

LEXSEE 2000 US APP LEXIS 8253

**THE TORO COMPANY, Plaintiff-Appellant, v. ARIENS COMPANY, Defendant-Cross Appellant.**

99-1285, 99-1307

UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

*2000 U.S. App. LEXIS 8253*

April 27, 2000, Decided

**NOTICE:** [\*1] RULES OF THE FEDERAL CIRCUIT COURT OF APPEALS MAY LIMIT CITATION TO UNPUBLISHED OPINIONS. PLEASE REFER TO THE RULES OF THE UNITED STATES COURT OF APPEALS FOR THIS CIRCUIT.

**SUBSEQUENT HISTORY:**

Rehearing and Rehearing En Banc Denied June 5, 2000, Reported at: *2000 U.S. App. LEXIS 15505*. Reported in Table Case Format at: *2000 U.S. App. LEXIS 32111*.

**DISPOSITION:** Affirmed-in-part and reversed-in-part.

**CASE SUMMARY:**

**PROCEDURAL POSTURE:** Plaintiff, patent holder, appealed from a decision of the United States District Court for District of Minnesota granting defendant's motion for summary judgment that claims 20, 24, 36, and 37 of U.S. Patent Re. 33,726 were not infringed. Defendant cross-appealed from the district court's decision granting plaintiff's motion for summary judgment that claims 36-41 were not invalid for lack of adequate written description under 35 U.S.C.S. § 112.

**OVERVIEW:** Plaintiff, patent holder, appealed from the decision of the district court granting defendant's motion for summary judgment that claims 20, 24, 36, and 37 of U.S. Patent Re. 33,726 were not infringed and denying plaintiff's corresponding cross-motion. Defendant cross-appealed from the district court's decision granting plaintiff's motion for summary judgment that claims 36-41 were not invalid for lack of adequate written description under 35 U.S.C.S. § 112 and denying defendant's corresponding cross-motion. The court of appeals held that the district court erred as a matter of

law in concluding that claims 36-41 were not invalid under § 112, and reversed that portion of the judgment. However the court found that the district court was correct in holding as a matter of law that claim 42 was not invalid under 37 C.F.R. § 1.175, none of the claims was willfully infringed, and that claims 20 and 24 were not infringed. Accordingly, the court affirmed those parts of the judgment.

**OUTCOME:** Affirmed-in-part and reversed-in-part. The district court erred as a matter of law in concluding that claims 36-41 were not invalid. However, the district court correctly held as a matter of law that claim 42 was not invalid, that none of the claims was willfully infringed, and that claims 20 and 24 were not otherwise infringed.

**LexisNexis(R) Headnotes*****Patent Law > Specification & Claims > Description Requirement***

[HN1] See 35 U.S.C.S. § 112, para. 1.

***Patent Law > U.S. Patent & Trademark Office Prosecution Procedures > Reissue***

[HN2] See 37 C.F.R. § 1.175(a)(3), (5) (1990).

***Civil Procedure > Summary Judgment > Burdens of Production & Proof******Civil Procedure > Summary Judgment > Summary Judgment Standard***

[HN3] Summary judgment is appropriate if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law. *Fed. R. Civ. P. 56(c)*. The evidence of the nonmovant is to be believed, and all justifiable inferences

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are to be drawn in his favor.

***Civil Procedure > Summary Judgment > Summary Judgment Standard***

***Civil Procedure > Appeals > Standards of Review > De Novo Review***

[HN4] Appellate courts review a district court's grant of a motion for summary judgment without deference, applying the summary judgment standard anew.

***Patent Law > Infringement > Acts of Infringement***

[HN5] Determining whether an accused process or device infringes a patent claim is a two-step process. The first step is claim construction, which involves ascertaining the scope and meaning of the claims at issue, while the second step involves determining whether the claims as construed read on the accused device.

***Patent Law > Infringement > Acts of Infringement***

[HN6] Claim construction is a question of law, while infringement, either literal or under the doctrine of equivalents, is a question of fact. Whether infringement is willful is a question of fact that the patentee must establish by clear and convincing evidence.

***Patent Law > Specification & Claims > Description Requirement***

[HN7] Whether a claim fails to meet the written description requirement under 35 U.S.C.S. § 112, para. 1 is a question of fact.

***Patent Law > Jurisdiction & Review > Standards of Review***

[HN8] Whether an inventor has failed to disclose all differences between original and reissue claims is essentially an exercise in claim construction, and is therefore an issue of law, reviewed de novo.

***Patent Law > Specification & Claims > Description Requirement***

[HN9] 35 U.S.C.S. § 112, para. 1 requires that a patent's written description allows persons skilled in the art to discern that the inventor has in fact invented what has been claimed. Thus, the written description requirement is different from the requirement to disclose how to "make and use" an invention in requiring the written description to show that the inventor was in possession of the claimed invention as of the filing date sought.

***Patent Law > Specification & Claims > Description Requirement***

***Patent Law > Infringement > Exclusive Rights***

[HN10] In a given case, the scope of the right to exclude may be limited by a narrow disclosure.

***Patent Law > Infringement > Acts of Infringement***

[HN11] A finding of willfulness requires the fact-finder to find that clear and convincing evidence shows that the infringer acted in disregard of the patent and had no reasonable basis for believing it had a right to do the acts. Such a determination is made after consideration of the totality of the circumstances of a particular case, including any mitigating or ameliorating factors.

**JUDGES:** Before LOURIE, Circuit Judge, FRIEDMAN, Senior Circuit Judge, and GAJARSA, Circuit Judge.

**OPINIONBY:** LOURIE

**OPINION:** LOURIE, Circuit Judge.

**DECISION**

The Toro Company appeals from the decision of the United States District Court for the District of Minnesota granting Ariens Company's motion for summary judgment that claims 20, 24, 36, and 37 of United States Patent Re. 33,726 were not infringed and denying Toro's corresponding cross-motion. See *Toro Co. v. Ariens Co.*, 1998 U.S. Dist. LEXIS 22856, No. 3-96-416/RHK/FLN, slip op. at 38-39 (D. Minn. Sept. 2, 1998) ("Toro I"); *Toro Co. v. Ariens Co.*, 1999 U.S. Dist. LEXIS 21688, No. 3-96-416/RHK/JMM, slip op. at 14 (D. Minn. Jan. 28, 1999) ("Toro II"). Ariens cross-appeals from the district court's decision granting Toro's motion for summary judgment that (1) claims 36-41 are not invalid for lack of adequate written description under 35 U.S.C. § 112, P 1, n1 (2) claims 37-41 are not invalid as anticipated under 35 U.S.C. § 102 [\*2] (a), (3) claims 36-41 are not invalid for failure to comply with 35 U.S.C. § 251, and (4) claims 37-42 are not invalid for failure to comply with 37 C.F.R. § 1.175, and denying Ariens' corresponding cross-motion. See Toro I, slip op. at 38. The result of these and other rulings was finally to dispose of the case. Because the district court erred as a matter of law in concluding that claims 36-41 are not invalid under section 112, paragraph 1, we reverse that portion of the judgment. n2 Because the court correctly held as a matter of law that (1) claim 42 is not invalid under section 1.175, (2) none of the claims was willfully infringed, and (3) claims 20 and 24 were not infringed, we affirm those parts of the judgment.

n1 As Ariens indicates, the district court held that claims 37-41 were not invalid under section 112, paragraph 1, omitting claim 36. See Toro I, slip op. at 30. It is clear to us, however, that this omission was inadvertent, as the court was fully aware that claims 36-41 were at issue and provided no reason why claim 36 should be treated any differently from the other reissue claims. See *id.* at 28-30. Moreover, since both parties treat claim 36 as though the district had in

fact ruled it not invalid under section 112, paragraph 1, we consider the district court's omission unintentional and rule on that claim along with the other disputed reissue claims. [\*3]

n2 In view of this conclusion, we do not reach the infringement issues relating to claims 36 and 37, the section 102(a) issues relating to claims 37-41, or the section 251 issues relating to claims 36-41.

## DISCUSSION

### A. Background

Toro's '726 patent is directed to single-stage snowthrowers, i.e., snowthrowers that use an impeller both to pick up and to throw snow from the snowthrower. See '726 patent, col. 1, ll. 40-43. While single-stage snowthrowers are typically lighter and less costly than two-stage snowthrowers, which use different means to pick up and to throw the snow, two-stage snowthrowers throw snow further and control the direction of that snow more effectively than their single-stage analogs. See *id.* at col. 1, ll. 43-46, 63-68. In an attempt to combine the advantages of both types of snowthrowers, the inventors of the '726 patent designed a single-stage snowthrower with "an improved impeller and an improved impeller/housing combination. . . ." *Id.* at col. 1, ll. 13-14. The '726 patent contains 45 claims, ten of which were granted following reissue proceedings. [\*4] Exemplary claim 24, one of the original 35 claims, reads as follows:

24. An improved single stage snowthrower, which comprises:

(a) a housing having a front portion which engages the snow and which includes a rear wall and spaced side walls, wherein the rear wall comprises an arcuate lower portion and an upper portion that extends upwardly relative to the lower portion;

(b) a rotatable impeller located on the housing in front of the rear wall thereof and having a predetermined length between the side walls wherein the rotation of the impeller describes a cylinder that is bounded along the rear thereof by the arcuate lower portion of the rear wall and by at least a lower section of the upper portion of the rear wall, wherein the impeller includes an outwardly extending paddle having a curved central

snowthrowing section for throwing upwardly away therefrom at approximately the juncture between the lower and upper portions of the rear wall a snow stream which has a width as it departs the snowthrowing section of at least approximately one-half the impeller's predetermined length and in which axially outermost portions of the snow stream have a component of motion that [\*5] is directed axially inwardly; and

(c) upwardly extending collecting means located on at least the lower section of the upper portion of the rear wall for receiving the snow stream from the impeller and for conducting that snow stream vertically upwardly, wherein the collecting means includes a trough means which tapers inwardly from side-to-side as it rises, and wherein the trough means at its lower end has a width which is at least approximately one-half the impeller's predetermined length.

*Id.* at col. 17, ll. 3-37.

Figure 5 of the '726 patent, which has been modified for clarity, depicts the improved impeller as follows:

[SEE FIGURE 5 IN ORIGINAL]

Figure 5 shows that impeller **30** comprises two paddles **32** that extend outwardly and are offset by 180 degrees. See *id.* at col. 5, ll. 25-28. The written description discloses that "each paddle **32** includes a relatively long, central snowthrowing section **34** surrounded on either side by . . . relatively short, end sections **36** that . . . take that snow which lies outwardly of central section **34** and feed it inwardly onto central section **34**." *Id.* at col. 5, ll. 28-31, 48-50. As [\*6] for the shape of the central snowthrowing section, the patent explains that "central section **34** is generally concave in shape between each side thereof, i.e., it curves forwardly in the direction of rotation of impeller **30** from the midpoint to each side. . . ." *Id.* at col. 5, ll. 31-34.

Ariens' single-stage snowthrower contains a somewhat similar impeller, depicted in the following illustration:

[SEE ILLUSTRATION IN ORIGINAL]

It is readily apparent that the central portion of the accused impeller lacks the curvature of the impeller depicted in Toro's patent. The two paddle portions of the accused impeller contain a flat, central section bounded on both sides by curved "transition sections," as indicated by the notations of Toro's expert, John Berner.

Toro sued Ariens, alleging that Ariens willfully infringed the '726 patent by making, using, and/or selling snowthrower products covered by that patent. Ariens denied those allegations and raised several affirmative defenses, including, inter alia, invalidity under 35 U.S.C. § 112, P 1. n3 Ariens filed a declaratory judgment counterclaim that essentially repeated the allegations in its [\*7] answer, and subsequently alleged that certain reissue claims were invalid under 37 C.F.R. § 1.175 n4 for failure to specify all differences between the original and the reissue claims.

n3 [HN1] Section 112, paragraph 1 provides that:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same, and shall set forth the best mode contemplated by the inventor of carrying out his invention.

35 U.S.C. § 112, P 1 (emphasis added).

n4 [HN2] The relevant version of section 1.175 provides that:

(a) Applicants for reissue, in addition to complying with the requirements of § 1.63, must also file with their applications a statement under oath or declaration as follows:

\* \* \*

(3) When it is claimed that such patent is inoperative or invalid "by reason of the patentee claiming more or less than he had the right to claim in the patent," distinctly specifying the excess or insufficiency in the claims.

\* \* \*

(5) Particularly specifying the errors relied upon, and how they arose or occurred.

\* \* \*

37 C.F.R. § 1.175(a)(3), (5) (1990).

[\*8]

Toro and Ariens cross-moved for summary judgment. On the issue of infringement, the district court held in favor of Ariens, concluding, inter alia, that there was no genuine issue of material fact that claims 20, 24, 36, and 37 were not infringed, willfully or otherwise. See Toro I, slip op. at 38-39; Toro II, slip op. at 14. As to validity, the court held in favor of Toro, concluding, inter alia, that as a matter of law claims 36-41 were not invalid under section 112, paragraph 1, and claims 37-42 were not invalid under section 1.175. See Toro I, slip op. at 38.

Toro appeals the district court's infringement and willfulness rulings, and Ariens cross-appeals the court's validity rulings. We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(1) (1994).

#### B. Standard of Review

[HN3] Summary judgment is appropriate "if the pleadings, depositions, answers to interrogatories, and admissions on file, together with the affidavits, if any, show that there is no genuine issue as to any material fact and that the moving party is entitled to a judgment as a matter of law." *Fed. R. Civ. P. 56(c)*. "The evidence of the nonmovant is to be believed, and [\*9] all justifiable inferences are to be drawn in his favor." See *Anderson v. Liberty Lobby, Inc.*, 477 U.S. 242, 255, 91 L. Ed. 2d 202, 106 S. Ct. 2505 (1986). [HN4] We review a district court's grant of a motion for summary judgment without deference, applying the summary judgment standard anew. See *Atmel Corp. v. Information Storage Devices, Inc.*, 198 F.3d 1374, 1378, 53 U.S.P.Q.2D (BNA) 1225, 1227 (*Fed. Cir.* 1999).

[HN5] Determining whether an accused process or device infringes a patent claim is a two-step process. "The first step is claim construction, which involves ascertaining the scope and meaning of the claims at issue, while the second step involves determining whether the claims as construed read on the accused device." *Streamfeeder, LLC v. Sure-Feed Sys., Inc.*, 175 F.3d 974, 981, 50 U.S.P.Q.2D (BNA) 1515, 1519 (*Fed. Cir.* 1999). [HN6] Claim construction is a question of law, see *Cybor Corp. v. FAS Techs., Inc.*, 138 F.3d 1448, 1456, 46 U.S.P.Q.2D (BNA) 1169, 1174 (*Fed. Cir.* 1998) (en banc), while infringement, either literal or under the doctrine of equivalents, is a question of fact, see *Bai v. L & L Wings, Inc.*, 160 F.3d 1350, 1353, 48 U.S.P.Q.2D (BNA) 1674, 1676 (*Fed. Cir.* 1998). [\*10] Whether infringement is willful is a question of fact that the patentee must establish by clear and convincing evidence. See *Georgia-Pacific Corp. v. United States Gypsum Co.*, 195 F.3d 1322, 1334, 52 U.S.P.Q.2D (BNA) 1590, 1600 (*Fed. Cir.* 1999).

[HN7] Whether a claim fails to meet the written description requirement under section 112, paragraph 1 is a question of fact. See *SunTiger, Inc. v. Scientific Research Funding Group*, 189 F.3d 1327, 1334, 51 U.S.P.Q.2D (BNA) 1811, 1815 (Fed. Cir. 1999). [HN8] Whether an inventor has failed to disclose all differences between original and reissue claims is essentially an exercise in claim construction, and is therefore an issue of law, reviewed de novo. Cf. *Cybor*, 138 F.3d at 1456, 46 U.S.P.Q.2D (BNA) at 1174.

### C. Validity

#### 1. Written Description

Ariens argues in its cross-appeal that the district court erred in denying its motion for summary judgment that claims 36-41 are invalid under section 112, paragraph 1 for failure to comply with the written description requirement. Citing *Gentry Gallery, Inc. v. Berkline Corp.*, 134 F.3d 1473, 45 U.S.P.Q.2D (BNA) 1498 (Fed. Cir. 1998), Ariens contends that Toro was only [\*11] in possession of snowthrowers with a curved impeller, and that the '726 patent's narrow written description does not support claims directed to a snowthrower without such an impeller. Toro responds that the district court correctly held that claims 36-41 were not invalid as a matter of law, and that the written description does support the claims at issue. Toro also asserts that Gentry is inapposite, because in that case the original specification did not describe what was later claimed.

[HN9] Section 112, paragraph 1 requires that a patent's written description allow persons skilled in the art to discern that the inventor has in fact invented what has been claimed. See *Johnson Worldwide Assocs., Inc. v. Zebco Corp.*, 175 F.3d 985, 993, 50 U.S.P.Q.2D (BNA) 1607, 1613 (Fed. Cir. 1999). Thus, the written description requirement is different from the requirement to disclose how to "make and use" an invention requiring the written description to show that the inventor was in possession of the claimed invention as of the filing date sought. *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 U.S.P.Q.2D (BNA) 1111, 1117 (Fed. Cir. 1991).

We agree with Ariens that claims [\*12] 36-41 do not satisfy section 112, paragraph 1. Toro has broadened the claims beyond what the original claims claim and the written description discloses. Despite Toro's protests to the contrary, we believe that Gentry is directly applicable to the facts here. In Gentry, the patentee claimed sectional sofas in which the location of recliner controls was not limited to a console between the two reclining portions of the claimed sectional sofa, despite the fact that the written description only disclosed sectional sofas that were so limited. See *Gentry*, 134 F.3d at 1478-79,

45 U.S.P.Q.2D (BNA) at 1502-03. Berkline argued that such limited disclosure rendered those claims invalid for lack of adequate written description and we agreed, reasoning as follows:

[HN10]

In a given case, the scope of the right to exclude may be limited by a narrow disclosure. . . . In this case, the original disclosure clearly identifies the console as the only possible location for the controls. It provides for only the most minor variation in the location of the controls, noting that the control "may be mounted on top or side surfaces of the console rather than on the front wall . . . without [\*13] departing from this invention." No similar variation beyond the console is even suggested. Additionally, the only discernible purpose for the console is to house the controls. As the disclosure states, identifying the only purpose relevant to the console, "another object of the present invention is to provide . . . a console positioned between [the reclining seats] that accommodates the controls for both of the reclining seats." Thus, locating the controls anywhere but on the console is outside the stated purpose of the invention. Moreover, consistent with this disclosure, Sproule's broadest original claim was directed to a sofa comprising, inter alia, "control means located upon the center console to enable each of the pair of reclining seats to move separately between the reclined and upright positions." . . . Accordingly, when viewed in its entirety, the disclosure is limited to sofas in which the recliner control is located on the console.

*Id.* at 1479, 45 U.S.P.Q.2D (BNA) at 1503 (citations omitted).

Similarly to the patent in Gentry, the written description in the '726 patent discloses that the only type of impeller to be used in the claimed snowthrowers [\*14] is a curved one. The written description describes the key role of the impeller's curved shape in the function of the claimed snowthrowers as follows:

The shape of impeller **30** along with the shape and placement of collecting chamber **22** yield a single stage snowthrower **2** having performance characteristics which begin to approach the performance of much larger two-stage snowthrowers. In this regard, Applicants

believe that the shape of central snowthrowing section **30**, including its slight amount of forward facing, is more efficient than prior art straight paddle impellers in collecting and throwing snow, i.e., the snow appears to be firmly cupped and held by central section **34** until it is released into chamber **22** with less spillage of snow on the paddle.

'726 patent, col. 11, ll. 1-12 (emphasis added). Moreover, the written description teaches that:

Applicants have discovered that paddles **32** shaped as illustrated and described herein appear to maintain their ability to throw snow at longer hours of operation than more conventionally shaped flat, radial paddles. It is believed this is due to the use of a flexible [\*15] material having the concave shape for central section **34** which acts as a rigid cup in scooping and throwing the snow such that its ability to do so does not degrade as much even when the clearance between the central section **34** and the arcuate lower portion **19** of rear wall **18** increases.

Id. at col. 12, ll. 2-12 (emphasis added). In fact, the written description discloses that in the construction of the impeller of the claimed snowthrower, the curved shape is a built-in feature. See id. at col. 6, ll. 41-43 ("The first stamping **40** is a generally concave stamping which helps define the generally concave shape of central section **34**. . .").

As in Gentry, the written description here identifies curved impellers as the only impellers to be used in the claimed invention and makes no mention of any other possible design to be used in the claimed snowthrowers. See id. at col. 3, ll. 31-33 (describing the curved shape as "necessary"); see id. at col. 6, ll. 64-66 (describing the curved shape as "required"). Likewise, nearly all of the original thirty-five claims of the '726 patent explicitly require that the impeller be curved. [\*16] n5 Clearly the reissue claims exceeded what the inventors had possession of when they filed the patent application.

n5 Only claims 20 and 21 do not include the curved limitation. However, since Ariens did not argue the invalidity of these claims under section 112, paragraph 1, we do not pass judgment on those claims.

Based on the reasoning in Gentry, we therefore conclude that reissue claims 36-41 are invalid under

section 112, paragraph 1 as a matter of law, because none of these claims is limited to a curved impeller, and the written description fails to support claims in which a snowthrower contains an impeller that is anything other than curved. Toro used the reissue process to impermissibly obtain claims that were unsupported by the narrow disclosure in the written description, and the district court therefore erred in denying Ariens' motion for summary judgment of invalidity as to the disputed claims.

## 2. Reissue Requirements under Section 1.175 n6

n6 While Ariens argues that claims 37-42 are all invalid under 37 C.F.R. § 1.175, we only address claim 42, in view of our holding that claims 36-41 are invalid under section 112, paragraph 1.

[\*17]

Ariens argues in its cross-appeal that claim 42 is invalid for failure to comply with section 1.175, because the inventors of the '726 patent failed to set forth every difference between that new reissue claim and the original claims. Ariens contends that the following underscored language in claim 42 (dependent indirectly from claim 37) was not explained in the inventors' Supplemental Declaration:

(c) an upwardly extending snow collecting chamber located on the rear wall of the housing and having a lower end disposed beneath the upper edge of the housing; and

(d) two downwardly facing ledges located on the rear wall of the housing beneath the upper edge of the housing, wherein the ledges are positioned on each side of the snow collecting chamber to lie above the end sections of the impeller.

'726 patent, col. 18, ll. 50-58 (emphasis added). Toro responds that the inventors of the '726 patent did comply with section 1.175, because all material differences were disclosed in the Supplemental Declaration, in which the inventors compared reissue claim 42 to original claim 24. Toro argues that that the underscored language in claim 42 was not a material [\*18] change, as demonstrated by subsection (c) of claim 24:

(c) upwardly extending collecting means located on at least the lower section of the upper portion of the rear wall for receiving the snow stream from the impeller and for conducting that snow

stream vertically upwardly, wherein the collecting means includes a trough means which tapers inwardly from side-to-side as it rises, and wherein the trough means at its lower end has a width which is at least approximately one-half the impeller's predetermined length.

Id. at col. 17, ll. 28-37 (emphasis added). n7 Ariens replies that even if only material changes must be disclosed, the change at issue is material.

n7 Neither party disputes that the "snow collecting chamber" structure recited in claim 37 is the structure corresponding to the "collecting means" limitation in claim 24, which is written in means-plus-function format. See 35 U.S.C. § 112, P 6 (1994). Since the "snow collecting chamber" is indeed the structure disclosed in the written description that corresponds to the "collecting means," we need not address this issue further.

[\*19]

Although we agree with Ariens that changes have been made in claim 42 relative to claim 24, we will not reverse the district court on this ground. In its Supplemental Declaration, the inventors explained at length how independent claim 37 and dependent claim 42 differed from the original claims, noting that: (1) claim 37 included the "ledges" limitation found only in original claims 33 and 34, (2) that claim 37 lacks the curved impeller shape or dimension required of claim 24 and other original independent claims, and (3) that claim 42, while having a curved impeller shape limitation, lacked the impeller dimension language present in original independent claims. See Supplemental Decl. at 3-4. Moreover, the inventors indicated, in underscore, that as a result of the modified impeller language, claim 42 was broader than any of the original claims in the patent. See id. at 4. While claim 42 has been heavily redrafted relative to claim 24, resulting in further undisclosed differences between the two claims, we do not consider this minor infraction sufficient to invalidate the claim in light of the otherwise extensive recitation of the differences. Cf. *Nupla Corp. v. IXL Mfg. Co.*, 114 F.3d 191, 192, 42 U.S.P.Q.2D (BNA) 1711, 1712 (Fed. Cir. 1997) [\*20] (holding that failure to disclose all material changes renders reissue claims invalid for failure to comply with section 1.175). We therefore conclude that claim 42 is not invalid for failure to comply with section 1.175.

#### D. Infringement

##### 1. Claims 20 and 24

Toro argues that the district court erred in holding that claim 20 was not infringed as a matter of law based on its determination that the accused device does not contain an "impeller means . . . wherein the throwing means comprises a paddle portion which extends over at least approximately one-half of the impeller means' total length." Toro contends that the court misinterpreted the written description in calculating the length of the "throwing means" of the accused impeller, and that the court impermissibly decided disputed issues of fact on summary judgment. Toro argues in essence that the transition sections must be counted as part of the throwing means. Toro also asserts that the court performed an inadequate analysis under the doctrine of equivalents.

Ariens responds that the district court properly granted its motion for summary judgment of noninfringement as to claim 20 because the accused impeller does [\*21] not meet the disputed limitation in that claim. Ariens points out that the "throwing means" of the accused impeller is only three to four inches long, much less than "approximately one-half of the impeller means' total length" of eighteen inches. Ariens continues that the district court properly interpreted the written description in its infringement analysis and correctly concluded that the transition sections of the accused impeller are not counted as part of the "throwing means." As such, Ariens argues that the district court correctly held that it does not infringe as a matter of law, either literally or under the doctrine of equivalents. For these reasons Ariens also contends that the district court correctly held that claim 24 is not infringed, as that claim contains a limitation similar to the disputed one in claim 20. Toro does not reply to Ariens' contention with respect to claim 24, or challenge the district court's ruling of noninfringement based on that limitation.

As an initial matter, we agree with Ariens that the district court properly interpreted the written description and correctly concluded that there is no genuine issue of material fact that Ariens' device does [\*22] not infringe claim 20. The disputed portion of claim 20 reads as follows, with the key limitation underscored:

(b) rotatable impeller means carried on the housing for throwing snow upwardly relative to the housing, wherein the impeller means includes means for throwing a snow stream which tapers inwardly as it rises away therefrom, wherein the throwing means comprises a paddle portion which extends generally radially relative to the impeller means and extends over at least approximately one-half of the impeller means' total length. . .

'726 patent, col. 16, ll. 10-18 (emphasis added). n8 The district court observed, and Toro did not dispute, that the flat, central section of the accused impeller is approximately three to four inches long, and that the total length of the impeller is approximately 18 inches. See Toro I, slip op. at 17. As for the remainder of the impeller, the court agreed with Toro's own expert, John Berner, that the curved portions between the central section and the end sections of the impeller were "transition sections." See id. at 16-17 & n.3; Berner Dep. at 160-161. n9 The court then turned to the following portion of the written [\*23] description for guidance as to whether it should attribute the "transition sections" to the central snowthrowing section or the end sections:

While each end section 36 has been described as being relatively distinct from central section 34, the axially inwardmost portion of each end section 36 might be considered a transition section in which the shape of the end section is blended to match the shape of the central section 34 at the side thereof. However, if such a transition section does in fact exist, it will be considered as part of the end section for the purposes of definition herein.

Id. at col. 5, l. 67 to col. 6, l. 7; see also Toro I, slip op. at 14-15. The court correctly interpreted the plain language of this passage to mean that any transition portions are considered part of the end sections, not the central snowthrowing section. See Toro I, slip op. at 16-17. Thus, we agree with the district court's holding that Ariens did not infringe as a matter of law, as the central snowthrowing section in Ariens' impeller is only three to four inches in length, which is considerably less than "approximately one-half" of that impeller's [\*24] total length of eighteen inches. See id. at 17.

n8 Neither party disputes that the structure corresponding to the "throwing means" limitation is the "central snowthrowing section" disclosed in the specification. We also note that while the term "means" is used in the "impeller means" limitation, adequate structure is revealed by the term "impeller," such that section 112, paragraph 6 is not invoked. See *Personalized Media Communications, LLC v. ITC*, 161 F.3d 696, 703-04 & n.10, 48 U.S.P.Q.2D (BNA) 1880, 1886-87 & n.10.

n9 Berner's characterization of what constituted "transition sections" was drawn directly onto the figure of the accused impeller, as shown above, and initialed with "J.B."

We also find no error in the district court's conclusion that Ariens' device does not infringe under the doctrine of equivalents as a matter of law. Even assuming that the accused central snowthrowing section is four inches, it is still less than a fourth of the total length of the impeller. It is beyond argument [\*25] that a fourth of the impeller's length is not insubstantially different from "approximately one-half" of its length.

Moreover, we agree with Ariens that the district court properly granted its motion for summary judgment of noninfringement of claim 24 for the same reasons as claim 20. The key portion of claim 24 reads as follows:

(b) a rotatable impeller . . . wherein the impeller includes an outwardly extending paddle having a curved central snowthrowing section for throwing upwardly away therefrom at approximately the juncture between the lower and upper portions of the rear wall a snow stream which has a width as it departs the snowthrowing section of at least approximately one-half the impeller's predetermined length and in which axially outermost portions of the snow stream have a component of motion that is directed axially inwardly. . . .

'726 patent, col. 17, ll. 10, 17-27 (emphasis added). Although this claim describes the dimensions of the snow stream that is expelled from the central snowthrowing section rather than the central snowthrowing section itself (cf. claim 20), we do not believe (and Toro does not contend) that the district court erred [\*26] in concluding that this limitation is the functional equivalent of the disputed limitation in claim 20. See Toro I, slip op. at 13 n.2. For the central snowthrowing section to eject a snowstream of that dimension, it is only logical the central snowthrowing section itself must have approximately the same dimensions. Accordingly, for the reasons articulated above with respect to claim 20, we conclude that the court correctly held as a matter of law that Ariens' device does not infringe claim 24, either literally or under the doctrine of equivalents.

## 2. Willfulness

Toro argues that the district court erred in concluding that Ariens did not willfully infringe as a matter of law, and that genuine issues of material fact preclude summary judgment. Toro makes a number of allegations against Ariens, including that Ariens acted against, or failed to consider, the advice of its counsel, concealed a key change in design from that counsel, failed to obtain an opinion on the design that was ultimately generated, and copied Toro's design. Ariens

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responds that these allegations lack any factual support, and that accordingly, the district court correctly granted its motion for summary judgment [\*27] on this issue.

[HN11] "A finding of willfulness requires the fact-finder to find that clear and convincing evidence shows 'that the infringer acted in disregard of the patent . . . [and] had no reasonable basis for believing it had a right to do the acts.'" *American Med. Sys., Inc. v. Medical Eng'g Corp.*, 6 F.3d 1523, 1530, 28 U.S.P.Q.2D (BNA) 1321, 1325 (Fed. Cir. 1993) (quoting *Stickle v. Heublein, Inc.*, 716 F.2d 1550, 1565, 219 U.S.P.Q. (BNA) 377, 388 (Fed. Cir. 1983)). Such a determination is "made after consideration of the totality of the circumstances" of a particular case, including any "mitigating or ameliorating factors." See *id.*

We agree with Ariens that, in view of the totality of the circumstances, the court did not err in concluding that it did not willfully infringe as a matter of law. First of all, the fact that we have held claims 20 and 24 to be not infringed and claims 36-41 to be invalid strongly supports the court's conclusion of lack of willfulness. The idea of acting in conscious disregard of another's valid patent rights is inconsistent with a conclusion that the claims are invalid and/or not infringed. This is so, even though the district court [\*28] only found lack of infringement, rather than invalidity. Moreover, the record reveals that Ariens worked closely with its counsel, Joseph A. Gemignani, in designing the accused device. See, e.g., Daniel T. Ariens Deposition at 105 ("We were always in communication both with Mr. Gemignani and

Design Concepts and Clarence Harms, Don Berchem. That was our approach from the beginning."). Further, Toro fails to cite any record evidence that Ariens concealed changes in the accused device from its counsel. While Toro asserts that Ariens failed to obtain an opinion letter on the design that was actually manufactured, Toro fails to explain how the final design differed in any material way from the design analyzed in the second opinion letter. As for Toro's contention that Ariens unlawfully copied its invention, we agree with the district court that Ariens' behavior is more accurately characterized as "designing around," an activity that the patent system encourages. See *Westvaco Corp. v. International Paper Co.*, 991 F.2d 735, 745, 26 U.S.P.Q.2D (BNA) 1353, 1361 (Fed. Cir. 1993). Based on the totality of the circumstances of this case, we conclude that the district court did not [\*29] err in concluding that Ariens did not willfully infringe as a matter of law.

#### E. Conclusion

The district court erred as a matter of law in concluding that claims 36-41 were not invalid under section 112, paragraph 1. However, the district court correctly held as a matter of law that claim 42 was not invalid under section 1.175, that none of the claims was willfully infringed, and that claims 20 and 24 were not otherwise infringed. We therefore affirm-in-part and reverse-in-part.

