United States Court of Appeals for the Federal Circuit

05-1123, -1148

OLD TOWN CANOE COMPANY,

Plaintiff-Appellant,

v.

CONFLUENCE HOLDINGS CORP.,

Defendant-Cross Appellant.

Edward E. Vassallo, Fitzpatrick, Cella, Harper & Scinto, of New York, New York, argued for plaintiff-appellant. With him on the brief was Douglas Sharrott. Also on the brief was Mark J. Lee, Brownlie Evans Wolf & Lee, LLP, of Bellingham, Washington.

Hadrian R. Katz, Arnold & Porter LLP, of Washington, DC, argued for defendant-cross appellant. With him on the brief was Joseph A. Micallef.

Appealed from: United States District Court for the District of Oregon

Magistrate Judge Donald C. Ashmanskas

United States Court of Appeals for the Federal Circuit

05-1123, -1148

OLD TOWN CANOE COMPANY,

Plaintiff-Appellant,

v.

CONFLUENCE HOLDINGS CORP.,

Defendant-Cross Appellant.

DECIDED: May 9, 2006

Before MAYER, SCHALL, and LINN, Circuit Judges.

Opinion for the court filed by Circuit Judge LINN. Dissenting opinion filed by Circuit Judge MAYER.

Old Town Canoe Company ("Old Town") appeals from the grant of Confluence Holdings Corp.'s ("Confluence") motion for judgment as a matter of law ("JMOL") of noninfringement of U.S. Patent No. 4,836,963 (filed May 26, 1987) ("the '963 patent"). See Old Town Canoe Co. v. Confluence Holdings Corp., No. 02-CV-0093 (D. Or. Nov. 10, 2004). Confluence cross-appeals from the grant of Old Town's motion for JMOL of no invalidity based on obviousness, lack of enablement, or failure to disclose best mode, and of no unenforceability based on inequitable conduct. See id. Because the district court did not err in its construction of the claims and correctly concluded that no reasonable juror could find infringement, we affirm the judgment of noninfringement. Because we cannot conclude that no reasonable juror could find in favor of Confluence

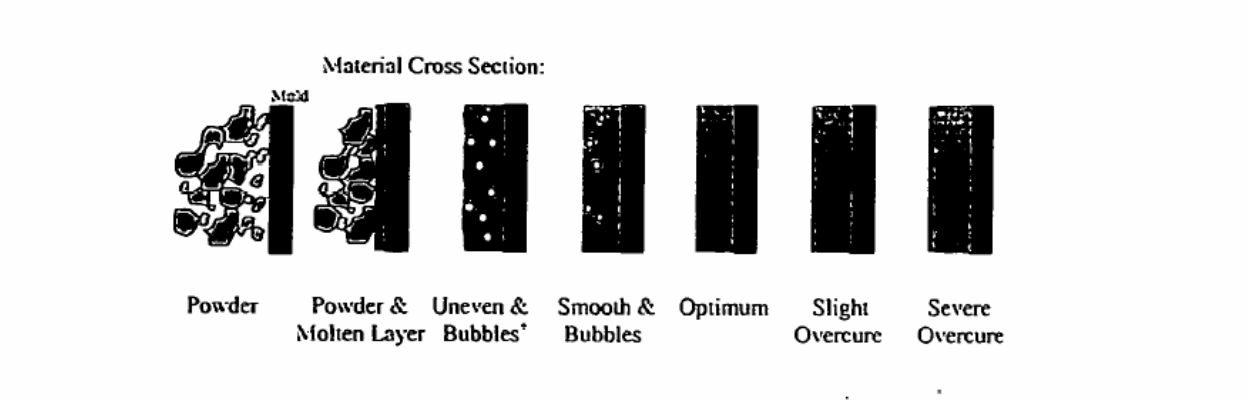
on the invalidity issues, we vacate the District Court's grant of JMOL on those issues and remand for further proceedings consistent with this opinion. Because the district court did not abuse its discretion in granting Old Town's motion for JMOL of no inequitable conduct, we affirm on that issue.

I. BACKGROUND

The parties manufacture layered polyethylene canoes. Old Town is the assignee of the '963 patent, which relates to a method of making multilayered plastic laminate boat hulls by rotational molding. The '963 patent describes a method of releasing successive charges of plastic particulate into a heated mold, which is rotated on two axes in a large oven. Each charge melts and flows together to form a cross-linked plastic layer. A successive charge is not released into the mold until the layer formed by the prior charge has reached an appropriate state. The boat hull will not be usable if a successive charge is released too soon or too late, making it critical to recognize when the preceding layer has reached the appropriate state of completion. The invention recognizes that coalescence of the particulate material will continue to completion even after the mold is removed from the oven if the mold doors are kept closed to retain the residual heat of the mold, thereby reducing oven time and cost.

In January 2002, Old Town filed suit against Confluence, alleging infringement of the '963 patent. Confluence filed a counterclaim, seeking a declaratory judgment that the patent was invalid and unenforceable. The parties asked the district court to construe certain claim terms, including the limitation of opening the mold assembly "after coalescence of the third charge is completed," the only limitation at issue in this appeal. See Old Town Canoe Co. v. Confluence Holdings Corp., No. 02-0093-AS (D.

Or. Mar. 2, 2004) ("Claim Construction Order"). This limitation speaks to a step that takes place after the mold assembly has been removed from the oven and has been air cooled. The parties agreed that "coalescence" is a process, referring to a 7-stage diagram by Confluence's expert, Paul Nugent (the "Nugent diagram," depicted below), but disputed the nature of the process and the point at which "coalescence" is "completed." Id., slip op. at 3. Both parties agreed that the completion of coalescence did not refer to the first two early stages, nor did it refer to the last two stages. Confluence argued coalescence was complete at stage 3 (i.e., when an uneven layer with bubbles is first formed), whereas Old Town argued coalescence was complete at stage 5 (i.e., optimum cure). Id.



On June 2, 2003, the district court conducted a Markman hearing and, having evaluated the intrinsic record, contemporaneous dictionaries, cited prior art, and expert testimony, concluded that "it would be understood that 'coalescence' is not complete merely because a layer has been formed," rather, "coalescence" was "'complete' when it has all necessary parts, elements or steps, or is fully carried out." Id., slip op. at 8. Thus, the district court construed the claims as meaning "coalescence" is "completed" at optimum stage 5 of the Nugent diagram.

A jury trial began on October 20, 2004. After 5 days of trial, the parties filed cross-motions for JMOL, Confluence moving for noninfringement and Old Town moving that its patent was not invalid and not unenforceable. After hearing argument on the infringement question, the district court granted Confluence's motion, concluding from the bench that Confluence's canoes do not infringe Old Town's '963 patent. The following day, the district court entertained argument on validity and enforceability and summarily concluded, without explanation, that, because there was not sufficient evidence to meet the clear and convincing evidence standard required to overcome the presumption of validity, the invalidity issues would not be sent to the jury. The district court also held that there was not sufficient evidence for it to find inequitable conduct. On November 10, 2004, the district court entered judgment, granting both motions for JMOL and dismissing without prejudice all remaining claims.

Old Town appeals the district court's grant of JMOL of noninfringement, arguing that the district court strayed from its Markman claim construction when finding noninfringement as a matter of law.[1] Old Town argues that stage 5 of the Nugent diagram may have bubbles and that the court wrongly imposed a requirement that optimum cure have no bubbles and thus incorrectly concluded that, because Confluence's canoes have bubbles, they do not infringe, either literally or under the doctrine of equivalents. Old Town argues, in the alternative, that the district court's claim construction was erroneous in that "completion" does not necessitate that coalescence reach optimum stage 5 of the Nugent Diagram; rather, completion includes

[1] Although Claims 3, 4, 9 and 10 of the '963 patent were asserted at trial, Old Town only appeals JMOL for noninfringement with respect to claims 9 and 10.

other stages during coalescence that can be attained by bringing the process to a halt to produce a commercially viable (i.e., usable) product.

Confluence counters that Old Town should be bound by its admission to the district court that coalescence is a process that ends at stage 5 of the Nugent diagram, and that Old Town's new construction on appeal, which attempts to define "complete" as "not complete," is inconsistent with the claim language and intrinsic record. Confluence argues that the district court's judgment of noninfringement was not based on the presence or absence of bubbles. Rather, the district court correctly held that the limitation requires the plastic laminate to reach the end of coalescence, that is, optimum stage 5, and that the weight of the evidence supports that its products do not infringe because they never reach optimum stage 5. Confluence also cross-appeals the grant of Old Town's motion for JMOL of no invalidity and unenforceability, arguing that, on the evidence presented, when viewed in a light most favorable to Confluence, the district court clearly erred in concluding that no reasonable juror could find in Confluence's favor.

We have jurisdiction under 35 U.S.C. § 1295(a)(1).

II. DISCUSSION

A. Noninfringement

Old Town argues that the district court failed to apply its own claim construction and wrongly imposed a requirement that optimum cure have no bubbles, contending that the grant of JMOL of noninfringement "appears to be based on the presence of some bubbles in Confluence's accused canoes." Old Town asserts that the requirement for an infringing canoe to have no bubbles is error because there was

expert testimony that optimum stage 5 on the Nugent diagram can have some bubbles and because the Nugent diagram states that stage 5 has "few to no bubbles." Old Town also argues that, even if optimum cure requires no bubbles, a reasonable jury could still find infringement under the doctrine of equivalents.

Confluence disagrees that the district court required that optimum stage 5 have no bubbles, arguing that the district court instead recognized that optimum stage 5 may or may not contain bubbles and that the complete absence of bubbles was not required for a product to infringe. Confluence asserts that all of the experts who addressed the subject agreed that Confluence's canoes never reached optimum stage 5, despite their recognition that optimum stage 5 may contain bubbles. As to the doctrine of equivalence, Confluence argues that prosecution history estoppel applies and precludes a finding of infringement under the doctrine of equivalents in this case.

This court "review[s] a grant of JMOL de novo, reapplying the district court's JMOL standard anew." Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co., 308 F.3d 1167, 1185 (Fed. Cir. 2002). The district court sitting in the Ninth Circuit considers a motion for JMOL by drawing all reasonable inferences from the evidence most favorably to the non-movant. See Horphag Research Ltd. v. Pellegrini, 337 F.3d 1036, 1040 (9th Cir. 2003). A motion for JMOL is properly granted only if no reasonable juror could find in the non-movant's favor. See Sanghvi v. City of Claremont, 328 F.3d 532, 536 (9th Cir. 2003). The determination of infringement is a factual question. See Bai v. L & L Wings, Inc., 160 F.3d 1350, 1353 (Fed. Cir. 1998).

In granting Confluence's motion for JMOL of noninfringement of the '962 patent, the district court noted the testimony of Confluence's expert, Mr. Petruccelli, that a

condition of zero bubbles may be detrimental to optimum physical properties and that an industry acceptable and preferred condition of complete coalescence is when there are some remaining bubbles and the process is otherwise complete. The district court made no "bubble/no bubble" distinction, but rather stressed that all of the parties' experts testified that Confluence's canoes never reached optimum stage 5 of the Nugent diagram.

The evidence overwhelmingly shows that, even if some bubbles may be present at optimum stage 5 of the Nugent diagram, Confluence's canoes did not reach optimum stage 5. While Old Town argues that the district court was influenced by arguments and testimony relating to the presence or absence of bubbles, it cites to no testimony contradicting the district court's conclusion that none of the accused structures reached optimum stage 5. Based on this record, we agree with the district court that no reasonable juror could find that the particulate used in Confluence's canoes reached optimum coalescence, as required by the asserted claims. We therefore hold that the district court did not stray from its Markman claim construction and correctly granted Confluence's JMOL of no literal infringement.

As for equivalents, the prosecution history shows that the claims were narrowed, triggering a presumption that subject matter was surrendered. Old Town amended claim 1 of the '963 patent in response a rejection by the examiner to include the limitation that coalescence comes to completion. The amendment to claim 1 applies with equal force to the scope of claim 9, which contains the same limitation. See Builders Concrete, Inc. v. Bremerton Concrete Prods. Co., 757 F.2d 255, 260 (Fed. Cir. 1985) ("The fact that the 'passage' clause of patent claim 10 was not itself amended

during prosecution does not mean that it can be extended by the doctrine of equivalents to cover the precise subject matter that was relinquished in order to obtain allowance of claim 1."). The amendment of claim 1 was related to patentability, and Old Town disclaimed methods in which coalescence of the inner layer did not reach a point of completion. In so doing, Old Town narrowed the scope of its claim, resulting in a presumption that Old Town surrendered the territory between the original claims and the amended claims. See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722, 740 (2002) ("A patentee's decision to narrow his claims through amendment may be presumed to be a general disclaimer of the territory between the original claim and the amended claim."). Old Town has not come forward with evidence or argument that any of the criteria for rebutting the presumption apply in this case. See id. at 740-41. Because Old Town has not rebutted the presumption that it surrendered the territory between the original claims and the amended claims, it is precluded from asserting infringement under the doctrine of equivalents.

B. Claim Construction

Old Town argues in the alternative that JMOL of noninfringement was wrongly entered because the district court erred in its construction of the limitation "after coalescence of the third charge is completed." Although Old Town maintains that coalescence is a process that encompasses stages 1 through 5 of the Nugent diagram, Old Town urges that "coalescence can be completed by bringing the process 'to a halt.'" Old Town argues that because a dictionary definition includes "brought to an end" as a definition for "complete," the "completion of coalescence" limitation does not necessitate that coalescence reach its optimal state, but includes other stages at which an operator

brings the process to a halt, such as stage 4 of the Nugent diagram, so long as a usable product is produced.

Confluence counters that Old Town admitted to the district court that coalescence is a process that ends at optimal stage 5 of the Nugent diagram, and that Old Town's proffered construction here attempts to define "complete" as "not complete." Confluence argues that the district court correctly held that the limitation requires the plastic laminate to reach the end of coalescence, that is, its optimum state at stage 5.

We begin our claim construction analysis with the words of the claim, which are generally given their ordinary and customary meaning. Phillips v. AWH Corp., 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (citation omitted). Claim 9, the only independent claim at issue in this appeal, recites:

> A rotational molding method for making a laminated plastic boat hull in a mold assembly mold cavity, comprising:
> rotating the mold assembly containing the first charge of particulate thermoplastic material within the mold cavity within an oven heated to a temperature to coalesce the first charge along the cavity wall to form a first layer;
> releasing into the mold cavity a second charge of a particulate thermoplastic material that includes a blowing agent while continuing rotation of the model assembly within the oven;
> continuing such mold assembly rotation within the oven until the blowing agent foams and the second charge coalesces along the first layer to form a second layer;
> releasing into the mold cavity a third charge of particulate thermoplastic material while continuing rotation of the mold assembly within the oven;
> removing the mold assembly from the oven prior to the completion of the coalescence of the third charge;
> air cooling the mold assembly after removal of the mold assembly from the oven while continuing mold assembly rotation during continued coalescence of the third charge;
> opening the mold assembly after coalescence of the third charge is completed while continuing to air cool the mold assembly so as to expose the mold cavity to cooling air.

’963 patent, col. 8, ll. 18-46 (emphasis added).

In Phillips, we held that

> there is no magic formula or catechism for conducting claim construction. Nor is the court barred from considering any particular sources or required to analyze sources in any specific sequence, as long as those sources are not used to contradict claim meaning that is unambiguous in light of the intrinsic evidence. For example, a judge who encounters a claim term while reading a patent might consult a general purpose or specialized dictionary to begin to understand the meaning of the term, before reviewing the remainder of the patent to determine how the patentee has used the term. The sequence of steps used by the judge in consulting various sources is not important; what matters is for the court to attach the appropriate weight to be assigned to those sources in light of the statutes and policies that inform patent law.

Phillips, 415 F.3d at 1324 (internal citations omitted). In construing the claim terms in this case, the district court began its analysis by referring to dictionary definitions presented by the parties. The district court’s reference to the dictionary was not an improper attempt to find meaning in the abstract divorced from the context of the intrinsic record but properly was a starting point in its analysis, which was centered around the intrinsic record consistent with Phillips. The consulted dictionary definitions of “coalesce” include: (1) 1: to grow together . . . : unite by growth into one body . . . 2 a: to unite or join together into one body or product; become integrated into a whole. Webster’s Third New International Dictionary (1971); (2) to combine into one body or to grow together. The Phillips Petroleum Glossary of Plastic Terms (4th ed. 1965); (3) 1: to grow together or into one body . . . 2: to unite so as to form one mass, community, etc . . . 3: to blend or come together . . . 4: to cause to unite in one body or mass. The Random House Dictionary of the English Language (2d ed. 1987). The consulted

dictionary definition of "completion" is: having all necessary parts, elements, or steps; brought to an end; fully carried out. See Claim Construction Order, slip op. at 8-9.

The claim does not state explicitly whether the completion of coalescence means that the plastic particulate must reach its optimum state. However, the written description provides guidance in describing coalescence as being complete when it reaches an optimal state as opposed to when the process is brought to a halt. It states that "[d]uring such early portion of the cooling time, the mold cavity remains closed and coalescing of the third charge continues. Inside layer 16 formed by the coalescing third charge will be intimately joined with insulating layer 14." '963 patent, col. 6, ll. 7-11. Layers 14 and 16 are "tightly interconnected at their respective interfaces by virtue of the rotational molding process." Id., col. 5, ll. 9-11. The written description further describes the invention with reference to and as an improvement over the coalescence process shown in U.S. Patent No. 3,936,595 (filed May 3, 1974) ("the '595 patent"). The '595 patent describes the coalescing charge as initially adhering to the heated mold surface (i.e., forming an uneven layer) and thereafter coalescing into a continuous skin element. The '595 patent uses "coalescence" to include the process that follows the particles adhering to the mold wall, i.e., the process following the formation of a layer. It describes the process as a transformative one in which particles adhering to the mold surface (i.e., forming an uneven layer) progress to a point where the particles have become united to form a skin-like state (i.e., optimum stage 5). This supports the conclusion that one of ordinary skill in the art would understand the ordinary and customary meaning of coalescence to refer to a process that evolves beyond the point at which a layer is first formed, which marks not the completion of coalescence, but the

start of the transformation of the particulate material from discrete particles to a consolidated layer. This is also consistent with the dictionary definitions, which indicate that "coalescence" is "completed" when the layer formed by the particulate is united to possess all necessary parts, elements, or steps, i.e., when it reaches its optimal state.

Nothing in the written description suggests that to achieve the stated objects of the invention, namely to shorten the time of the molding cycle and to reduce warping problems, coalescence could or should be stopped at some unspecified point prior to the optimum conclusion of the process. Indeed, the written description teaches that the molding time is not reduced by stopping coalescence prior to its completed state, but rather by removing the mold from the oven prior to the completion of coalescence and keeping the mold cavity closed to allow coalescence to continue to completion. '963 patent, col. 3, ll. 34-40. The written description also teaches that warping problems are reduced by providing a "cooling headstart" while coalescence continues to completion. Id., col. 4, ll. 39-45. As the district court found, if coalescence were complete merely because a layer had been formed, the mold assembly would be opened prematurely and that would produce an unusable part. See Claim Construction Order, slip op. at 8-9.

The prosecution history supports the conclusion that completion of coalescence means progress of coalescence to the optimum state as opposed to being brought to a halt at an arbitrary point by operator intervention. Originally, claim 1 recited that cooling was concurrent with coalescence, but did not specify whether coalescence would reach a point of completion. Concerned whether coalescence would continue to completion while the mold is cooling (versus come to a halt by virtue of the mold having been

removed from the oven), the examiner rejected the pending claim. In response, the applicant amended claim 1 to require that cooling be concurrent with the completion of coalescence. The examiner also rejected claim 1 because "the times of removal and the temperature conditions are indeterminent [sic] and not understood." In response, the applicant argued that the removal times and temperature conditions "are matters within the ordinary skill in the art." The applicant stated that the understanding of those skilled in the art is illustrated in the '595 patent, which describes coalescence as a process that begins with particulate material, '595 patent, col. 7, ll. 15-21, "and [is] progressively formed into a skin," id., col. 8, ll. 19-21. Similarly, the applicant argued that U.S. Patent No. 3,455,483 (filed Nov. 3, 1964), also cited as prior art, uses "coalesced" to refer to a process that produces a "coherent fused layer of required thickness."

From the foregoing discussion of the written description and prosecution history, we conclude that the district court's constructions of "coalescence" and "complete" are correct and do not cover a process of coalescence that fails to reach optimum stage 5. Old Town is not entitled to a claim construction divorced from the context of the written description and prosecution history. See Nystrom v. Trex, Co., 424 F.3d 1136, 1145 (Fed. Cir. 2005) ("In the absence of something in the written description and/or prosecution history to provide explicit or implicit notice to the public — i.e., those of ordinary skill in the art — that the inventor intended a disputed term to cover more than the ordinary and customary meaning revealed by the context of the intrinsic record, it is improper to read the term to encompass a broader definition simply because it may be found in a dictionary, treatise, or other extrinsic source."). Nothing in the context of the

intrinsic record explicitly or implicitly indicates that one of ordinary skill in the art would consider coalescence to be complete before the particulates have fully melted, flowed together, become cross-linked, and reached optimum stage 5. Thus, there is no basis to conclude that one of ordinary skill would have understood completion of coalescence, as used in claim 9, to mean anything other than reaching an optimum stage. See Phillips, 415 F.3d at 1316 ("The construction that stays true to the claim language and most naturally aligns with the patent's description of the invention will be, in the end, the correct construction." (citation omitted)).

We reject Old Town's argument that the completion of coalescence would include instances where coalescence is brought to an end through intervention to produce a product that is other than at its optimum stage. That definition would sweep within the scope of the claims points during coalescence that are beyond the ordinary meaning of the expression "completion of coalescence" and that find no support in the intrinsic record. For the foregoing reasons, we affirm the district court's construction that "coalescence" is "complete" when the process of forming a uniform, homogeneous body has all necessary parts, elements or steps, or is fully carried out, i.e., the layer formed from the particulate reaches its optimum state.

C. Invalidity and Unenforceability

Confluence cross-appeals the JMOL order of the district court holding the '963 patent not invalid or unenforceable.[2]

[2] During oral argument, the court asked counsel for Confluence if it would be necessary for the court to address the issues raised in the cross-appeal if we were to affirm the appeal. While counsel recognized that if his client were successful in obtaining an affirmance of the noninfringement judgment on appeal, the client would have to decide whether there was any reason to pursue the invalidity or unenforceability

1. Obviousness

Confluence argues that, in combination, the ’595 patent and prior art articles published by Ramazzotti, et al. (the “Ramazzotti articles”) teach every element of the asserted claims and thus render the asserted claims obvious. Although the Ramazzotti articles pertain to single-layer molding versus multi-layer molding, Confluence argues that persons of skill in the art at the time would have been motivated to apply the prior art teachings of single-layer techniques to the multi-layer techniques of the ’963 patent. Confluence provided evidence suggesting that the motivation to combine would have been inherent in rotational molding techniques known at the time and in the nature of the problem to be solved, i.e., the desire to maximize production and reduce oven time. Confluence also presented evidence to support that single-layer molding techniques are essentially the same as multi-layer techniques, and that single-layer techniques may be used in the construction of multi-layer products.

Old Town argues in rebuttal that the prior art references each have shortcomings and that there is no motivation to combine the teachings. Old Town points out that the Ramazotti articles do not teach: (1) removal from the oven prior to complete coalescence in a multi-layer manufacturing process; (2) how to prevent warping; or (3) the cooling method disclosed in the ’963 patent. Old Town also argues that it presented

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issues presented in the cross-appeal, he stopped short of agreeing to dismiss the cross-appeal without a vacatur of the judgment based on Old Town’s underlying motion of no invalidity and unenforceability. This would be tantamount to the relief sought on the merits of the cross-appeal. Because our affirmance of the noninfringement issues presented in the appeal does not moot the invalidity and unenforceability issues on cross-appeal and because nothing said at oral argument otherwise warrants vacatur of the underlying motion or JMOL of no invalidity or unenforceability without consideration of the issues raised in the cross-appeal, the court is required to address the merits of the cross-appeal. See Cardinal Chem. Co. v. Morton Int’l, Inc., 508 U.S. 83 (1993).

evidence to suggest that persons skilled in the art at the time of the invention were surprised at the solution taught by the ’963 patent.

“A patent may not be obtained . . . if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.” 35 U.S.C. § 103(a) (2000).

Confluence introduced clear and convincing evidence that, in combination, the ’595 patent and the Ramazzotti articles disclose every element of claim 9, and that “rotational molders were motivated” to combine these sources. Confluence also provided evidence that the motivation to combine would have been inherent in rotational molding techniques known at the time and in the nature of the problem to be solved, by showing that single-layer molding techniques are essentially the same as multi-layer techniques and that single-layer techniques may be used in the construction of multi-layer products.

The parties’ arguments highlight a number of disputed fact questions, including credibility determinations, to be resolved by the jury. When viewed in a light most favorable to Confluence, a reasonable juror could find support for Confluence’s argument that the ’963 patent would have been an obvious improvement over the prior art. We therefore vacate the district court’s grant of JMOL that the ’963 patent was not invalid for obviousness.

2. Enablement

Confluence contends that the ’963 patent was not enabled because it failed to set forth the time and temperature parameters for the molding process. Confluence points out that rotational molding, at the time of the ’963 patent, was a process of trial and error and that, after reading the patent’s discussion of steps to take during and after coalescence, a person skilled in the art at the time of the invention would face inordinate experimentation regarding oven and cooling times and temperatures.

Old Town admits that “a molder would need to do some experimentation to determine the time and oven temperature,” but cites the Ramazzotti articles for support that experimentation is not tedious because there are a number of time/temperature combinations that will give satisfactory results. Old Town suggests that a person of ordinary skill in the art could cut open the mold after removal from the oven and assess coalescence. Old Town also asserts that the experts were able to practice the invention with minimal experimentation.

Confluence responds that, contrary to Old Town’s assertion, its expert was not able to carry out the entire process as set forth in the ’963 patent. Confluence argues an issue of fact exists as to the type and amount of experimentation required and that a reasonable juror could find that a person skilled in the art could not cut open the mold and deduce the correct time and temperature.

Enablement is a matter of law that we review without deference; however, this court reviews the factual underpinnings of enablement to determine whether there was sufficient evidence to support a verdict by a jury. BJ Servs. Co. v. Halliburton Energy Servs., Inc., 338 F.3d 1368, 1371-72 (Fed. Cir. 2003) (citations omitted).

Confluence introduced clear and convincing evidence that, in attempting to practice the invention disclosed in the ’963 patent, persons of ordinary skill in the art would have to develop time and temperature parameters through repeated experimental attempts to practice the invention. Confluence also showed that, contrary to Old Town’s assertion, its expert was not able to carry out the entire process as set forth in the ’963 patent. When viewed in a light most favorable to Confluence, this evidence, if believed by a juror, could support Confluence’s claim of invalidity on the ground that the ’963 patent is not enabled. Because Confluence produced evidence sufficient for a reasonable juror to conclude that the trial and error required to practice the claimed invention could be unduly laborious, we vacate the district court’s grant of JMOL on the issue of enablement.

3. Best Mode

Confluence argues that, at the time of filing of the patent application, the inventor had a preferred way of using the invention that included (1) optimal timing periods for coalescence and cooling, and (2) a way to construct cooling doors to permit opening the mold for cooling without disassembly. Confluence alleges that the design of the cooling doors was critical to cooling and that Old Town did not disclose their importance or how to implement them. Confluence points out that one of plaintiffs’ experts admitted that it would not have been clear to a person of ordinary skill in the art how to implement the cooling doors.

Old Town counters that Confluence relies on an undated, two-page document that is not persuasive because the inventor could not recall the time period during which it was prepared. Old Town asserts that there is no evidence that the best mode was

concealed, and that the cooling doors are irrelevant because they are not limitations of the claims, relying on Cardiac Pacemakers, Inc. v. St. Jude Medical, Inc., 381 F.3d 1371 (Fed. Cir. 2004).

Confluence responds that the authenticity of the inventor's document was not challenged, and that there is evidence that the inventor prepared the document before the application was filed and gave it to his patent lawyer. Confluence adds that the cooling doors were relevant to the limitation of claim 9 that requires "opening the mold assembly after coalescence of the third charge is complete while continuing to air cool the mold assembly so as to expose the mold cavity to cooling air." Confluence also argues that the cooling doors were necessary to practice the invention.

A patent specification must set forth the "best mode contemplated by the inventor of carrying out his invention." 35 U.S.C. § 112, ¶ 1.

> Determining whether a patent fails to comply with the best mode requirement and is thus invalid involves two factual inquiries. First, the fact-finder must determine whether at the time an applicant filed an application for patent, he or she had a best mode of practicing the invention, which is a subjective determination. Second, if the inventor had a best mode of practicing the invention, the fact-finder must determine whether the best mode was disclosed in sufficient detail to allow a skilled artisan to practice it without undue experimentation, which is an objective determination.

Nobelpharma AB v. Implant Innovations, Inc., 141 F.3d 1059, 1064 (Fed. Cir. 1998) (citation omitted).

Confluence's evidence suggests that Old Town did not disclose the details of the best mode of the invention. While we note that "[s]ubject matter that is not part of the invention that is claimed need not be included in the specification, and thus is not subject to the best mode requirement," Cardiac Pacemakers, 381 F.3d at 1379 (citing

Engel Indus., Inc. v. Lockformer Co., 946 F.2d 1528, 1532 (Fed. Cir. 1991) ("The best mode inquiry is directed to what the applicant regards as the invention, which in turn is measured by the claims.")), we need not decide here whether the cooling doors are part of the invention as claimed. Confluence produced clear and convincing evidence that Old Town documented a preferred mode describing timing parameters as well as cooling doors and that Old Town did not disclose that document to the Patent and Trademark Office (the "PTO"). Confluence came forward with a document produced by Old Town entitled "Rotational Molding of Canoes by Old Town" that described, inter alia, precise timing parameters for the molding process. Confluence presented evidence that the inventor prepared the document before the patent application was filed and gave the document to his patent lawyer. A reasonable juror could find that the specification's failure to disclose that which was detailed in the document produced by Old Town was a failure to disclose the best mode. We therefore vacate the district court's grant of JMOL on the ground of no best mode violation.

4. Inequitable Conduct

As the final argument of its cross-appeal, Confluence asserts that the district court erred in granting Old Town's motion for JMOL that the '963 patent is not unenforceable due to inequitable conduct. Confluence presented evidence that Old Town made, used, and sold 500 so-called "RPF" canoes under the patented process more than one year prior to filing the patent application. Confluence cites the testimony of the inventor that the inner layer of these canoes was not completely coalesced upon removal from the oven. Confluence argues these 500 RPF canoes are, at a minimum, material and, because Old Town knew or should have known of their materiality, the

court should infer intent to deceive the PTO. Old Town counters that the 500 RPF canoes were made using the method disclosed in the '595 patent rather than the method disclosed in the '963 patent and that it therefore had no duty to disclose those canoes because they were cumulative to the '595 patent.

Alternatively, Confluence argues that inequitable conduct could lay independently based on Old Town's failure to disclose best mode. See Consol. Aluminum Corp. v. Foseco Int'l, Ltd., 910 F.2d 804, 809 (Fed. Cir. 1990) (finding inequitable conduct due to intentional concealment of the best mode coupled with disclosure of a false mode of practicing an invention). Confluence argues that Beacon Theatres, Inc. v. Westover, 359 U.S. 500 (1959), and Cabinet Vision v. Cabnetware, 129 F.3d 595 (Fed. Cir. 1997), preclude a trial judge from conducting a bench trial on the equitable issue of unenforceability where that trial would resolve issues that are common to invalidity issues subject to jury resolution. Confluence overlooks our precedent, which explains that inequitable conduct and invalidity "are distinct and without commonality either as claims or in a relation to the underlying fact issues." Gardco Mfg., Inc. v. Herst Lighting Co., 820 F.2d 1209, 1213 (Fed. Cir. 1987). Because the issues of invalidity and unenforceability are distinct in this case, we must address whether the district court abused its discretion in finding the absence of clear and convincing evidence to support Confluence's argument for inequitable conduct based on the failure to disclose the 500 RPF canoes or the best mode. See Kingsdown Med. Consultants Ltd. v. Hollister Inc., 863 F.2d 867, 876 (Fed. Cir. 1988) (en banc), cert. denied, 490 U.S. 1067 (1989).

Establishing inequitable conduct requires proof by clear and convincing evidence that the misrepresentation made to the PTO was material, and that the patentee acted

with intent to deceive the PTO. Id. at 872. Because it is an equitable issue, the ultimate determination of inequitable conduct is committed to the discretion of the trial court. Id. at 876.

As to materiality, there is some evidence that the 500 RPF canoes were material based on their alleged manufacture under the patented method. Concerning best mode, we have held that, "[b]ecause disclosure of the best mode is statutorily required, see 35 U.S.C. § 112, failure to disclose the best mode is inherently material and, we believe, reaches the minimum level of materiality necessary for a finding of inequitable conduct." Consol. Aluminum, 910 F.2d at 808 (citing J.P. Stevens & Co., Inc. v. Lex Tex Ltd., Inc., 747 F.2d 1553, 1559 (Fed. Cir. 1984)). The record evidence supporting a failure to disclose best mode may be relevant to a determination of materiality.

Even if materiality is shown, however, Confluence points to no evidence of intent to deceive the PTO. "[M]ateriality does not presume intent, which is a separate and essential component of inequitable conduct." Allen Eng'g Corp. v. Bartell Indus., Inc., 299 F.3d 1336, 1351 (Fed. Cir. 2002) (quotation and citation omitted). Furthermore, in Consolidated Aluminum, 910 F.2d at 808, we stated that "since the failure to disclose the best mode is not excused even if unintentional, but inequitable conduct requires a 'threshold' level of intent, the failure to disclose the best mode will not constitute inequitable conduct in every case." (citations omitted). Confluence does little more than urge this court to draw an inference of intent to deceive, arguing that the applicant or his attorney knew, or should have known that withheld information would be material. Confluence's general argument on this record is not sufficient to enable us to conclude

that the district court abused its discretion in finding no inequitable conduct. The district court's JMOL of no inequitable conduct is, thus, affirmed.

III. CONCLUSION

For the foregoing reasons we affirm the district court's judgment of noninfringement of the '963 patent, affirm the district court's grant of Old Town's motion for JMOL of no inequitable conduct, vacate the district court's grant of Old Town's motion for JMOL of no invalidity and remand for further proceedings consistent with this opinion.[3]

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

IV. COSTS

Costs are assessed against Old Town.

[3] The court's comments on the presence of disputed fact questions should not be construed as a determination by this court of the ultimate merit of any of the asserted grounds of invalidity, which remain open for consideration by the district court on remand.

United States Court of Appeals for the Federal Circuit

05-1123, -1148

OLD TOWN CANOE COMPANY,

Plaintiff-Appellant,

v.

CONFLUENCE HOLDINGS CORP.,

Defendant-Cross Appellant.

MAYER, Circuit Judge, dissenting.

I agree that Confluence does not infringe U.S. Patent No. 4,836,963. However, because there is no longer an actual controversy over the invalidity and unenforceability counterclaims, I dissent from the court's resolution of the cross-appeal on the merits.

Under the Declaratory Judgment Act, 28 U.S.C. § 2201(a), a district court has jurisdiction over a declaratory judgment action only when there is an "actual controversy." Relatedly, the existence of a sufficiently concrete dispute between the parties is an ongoing jurisdictional predicate to maintaining such an action. See Super Sack Mfg. Corp. v. Chase Packaging Corp., 57 F.3d 1054, 1058 (Fed. Cir. 1995). Indeed, the "actual controversy must be extant at all stages of review, not merely at the time the complaint is filed." Preiser v. Newkirk, 422 U.S. 395, 401 (1975) (citations

omitted). We review whether such controversy exists in light of our precedent, based on the "totality of the circumstances" of each case. See Gen-Probe Inc. v. Vysis, Inc., 359 F.3d 1376, 1380 (Fed. Cir. 2004). Critical to this inquiry is whether or not the declaratory judgment plaintiff has a reasonable apprehension that it will face an infringement suit. See, e.g., Teva Pharm. USA, Inc. v. Pfizer, Inc., 395 F.3d 1324, 1332 (Fed. Cir. 2005) (discussing our two-part test for determining whether an actual controversy exists).

Here, once we affirmed the trial court's finding of no infringement, there ceased to be an actual controversy supporting jurisdiction over the invalidity and unenforceability counterclaims, because Confluence no longer desired to maintain its cross-appeal and admitted that it no longer had any reasonable apprehension of suit. For the majority nevertheless to address the merits of the cross-appeal, and remand for further proceedings, is wasteful and advisory. In view of Confluence's request for vacatur, our only appropriate course of action is to vacate the trial court's judgment on invalidity and unenforceability and remand with directions to dismiss. See United States v. Munsingwear, Inc., 340 U.S. 36, 39 (1950) ("The established practice of the Court in dealing with a civil case from a court in the federal system which has become moot while on its way here or pending our decision on the merits is to reverse or vacate the judgment below and remand with a direction to dismiss.").

Cardinal Chemical Co. v. Morton International, Inc., 508 U.S. 83 (1993), is not to the contrary. It explicitly recognizes the rule in Munsingwear. See Cardinal, 508 U.S. at 98 ("If, before the [Federal Circuit] had decided the case, either party had advised it of a material change in circumstances that entirely terminated the party's controversy, it

would have been proper . . . to vacate the entire judgment of the District Court.") (citing Munsingwear, 340 U.S. at 39); see also Super Sack, 57 F.3d at 1060 (characterizing the decision in Cardinal as a "relatively narrow one"). Moreover, Cardinal recognized that "intervening events," see id. at 96, or "further information," see id. at 98, could, as here, moot the declaratory judgment action, and divest this court of jurisdiction. The irony of the majority's disposition is that because vacatur without remand would leave Old Town's patent with a full presumption of validity, it has essentially nothing to gain, but everything to lose on remand. See, e.g., Ethicon, Inc. v. Quigg, 849 F.2d 1422, 1429 n.3 (Fed. Cir. 1988) (discussing the limited preclusion effects of a judgment finding a patent not invalid) (citing Stevenson v. Sears, Roebuck & Co., 713 F.2d 705, 710-11 (Fed. Cir. 1983)). Perhaps this is why Old Town scarcely objected at oral argument to Confluence's offer to dismiss its cross-appeal and have the trial court's judgment on invalidity and unenforceability vacated.