accorded such deference—they are reviewed to ascertain whether there is a genuine issue of material fact. Lemelson v. TRW, Inc., 760 F.2d 1254, 1260 (Fed. Cir. 1985). To prove infringement, the patentee must show that the accused device meets each claim limitation, either literally or under the doctrine of equivalents. Deering Precision

Instruments, L.L.C. v. Vector Distrib. Sys., Inc., 347 F.3d 1314, 1324 (Fed. Cir. 2003).

When a district court's determination of infringement is premised on an erroneously construed claim, the district court's infringement determination is not entitled to any deference. Elkay Mfg. Co. v. Ebco Mfg. Co., 192 F.3d 973, 976 (Fed. Cir. 1999).

B. Claim Construction

The meaning of a disputed claim term to a person of ordinary skill in the art, on the patent's filing date, is ascertained first by reference to the claim, the written description, and, if it is part of the record, the prosecution history. We begin with the language of the claims. Vitronics, 90 F.3d at 1582. "A fundamental rule of claim construction is that terms in a patent document are construed with the meaning with which they are presented in the patent document. Thus claims must be construed so as to be consistent with the specification, of which they are a part." Merck & Co., Inc. v. Teva Pharm. USA, Inc., 347 F.3d 1367, 1370 (Fed. Cir. 2003). The court must take care in its analysis, when locating in the written description the context for a disputed term, not to import a limitation from that written description. It must use the written description for enlightenment and not to read a limitation from the specification. Comark Communications v. Harris Corp., 156 F.3d 1182, 1186-87 (Fed. Cir. 1998). Nonetheless, "[i]t is axiomatic that claims, not the specification embodiments, define the scope of protection." Dow Chem. Co. v. Sumitomo Chem. Co., 257 F.3d 1364, 1378 (Fed. Cir. 2001) (internal citation omitted). In this case, the prosecution history has been made part of the record and it may also inform the court of the scope of the claims. Liquid Dynamics Corp. v. Vaughan Co., Inc., 355 F.3d 1361, 1367-68 (Fed. Cir. 2004).

1. Claim 1: "substantially flattened surfaces"

The district court determined that there was ambiguity in claim 1 which could not be resolved by the intrinsic evidence to warrant using extrinsic evidence in construing "substantially flattened surfaces." It concluded that the claim term "substantially flattened surfaces" had a plain meaning: "two opposing surfaces with a curvature less than either the barrel or the transitional portion of the prior art." However, with the evidentiary submissions by various experts relating to potential constructions of the disputed term, the district court concluded that if the term "substantially flattened surfaces" were construed to include curved surfaces, it would require exclusion of flat surfaces. The district court noted that the various figures representing the preferred embodiment contained in the specification only illustrated flat surfaces with protruding ribs for use in the finger grip area.

Playtex assigns legal error to the district court's construction of "substantially flattened surfaces" in claim 1. First, Playtex argues it is improper to use expert testimony that contradicts the intrinsic evidence to construe a claim term. Second, it argues that the term "substantial," a term of degree, should not be interpreted as having a strict numerical limitation. We agree.

The district court mistakenly assumed that a surface having less curvature than another surface is necessarily curved, and cannot be flat. This is a false premise in the context of this claim. When we "flatten" a curved surface, we can either make it completely flat, or merely make it flatter than it was originally. Either way, the newly flattened surface would be less curved than the original. Thus, the district court found ambiguity where there is none. "Substantially flattened surfaces" has unambiguous

meaning that is resolved solely on the intrinsic record. There was no need for the district court to resort to Dr. Moller's testimony to interpret the disputed term.

The plain language of claim 1, i.e., "substantially flattened," requires neither a perfectly flat surface, nor one that is flat within a manufacturing tolerance. The construction adopted by the district court is erroneous because the '178 patent, on its face, does not describe the tampon applicator at the level of a manufacturing specification. The term "substantially flattened surfaces" is therefore not ambiguous, and its meaning is within the parameters of the written description.

"The term 'substantial' is a meaningful modifier implying 'approximate,' rather than 'perfect.'" Liquid Dynamics, 355 F.3d at 1368. But the definition of "substantially flattened surfaces" adopted by the district court introduces a numerical tolerance to the flatness of the gripping area surfaces of the claimed applicator. That reading contradicts the recent precedent of this court, interpreting such terms of degree. In Cordis Corp. v. Medtronic AVE, Inc., 339 F.3d 1352, 1361 (Fed. Cir. 2003), we refused to impose a precise numeric constraint on the term "substantially uniform thickness," noting that the proper interpretation of this term was "of largely or approximately uniform thickness" unless something in the prosecution history imposed the "clear and unmistakable disclaimer" needed for narrowing beyond this plain-language interpretation. Id. Moreover, in Anchor Wall Sys. v. Rockwood Retaining Walls, Inc., 340 F.3d 1298 (Fed. Cir. 2003), we held that "the phrase 'generally parallel' envisions some amount of deviation from exactly parallel," and that "words of approximation, such as 'generally' and 'substantially,' are descriptive terms 'commonly used in patent claims 'to avoid a strict numerical boundary to the specified parameter.'" Id. at 1311. In

support of this holding, we noted that "nothing in the prosecution history [of the Anchor Wall patent]. . . clearly limit[ed] the scope of 'generally parallel' such that the adverb 'generally' does not broaden the meaning of parallel." *Id.* Similarly, in this case we find that in claiming "substantially flattened surfaces," Playtex claimed more than flat surfaces.

The drawings do not compel a contrary result. By its reliance on the figures, the district court improperly limited claim 1 to a preferred embodiment. We have consistently advised against this approach to claim construction. See Liquid Dynamics, 355 F.3d at 1369; see also Amgen, Inc. v. Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1325 (Fed. Cir. 2003) ("Because the claims are best understood in light of the specification of which they are a part . . . courts must take extreme care when ascertaining the proper scope of the claims, lest they simultaneously import into the claims limitations that were unintended by the patentee."); Comark, 156 F.3d at 1186-1187 (Fed. Cir. 1998) (advising that in navigating the fine line between reading claims in light of the specification and importing claim limitations, it is appropriate to look to the written description when doing so aids in the interpretation of claim language as opposed to merely detailing the workings of a single embodiment); CCS Fitness, Inc. v. Brunswick Corp., 288 F.3d 1359, 1366 (Fed. Cir. 2002) (explaining that the presumption of ordinary meaning cannot be rebutted "simply by pointing to the preferred embodiment or other structures or steps disclosed in the specification or prosecution history"). Claims of a patent may only be limited to a preferred embodiment by the express declaration of the patentee, Karlin Technology, Inc. v. Surgical Dynamics, Inc., 177 F.3d

968, 973 (Fed. Cir. 1999), and there is no such declaration here. Claim 1, properly construed, is not limited to the flat surfaces depicted in the drawings.

The prosecution history likewise does not compel a different result. The district court and P&G make much of the fact that, in this case, the patentee distinguished his invention from prior art having "generally cylindrical" finger grips. "Generally," like "substantially," is a term of approximation. See, e.g., Anchor Wall Sys., 340 F.3d at 1311 (Fed. Cir. 2003). The point at which the gripping area curvature ceases to be substantially flattened and becomes generally cylindrical is a question of fact. The need to make a difficult factual determination does not allow the court to surrender material that the patentee clearly and rightfully claimed.

As "substantially flattened surface" has unambiguous meaning in view of the intrinsic record, the district court erred in relying upon extrinsic evidence that directly contradicted that meaning. Vitronics, 90 F.3d at 1583. Dr. Moller's testimony that "substantially flattened surfaces" means "flat within a geometric manufacturing tolerance" effectively defines "substantially flattened" as "flat." With that view, the manufacturing tolerance means any departure from a purely flat surface is bounded within a set range. Dr. Moller further testified that no plastic surface is entirely flat; all surfaces are merely flat within a specified manufacturing tolerance. We think this view reads out the essence of the claim limitation "substantially flattened" as it equates

"flattened" with "flat." Such an interpretation contradicts the unambiguous meaning of the term and cannot obtain here.¹

The disputed claim term is clearly a comparative term. Comparison requires a reference point. Therefore, to flatten something, one must flatten it with respect to either itself or some other object. In the context of the claim, the term "flattened" requires a comparison between the diametrically opposed surfaces and something else. The only antecedent basis in the claim is the tubular barrel. '178 patent, col. 6, ll. 3-9. Playtex, therefore, claimed something flatter than a tubular barrel, but not necessarily something flat.

The issue is whether the patentee properly claimed an oval as a "substantially flattened" circle, or more specifically, an elliptical cylinder as a "substantially flattened" cylinder. In construing the term "substantially flattened surfaces" as something flat in practice the district court erred in going beyond the intrinsic evidence. That evidence clearly indicated that the patent contemplated curved surfaces. Thus, we reverse the district court's claim construction and conclude that "substantially flattened surfaces" means surfaces, including flat surfaces, materially flatter than the cylindrical front portion of the applicator.

¹ Notwithstanding the fact that the district court erred in adopting the construction advocated by Dr. Moller, the district court did not abuse its discretion in admitting the testimony of Dr. Moller into evidence. It is appropriate for courts engaged in claim construction to consider expert testimony. Markman, 52 F.3d at 981 (finding that the trial court did not abuse its discretion when it admitted expert testimony on the issue of claim construction). However, while a trial court may use extrinsic evidence to educate itself about the invention and the relevant technology, it may not use extrinsic evidence to arrive at a claim construction that is at odds with the intrinsic evidence. Elkay Mfg. Co., 192 F.3d at 977.

2. Claim 9: "means for limiting movement"

Playtex further assigns error to the district court's understanding of the limiting means in dependent claim 9. It argues that the claim term "limiting means" should be restricted by the sole drawing of the structure, notwithstanding its broader description in the specification. As explained below, we find these arguments unconvincing and we affirm the district court's construction of the claim term.

Identifying the corresponding structure for the limiting means of claim 9 requires the court to examine the drawings and the abstract in the '178 patent's written description. Either can provide support for the corresponding structure for the "limiting means." 35 U.S.C. § 112. The specification includes the drawings, see, e.g., Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1565 (Fed. Cir. 1991) ("under proper circumstances, drawings alone may provide a 'written description' of an invention as required by § 112"). The abstract can also serve to support the corresponding structure for § 112. See, e.g., SciMed Life Sys., Inc. v. Advanced Cardiovascular Sys., Inc., 242 F.3d 1337, 1342 (Fed. Cir. 2001).

The district court correctly concluded that the "means for limiting movement of the plunger" in claim 9 corresponded to a "curved-shaped 'lip' or an equivalent structure on at least one . . . end[] of the plunger." Therefore, there is no implication that the "means for limiting movement of the plunger" could not include a "lip" structure or its equivalent on both ends of the plunger, merely that only one such structure is necessary.

When looking to the specification for the structure of a § 112 ¶ 6 claim, one must construe the claim in accordance with all the structures disclosed by the inventor. Here

the text of the written description clearly describes how the structure of the "limiting means" is broader than the single embodiment depicted in the drawing. The written description, therefore, discloses the structure as required by § 112 ¶ 6.

D. Infringement

The second step of an infringement analysis requires the court to compare the allegedly infringing device with the properly construed claim. Bai, 160 F.3d at 1353. For infringement to be found, the court must determine that every claim limitation is found in the accused device. Mas-Hamilton Group v. LaGard, Inc., 156 F.3d 1206, 1211 (Fed. Cir. 1998). Because the district court erred in its construction of the claim term "substantially flattened surfaces" and based its holding that the Tampax Pearl did not infringe the '178 patent on this improperly construed claim, we vacate the summary judgment determination. See Liquid Dynamics, 355 F.3d at 1369.

Similarly, the district court disposed of Playtex's doctrine of equivalents infringement analysis on the premise that Claim 1 necessarily excluded curved surfaces. We conclude that, based on the disposition of this appeal, a reasonable jury may also find that the Tampax Pearl applicator design infringes the '178 patent under a doctrine of equivalents analysis.

CONCLUSION

Because the district court erred in construing "substantially flattened surfaces" to require a finger grip area with diametrically opposed surfaces that are flat within a geometric manufacturing tolerance, and because there is a material factual dispute, we vacate the district court's grant of summary judgment of non-infringement and remand

for further proceedings consistent with this opinion. Accordingly, the judgment of the district court is

AFFIRMED IN PART, VACATED IN PART, AND REMANDED

COSTS

Each party shall bear its own costs.