

United States Court of Appeals for the Federal Circuit

2009-1076

CALLAWAY GOLF COMPANY,

Plaintiff-Appellee,

v.

ACUSHNET COMPANY,

Defendant-Appellant.

Frank E. Scherkenbach, Fish & Richardson P.C., of Boston, Massachusetts, argued for plaintiff-appellee. With him on the brief was Thomas L. Halkowski, of Wilmington, Delaware.

Henry C. Bunsow, Howrey LLP, of San Francisco, California, argued for defendant-appellant. With him on the brief were Joseph P. Lavelle and Kenneth W. Donnelly, of Washington, DC, and Richard L. Stanley, of Houston, Texas. Of counsel on the brief were Edward A. Pennington and Amanda M. Rettig, Hanify & King, PC, of Washington, DC.

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

Judge Sue L. Robinson

United States Court of Appeals for the Federal Circuit

2009-1076

CALLAWAY GOLF COMPANY,

Plaintiff-Appellee,

v.

ACUSHNET COMPANY,

Defendant-Appellant.

Appeal from the United States District Court for the District of Delaware in case no. 06-CV-091, Judge Sue L. Robinson.

DECIDED: August 14, 2009

Before LINN, DYK, and PROST, Circuit Judges.

DYK, Circuit Judge.

Callaway Golf Company (“Callaway”) brought suit against Acushnet Company (“Acushnet”), alleging that Acushnet had infringed various claims of four golf ball patents owned by Callaway (known as the “Sullivan patents”).¹ Acushnet stipulated that its golf balls infringed, but contended that the asserted claims were invalid for anticipation and obviousness. After construing the claims, the district court granted summary judgment

¹ The four Sullivan patents are U.S. Patent Nos. 6,210,293 (“’293 patent”), 6,503,156 (“’156 patent”), 6,506,130 (“’130 patent”), and 6,595,873 (“’873 patent”). At issue are claims 1, 4, and 5 of the ’293 patent, claims 1–3 of the ’156 patent, claim 5 of the ’130 patent, and claims 1 and 3 of the ’873 patent.

of no anticipation. Callaway Golf Co. v. Acushnet Co., 523 F. Supp. 2d 388, 407 (D. Del. 2007) (“Summary Judgment Order”), vacated in part by 585 F. Supp. 2d 600 (D. Del. 2008) (“JMOL Order”). Following a trial on obviousness, the jury determined that—with the exception of dependent claim 5 of the ’293 patent—none of the asserted claims was invalid. The district court entered final judgment concluding that dependent claim 5 of the ’293 patent was invalid for obviousness, but that independent claim 4 (from which it stemmed), as well as the other seven asserted claims, were not.

We conclude that Acushnet raised a genuine question of material fact concerning anticipation, and we reverse the district court’s entry of summary judgment on that issue and remand. As to obviousness, we affirm the district court’s determination that Acushnet was not entitled to judgment as a matter of law that the asserted claims are invalid for obviousness. But because the judgment on obviousness was based upon irreconcilably inconsistent jury verdicts, we vacate the judgment of the district court and remand for a new trial. Thus, for the reasons that follow, we affirm-in-part, reverse-in-part, vacate-in-part, and remand for a new trial.

BACKGROUND

I

Callaway and Acushnet are golf equipment manufacturers. Callaway is the current owner of the Sullivan patents, which share nearly identical specifications and contain similar claims to a multi-layer polyurethane-covered golf ball. Historically, golf balls designed to travel long distances when struck by a driver were relatively hard. JMOL Order, 585 F. Supp. 2d at 605. In contrast, golf balls designed to exhibit other desirable playability characteristics (such as spin control for approach shots, and the

proper “click” and “feel” upon being struck) typically were softer. Id. According to the specification, a major advantage of the patented invention is that it presents a “dual personality” ball that is capable of travelling great distances, yet does not exhibit diminished playability or durability. See '293 patent col.5 ll.23–30; id. col.3 ll.21–29.

As shown below in Figure 2 of the '293 patent, the patented golf ball contains a core **10** and a multi-layer cover consisting of a first or inner layer **14** and a second or outer layer **16**. '293 patent col.5 ll.51–52. The first or inner cover layer is preferably made of a blend of low-acid ionomer resins, while the second or outer cover layer is made of a relatively soft polyurethane material. Id. col.5 ll.35–54 & col. 6 l.56–col.7 l.8.

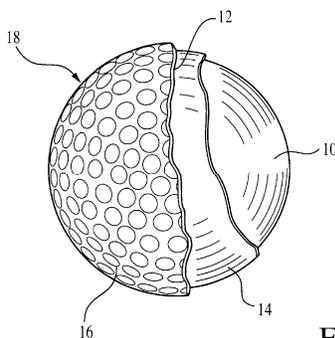


FIG. 2

Claim 1 of the '293 patent is generally representative of the asserted claims:

1. A golf ball comprising:

a core;

an inner cover layer having a Shore D hardness of 60 or more molded on said core, said inner cover layer having a thickness of 0.100 to 0.010 inches, said inner cover layer comprising a blend of two or more low acid ionomer resins containing no more than 16% by weight of an alpha, beta-unsaturated carboxylic acid;

and an outer cover layer having a Shore D hardness of 64 or less molded on said inner cover layer, said outer cover layer having a thickness of 0.010 to 0.070 inches, and said outer cover layer comprising a relatively soft polyurethane material.

'293 patent col.23 ll.48–61 (emphases added). Callaway's other asserted claims vary slightly from claim 1 of the '293 patent, but each claims a golf ball with a core, an ionomer resin (or ionomer blend) inner cover layer with a Shore D hardness of 60 or more, and a polyurethane outer cover layer with a Shore D hardness of 64 or less. "Shore D hardness" refers to a hardness standard published by the American Society for Testing and Materials.² Callaway sells or previously sold several lines of golf balls that practice the patented technology. Summary Judgment Order, 523 F. Supp. 2d at 393.

II

Callaway sued Acushnet for patent infringement on February 9, 2006, in the United States District Court for the District of Delaware. The accused products are the Titleist Pro V1, Pro V1★, and Pro V1x golf balls, which Acushnet introduced to the market in 2000, 2002, and 2003 respectively. The Pro V1 has a three-piece construction consisting of a solid core, an ionomer-blend inner cover, and a polyurethane outer cover. The Pro V1★ (since discontinued) and Pro V1x balls are "dual-core" balls having an inner core, an outer core, an ionomer inner cover, and a polyurethane outer cover.

² The standard, ASTM D-2240, describes a method of testing hardness by forcing an indenter into the material to be tested. The indenter's penetration into the material under specified conditions indicates the relative hardness of the material. The standard describes several standard sizes of indentors (type A, B, C, D, etc.), with "Shore D" hardness referring to hardness measured using a size "D" indenter. American Society for Testing and Materials, Standard Test Method for Rubber Property—Durometer Hardness 1 (1995) ("ASTM D-2240").

On November 20, 2007, the district court construed various disputed terms of the Sullivan patents, including the term “cover layer having a Shore D hardness.” The parties agreed that as a general proposition “Shore D hardness” refers to a durometer measurement of a material’s hardness rated on the Shore D hardness scale, which is described in the ASTM D-2240 standard. They disagreed, however, as to whether the Sullivan patent claims refer to the hardness of the cover layer as measured on a golf ball, or the hardness of a sample of the cover layer material measured off the ball. As the district court noted, the parties’ experts testified that numerous factors (such as the composition of the layer under the material being tested) can affect the measured hardness of a material. Thus, on-the-ball and off-the-ball hardness measurements of the same cover material can differ. JMOL Order, 585 F. Supp. 2d at 610 & n.6; Summary Judgment Order, 523 F. Supp. 2d at 399 & n.11.

The district court held that the claim limitation “[c]over layer having a Shore D hardness” requires that the Shore D hardness measurement of the cover layer be taken on the ball. Callaway Golf Co. v. Acushnet Co., No. 06-CV-091, 2007 WL 4165415, at *1 (D. Del. Nov. 20, 2007) (“Markman Order”). Based on this on-the-ball construction, Acushnet stipulated that its Titleist Pro V1 ball infringed all of the asserted claims, and that its Pro V1★ and Pro V1x balls infringed all claims except claim 1 of the '293 patent.

III

Thereafter Acushnet focused its defense on the issues of anticipation and obviousness, moving for summary judgment of invalidity on those grounds. With regard to anticipation, Acushnet argued that the text of U.S. Patent No. 4,431,193 (“Nesbitt”) itself discloses a three-piece golf ball meeting all limitations of the Sullivan patents save

two: a polyurethane outer cover and a blend of ionomers in the inner cover. Callaway apparently does not dispute this. Acushnet argued that Nesbitt incorporates by reference U.S. Patent No. 4,274,637 (“Molitor ’637”), which teaches both polyurethane and ionomer blends as cover materials and, Acushnet maintains, inherently discloses the necessary hardness limitations for those cover layers. Thus, according to Acushnet, when properly viewed as a single reference, Nesbitt/Molitor anticipates the Sullivan patents as a matter of law. In support of its anticipation argument, Acushnet also prepared test golf balls combining the polyurethane outer cover described by Molitor ’637 with the core and ionomer-blend inner cover of Nesbitt and proffered measurements of the resulting balls. Callaway filed a cross motion for summary judgment of no anticipation (and opposed Acushnet’s motion), arguing that Nesbitt did not incorporate Molitor ’637 and thus failed to disclose the necessary Shore D hardness limitation.

On November 20, 2007, the district court granted Callaway’s motion for summary judgment that Nesbitt does not anticipate as a matter of law. Summary Judgment Order, 523 F. Supp. 2d at 398. The court held that “Nesbitt does not describe the use of polyurethane or blends of ionomer resins in Molitor ’637 with sufficient particularity to effectuate an incorporation by reference of those features.” Id. Based on this holding, the court also granted summary judgment of no anticipation on the ground that Nesbitt (without Molitor ’637) does not disclose a cover hardness of Shore D 64 or less. Id. at 400.

IV

With regard to obviousness, Acushnet contended that the various separate elements of the Sullivan patents—including golf balls with multi-layer covers, ionomer-blend covers, and polyurethane covers—were all well known in the prior art. Acushnet relied on Nesbitt, Molitor '637, and three additional golf ball patents, U.S. Patent Nos. 4,674,751 (“Molitor '751”), 5,314,187 (“Proudfit”), and 5,334,673 (“Wu”),³ in support of its contention that one of skill in the art would have had reason to combine the prior art and would have had a reasonable expectation of success. With regard to the cover hardness limitation, Acushnet contended that Molitor '751 discloses the required range (albeit stated in terms other than “Shore D” hardness).

A jury trial limited to the question of obviousness was held from December 5 to December 14, 2007. The jury returned a verdict concluding that dependent claim 5 of the '293 patent was invalid for obviousness, but the remaining eight claims (including

³ Proudfit teaches a three-piece golf ball with a core, an ionomer-blend inner cover, and a relatively soft outer cover of balata (a type of rubber). Proudfit col.6 ll.19–27; id. col.12 ll.47–52. Molitor '751 teaches a polyurethane cover that may be used on two-piece or three-piece golf balls. Molitor '751 col.3 ll.7–12; col.7 ll.49–51. Wu teaches a golf ball with a single cover layer made of polyurethane. Wu col.7 ll.37–47.

independent claim 4 of the '293 patent) had not been proven invalid.⁴ On December 19, 2007, the court entered judgment tracking the jury's verdict. Trial on willfulness and damages was stayed.

After denying Acushnet's renewed motion for judgment as a matter of law on the eight claims held not invalid, on November 10, 2008, the district court issued a permanent injunction against Acushnet. JMOL Order, 585 F. Supp. 2d at 608–14, 622–23. Acushnet timely appealed, and we have jurisdiction under 28 U.S.C. § 1292(c)(1) and (2).

DISCUSSION

On appeal, Acushnet challenges five major aspects of the proceedings before the district court. We address each in turn.

I Claim Construction

Acushnet argues that the determinations that the claims were not invalid were based upon a faulty interpretation of the phrase “cover layer having a Shore D hardness,” which appears in each of the asserted claims. Acushnet contends that the district court's on-the-ball construction led it to improperly reject Acushnet's invalidity

⁴ Question 1 of the verdict form is reproduced in its entirety:

1. Has Acushnet proven, by clear and convincing evidence, that any of the following claims of U.S. Patent No. 6,210,293 (the '293 patent) is invalid due to obviousness?

“Yes” is a finding for Acushnet. “No” is a finding for Callaway.

(A) Claim 1 Yes ___ No X
(B) Claim 4 Yes ___ No X
(C) Claim 5 Yes X No ___

JMOL Order, 585 F. Supp. 2d at 615. Questions 2, 3, and 4 were identical except for the patent and claim numbers, and for each claim in those questions the jury marked “No.” Id.

arguments, which in part depended on prior art disclosing the off-the-ball hardness of polyurethane materials that can be used to make golf ball covers. We review the district court's claim construction de novo. Cybor Corp. v. FAS Techs., Inc., 138 F.3d 1448, 1456 (Fed. Cir. 1998) (en banc). We generally assign to claim terms "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." Phillips v. AWH Corp., 415 F.3d 1303, 1313 (Fed. Cir. 2005) (en banc).

Acushnet argues that the district court's claim construction is erroneous because the specification notes in several places that the hardness values therein are "measured in accordance with ASTM method D-2240." '293 patent col.7 ll.21–22.⁵ The ASTM D-2240 standard states that hardness should not be tested on a rounded or curved surface, which Acushnet argues precludes measuring hardness on the rounded and irregular surface of a golf ball. ASTM D-2240, at 2. Thus, Acushnet contends, a person of ordinary skill in the art would understand "cover layer having a Shore D hardness" to mean the hardness of a flat sample of the material used for the cover layer at issue, tested off the ball.

We disagree. The Sullivan patents make clear that, when read in context, the reference to ASTM D-2240 does not require hardness of the cover layer to be tested off the ball. To the contrary, the claims speak of "[a] golf ball" with a "cover layer" having a certain hardness, rather than focusing on the hardness of the material used to create the cover layer. E.g., '293 patent col.23 ll.49–60. Likewise, the specification points to

⁵ See also '293 patent col.9 (Table 2, noting that "ASTM Method" "D-2240" was used to test "Shore Hardness D"); id. col.11 (Table 3, same); id. col.11 ll.61–63 (noting Shore D hardness was measured "per ASTM D-2240"); id. col.16 ll.49–50 (same).

the hardness of the assembled ball (rather than of the cover materials in isolation) as the relevant characteristic. E.g., id. col.5 ll.7–8 (“The hardness of the ball is the second principal property involved in the performance of a golf ball.” (emphasis added)). While there are examples providing off-the-ball measurements of commercially available materials in the patent, the examples directed to golf balls as opposed to starting materials specifically disclose hardness measurements taken on intermediate and finished balls. E.g., id. col.22 l.14 (Table 8, showing “Shore D” hardness measurements on finished balls); see also id. col.17 ll.36–37, 41 (Table 5, showing “Shore C Hardness” of “Molded Intermediate Balls” with inner cover); id. col.18 ll.52–53, 57 (Table 6A, showing “Shore C Hardness” of “Molded Finished Balls” with outer cover in place); id. col.19 ll.63, 66 (Table 6B, same). These examples confirm that hardness was to be measured on the ball.⁶ Indeed, as the district court noted, there is no “cover layer” to measure until a golf ball is produced. Markman Order, , 2007 WL 4165415, at *1.

Moreover, here there was evidence at trial from Acushnet’s own witnesses showing that those of skill in the art typically took Shore D hardness measurements on the ball. Jeff Dalton, for example—Acushnet’s Vice President of Product Development—testified that the golf ball industry commonly conducted hardness tests in substantial compliance with ASTM D-2240, with the exception of the requirement that the test not be conducted on the ball: “[W]e—technical people in the golf ball industry

⁶ Acushnet notes that some unasserted claims also specify a flexural modulus for the cover layers, which must be measured off the ball. See, e.g., ’130 patent col.24 ll.1–2. Unlike modulus, however, hardness can be measured on the ball, and as discussed above, the patent makes clear that the claims refer to on-the-ball measurement of hardness.

deviate from that standard by not measuring [hardness] on the kind of test specimen that is called for in ASTM [D-2240]. We generally measure it on the ball.” Trial Tr. 514:21–515:1 (emphasis added).⁷ Such evidence of accepted practice within the art, when not at variance with the intrinsic evidence, is relevant to the question of how a person of skill in the pertinent field would understand a term. See Phillips, 415 F.3d at 1318 (“[E]xtrinsic evidence in the form of expert testimony can be useful to . . . establish that a particular term in the patent or the prior art has a particular meaning in the pertinent field.”); see also Symantec Corp. v. Computer Assocs. Int’l, Inc., 522 F.3d 1279, 1289 n.3 (Fed. Cir. 2008). The district court did not err in holding that the phrase “cover layer having a Shore D hardness” refers to an on-the-ball hardness measurement.

II Obviousness

A

The jury returned a verdict finding that eight asserted claims of the Sullivan patents were not invalid for obviousness. Acushnet contends that the district court erred in failing to grant its motion for judgment as a matter of law that the asserted claims of the Sullivan patents would have been obvious.

We apply de novo the same JMOL standard applied by the district court to the jury verdict. See Caver v. City of Trenton, 420 F.3d 243, 262 (3d Cir. 2005); see also PharmaStem Therapeutics, Inc. v. ViaCell, Inc., 491 F.3d 1342, 1359–60 (Fed. Cir. 2007). Although the ultimate question of obviousness is a legal issue reviewed de

⁷ See also Trial Tr. 344:13–14 (Acushnet Senior Vice President of Research and Development William Morgan noting that “it was our standard practice at the time to measure the Shore D hardness directly on the golf ball”).

novo, see KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 427 (2007), the underlying findings of fact (whether implicit or explicit within the jury's verdict) are reviewed for substantial evidence, see Johns Hopkins Univ. v. Datascope Corp., 543 F.3d 1342, 1345 (Fed. Cir. 2008). We agree with the district court that, when viewed in the light most favorable to the verdict, the jury could have reasonably concluded that Acushnet failed to prove invalidity due to obviousness.

Acushnet frames the invention of the Sullivan patents as nothing more than a predictable and "obvious to try" variation of known elements (solid cores, ionomer-blend covers, polyurethane covers, and three-piece balls). See KSR, 550 U.S. at 416 (noting that a "combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results"); PharmaStem Therapeutics, 491 F.3d at 1360. Callaway, in contrast, argues that such analysis is inappropriate because the Sullivan patents disclose more than a rearrangement of prior art elements with each element predictably performing its same function in the new combination. Rather, Callaway contends that use of a soft polyurethane cover over a hard ionomer inner cover and a solid core, a construction not present in the prior art, "produce[s] a synergy and an important new result" over and beyond that which could be expected independently from each prior art element: namely, a true dual-personality ball. Pl.-Appellee's Br. 28; see KSR, 550 U.S. at 416 (noting prior-art elements "work[ing] together in an unexpected and fruitful manner" as indicia of nonobviousness).

The evidence before the jury did not compel a finding that all claim limitations were present in the prior art. At trial, Acushnet sought to establish obviousness primarily through a combination of prior art three-piece balls with non-polyurethane

outer covers (the ball taught by Proudfit and a similar ball marketed by Wilson, the Ultra Tour Balata), with the polyurethane covers of Wu or Molitor '751. JMOL Order, 585 F. Supp. 2d at 607. Callaway argues that the record contains ample evidence upon which the jury could have rationally concluded that these combinations did not in fact disclose or render obvious all limitations of the asserted claims.

The Sullivan patent claims require the polyurethane outer cover of the patented golf ball to have a Shore D hardness, as measured on the ball, no greater than 64. E.g., '293 patent col.5 ll.48–61. It is undisputed that none of the prior art references upon which Acushnet relied expressly discloses the requisite hardness limitation for a polyurethane golf-ball cover on a three-piece ball. Lacking direct evidence of the claimed limitation, Acushnet instead relied on indirect evidence to attempt to establish the existence of the claimed hardness limitation in the prior art. It first argued that Molitor '751, which discloses a two-piece ball with a core and a polyurethane cover, demonstrates the necessary hardness because that patent's specification states that the polyurethane-blend cover of the Molitor '751 ball should have "a shore C hardness less than 85, preferably 70–80, and most preferably 72–76." Molitor '751 col.2 ll.33–39 (emphasis added); id. col.7 ll.65–68.

Callaway maintains that Molitor '751's disclosure of a Shore C hardness is insufficient to teach an on-the-ball Shore D hardness less than 64. There is no dispute that a hardness measurement taken with a size "C" indenter will vary from a measurement of the same material taken with a size "D" indenter; that is, a Shore C measurement cannot be precisely converted mathematically into a Shore D measurement or vice-versa. However, while acknowledging that no simple linear

relationship exists between the two types of measurements, Acushnet argues that one of skill in the art would have understood that approximate comparisons can be drawn between the scales. Indeed, Acushnet argues, the Sullivan patents themselves contain statements drawing such comparisons. E.g., '293 patent col.3 ll.50–54 (describing layer that “has a Shore D hardness of about 45 (i.e., Shore C hardness of about 65)”). Acushnet thus contends that even if a precise conversion between the scales is not possible, a golf ball designer would have recognized that a Shore C hardness of 72–76 would be something less than Shore D 64. In support of this specific comparison, it introduced the “comparison chart” from the ASTM D-2240 standard showing approximate ranges for measurements taken with different size indentors, as well as expert testimony that Shore C 72–76 would be approximately Shore D 55.

Although the jury could have accepted Acushnet’s argument that the Shore C range disclosed in Molitor '751 would have been equivalent to an on-the-ball hardness measurement no greater than Shore D 64, we cannot say that as a matter of law the jury was required to do so. Substantial evidence supports the contrary position. Most notably, the ASTM “comparison chart” upon which Acushnet relied states plainly on its face that “[t]his is not and cannot be used as a conversion reference.” ASTM D-2240, at 1. The standard further cautions that “there may be no simple relationship between the results obtained with one type of [indentor] and those obtained with another type,” undercutting Acushnet’s argument that a material measuring Shore C 72 would necessarily measure 64 or less if tested with a type D indentor. Id.; see also Trial Tr.

1162:3–24 (testimony of Callaway’s expert, Dr. Risen, that accurate Shore C to Shore D conversions were not possible).⁸

Equally importantly, the Shore C range disclosed by Molitor ’751 indicates a desired hardness measurement of the cover on a two-piece ball, rather than on the cover of a three-piece ball with a hard ionomer-resin inner cover layer. Testimony at trial established that the hardness measurement of a material depends to some degree on what is underneath the material being tested, such that an on-the-ball measurement of a thin polyurethane cover with a hard layer underneath is likely to be harder than an off-the-ball measurement. Acushnet’s witness, Jeff Dalton, agreed that “what’s underneath the layer you’re measuring can also influence the measurement.” Trial Tr. 516:17–18; see also id. at 516:23–24 (agreeing that thin covers are more subject to such influence than thick covers); id. at 517:1–12 (agreeing that on-the-ball measurements are often harder than off-the-ball measurements). Acushnet’s expert, Dr. Statz, similarly agreed that hardness measurements could be impacted by a number of factors, including thickness and the material composition of adjacent layers. Trial Tr. 720:6–19; id. 616:8–9 (noting that “the hardness will go up in the case of a thinner layer on another material”). The jury was entitled to determine that the imprecision of the ASTM chart, coupled with uncertainty as to how much additional hardness would be imparted by a hard intermediate cover layer, was sufficient to undermine Acushnet’s

⁸ To be sure, there was contrary evidence as well, including examples of Shore C to Shore D comparisons in the Sullivan patents and evidence, as noted above, that such a comparison was made in the course of the patents’ prosecution. See, e.g., ’293 patent col.3 ll.51–53. This evidence, however, did not rise to the level of an admission that an accurate conversion between Shore C and Shore D is always possible.

claim that the Shore C hardness of 72–76 present in the prior art would necessarily translate to an on-the-ball Shore D hardness no greater than 64 on a three-piece, two-cover ball.

Second, Acushnet contended that the Wu patent demonstrates the necessary hardness limitation, because expert testimony established that the polyurethane cover material it teaches has a Shore D hardness of about 48 when measured off the ball, or of about 56 when measured on the single-cover golf ball discussed in the patent. But while Wu discloses the hardness of the polyurethane material itself, and an on-the-ball hardness of Shore D 56, it (like Molitor '751) is not directed to a three-piece ball having a relatively hard ionomer-resin inner cover layer. As noted, evidence at trial showed that the measured hardness of a thin outer cover layer is impacted by the hardness and composition of the underlying layer. Thus, as with Molitor '751, the jury could have reasonably found that Acushnet failed to show that the necessary hardness limitation was known in the prior art.

In summary, whether the prior art disclosed the necessary hardness limitation claimed in the Sullivan patents was an issue of fact genuinely contested before the jury. The district court did not err in concluding that substantial evidence supports the jury's implicit resolution of that factual issue in Callaway's favor.

B

Acushnet also challenges two subsidiary evidentiary rulings made by the district court in the course of the trial on obviousness. We review the district court's evidentiary rulings for abuse of discretion. In re Paoli R.R. Yard PCB Litig., 35 F.3d 717, 749 (3d Cir. 1994).

First, Acushnet challenges the exclusion of testimony concerning measurements performed on certain test golf balls prepared in anticipation of trial. The test balls in question were assembled using elements from various prior art references; for example, Acushnet created a ball with Proudfit's solid core and ionomer-blend inner cover, but with the addition of the polyurethane outer cover taught by Molitor '751. Acushnet sought to have a materials expert, Dr. MacKnight, testify as to the testing of the balls in order to demonstrate that the Shore D hardness limitations of the asserted claims were inherently met by golf balls made through combination of the prior art. Before trial, however, the district court noted that "Dr. MacKnight neither prepared nor tested" the balls, and hence could not actually vouch for the reliability of the test results. Callaway Golf Co. v. Acushnet Co., No. 06-CV-091, 2007 WL 4165401, at *1 (D. Del. Nov. 20, 2007) ("Daubert Order"). Accordingly, it excluded Dr. MacKnight's testimony and the test results "to the extent that the reliability of the test results derives from Dr. MacKnight's voucher." Id.

At trial, Acushnet again tried to introduce the test ball evidence, this time proffering foundational testimony from the Acushnet employee who supervised production of the test balls and delivered them to the independent laboratory for testing. The district court again excluded the evidence, however, apparently under Rule 403 of the Federal Rules of Evidence. Although the district court did not formally state the basis for its ruling, it noted at sidebar that the introduction of evidence of "a physical object that combines the prior art" ran a high risk of causing "undue prejudice" by leading the jury to give Acushnet's obviousness argument excessive weight. Trial Tr. 749:3-13. It further noted that "this testimony . . . has a danger of outweighing what

was really in the art at the time.” Id. at 754:11–12. On appeal, Acushnet challenges the exclusion of the test ball evidence at trial.

We see no error in the district court’s exclusion of the test-ball testimony on the issue of obviousness. The introduction of evidence concerning the test balls ran a substantial risk of leading the jury towards the inappropriate use of hindsight and towards unduly weighting Acushnet’s arguments concerning motivation to combine the prior art; the likely outcome, as the district court perceived it, was the jury understanding Acushnet’s argument concerning the combination of prior art as “[w]e did it, here it is, anyone can do this.” Trial Tr. 749:8–9. Nor does the record indicate that Callaway made arguments that would have been directly refuted by the test ball evidence, such as a contention that it would have been impossible to combine the prior art. The district court was in the best position in this case to determine whether in the context of the obviousness trial the danger of unfair prejudice outweighed the probative value of the test ball evidence. We cannot say that excluding the evidence here was an abuse of discretion. See Fed. R. Evid. 403; see also Young Dental Mfg. Co. v. Q3 Special Prods., Inc., 112 F.3d 1137, 1145–46 (Fed. Cir. 1997).

Second, Acushnet contends that the district court abused its discretion by refusing to allow it to introduce before the jury evidence of a parallel inter partes re-examination of the Sullivan patents proceeding before the Patent and Trademark Office (“PTO”). In the course of the re-examination, before trial, the PTO rejected each asserted claim of the Sullivan patents. In doing so, the PTO relied on essentially the same prior art relied upon by Acushnet in this litigation. Acushnet sought to introduce the re-examination at trial to counter Callaway’s statements in opening arguments that,

by approving the four Sullivan patents, “three patent examiners” had concluded that they were valid. The district court rejected Acushnet’s request, stating that giving evidence of the re-examination to the jury would be “really confusing,” not least because the results of the non-final parallel proceeding were “not binding” on the district court. Trial Tr. 354:16–17. The court did, however, preclude Callaway from further bolstering the validity of the patents by further repeating the “three examiners” statements.

On appeal, Acushnet argues that it must be granted a new trial because “allow[ing] Callaway to argue . . . that multiple patent examiners had reviewed the patents . . . without revealing that the asserted claims stood rejected by multiple other examiners . . . was entirely unfair.” Def.-Appellant’s Br. 62. Acushnet is correct that Callaway’s opening statement, while truthful, nevertheless had potential to mislead the jury by implying that every expert examiner to have considered the patents had concluded that they were valid. However, Acushnet does not appear to have actually objected to Callaway’s opening argument itself (specifically, the “three patent examiners” statements) as unfairly prejudicial. Acushnet instead contended only that the argument “provided perhaps the most compelling reason yet to admit th[e re-examination] evidence” and that the district court should have allowed the re-examination evidence before the jury.

On this point the district court did not err. The non-final re-examination determinations were of little relevance to the jury’s independent deliberations on the factual issues underlying the question of obviousness. In contrast, the risk of jury confusion if evidence of the non-final PTO proceedings were introduced was high. The district court did not abuse its discretion in concluding that the prejudicial nature of

evidence concerning the ongoing parallel re-examination proceeding outweighed whatever marginal probative or corrective value it might have had in this case.

III Inconsistent Jury Verdicts on Obviousness

Acushnet contends that a new trial as to obviousness is required because the district court denied its timely request for JMOL or a new trial, instead entering judgment on irreconcilably inconsistent jury verdicts. See JMOL Order, 585 F. Supp. 2d at 617. The jury ruled dependent claim 5 of the '293 patent invalid for obviousness while finding all other asserted claims, including independent claim 4 from which claim 5 depends, not invalid.

At the outset, Callaway contends that Acushnet waived its objection to the allegedly inconsistent verdicts by failing to object before the jury was released. We review inconsistent verdicts, an issue not unique to patent law, under regional circuit law. Mycogen Plant Sci., Inc. v. Monsanto Co., 243 F.3d 1316, 1325 (Fed. Cir. 2001). The Third Circuit has not directly spoken to the question of whether an objection is required to preserve error in the face of inconsistent general verdicts, and how that court would rule if squarely presented with the issue is not entirely clear.⁹ We need not resolve this question, however, because even assuming that such an objection is required, it is apparent that Acushnet did not waive its claim here.

⁹ Compare Malley-Duff & Assocs., Inc. v. Crown Life Ins. Co., 734 F.2d 133, 144–45 (3d Cir. 1984) (no objection required for inconsistent special verdicts under Rule 49(a)), and Simmons v. City of Philadelphia, 947 F.2d 1042, 1056–57 (3d Cir. 1991) (suggesting in dicta that objection is required for inconsistent interrogatories under Rule 49(b)), with Mosely v. Wilson, 102 F.3d 85, 90 (3d Cir. 1996) (“Rule 49(b) does not address the issue before us here—that of inconsistent general verdicts. We have found little precedent on this issue . . .”).

After the jury was polled at the conclusion of the trial, counsel for Callaway (not Acushnet) called for a sidebar and the following exchange occurred:

[Callaway]: Your Honor, the issue is the one claim which they did find invalid is a dependent claim.

THE COURT: [A]ll right. Do you want to send them back?

[Callaway]: I'm not sure that they understand—

THE COURT: I'm not going to do this. All right?

[Callaway]: I just wanted to raise it.

Trial Tr. 1427:22–1428:5. The jury was then excused without objection from Acushnet's counsel. Though it did not object on the record, Acushnet contends that because the court rendered a final decision in response to Callaway's objection—"I'm not going to do this. All right?"—no purpose would have been served by repeating the point.

The district court evidently concluded here that there was no waiver. Callaway argued waiver in its post-trial briefing before the district court, but the district court did not adopt Callaway's waiver theory, stating that it was "sensitive to [Acushnet's] argument that it was essentially 'beaten to the punch' by [Callaway's] counsel and did not feel the need to reiterate the same concerns following the court's decision." JMOL Order, 585 F. Supp. 2d at 616. The district court then proceeded to decide Acushnet's claim concerning the inconsistency on the merits. Id. at 616–17. The district court here was in the best position to evaluate the import of its statements at sidebar, and we see no basis for disturbing its determination that a waiver did not occur.

Turning to the merits, we first must determine whether the verdicts were in fact inconsistent. There is no dispute that the verdicts with respect to claim 5 of the '293 patent (invalid) and claim 4 of that patent (not invalid) were inconsistent. A broader

independent claim cannot be nonobvious where a dependent claim stemming from that independent claim is invalid for obviousness. See Ormco Corp. v. Align Tech., Inc., 498 F.3d 1307, 1319 (Fed. Cir. 2007). Callaway contends, however, that the verdict is not irreconcilably inconsistent with regard to five of the remaining asserted claims—claim 1 of the '293 patent, claims 1–3 of the '156 patent, and claim 1 of the '873 patent. The basis for Callaway's argument is that unlike claims 4 and 5 of the '293 patent, claim 5 of the '130 patent, and claim 3 of the '873 patent, which require the inner cover layer to be made of “an ionomer resin,” those five claims require the inner cover to contain a “blend” of ionomer resins. Thus, Callaway argues, the jury could have rationally concluded that the “blend” claims were not obvious even if Claim 5, lacking a “blend” limitation, was obvious.

The district court properly rejected this theory, noting that Callaway's reasoning, which would at best render the verdict “consistent with respect to the 5 ‘blend’ claims, but . . . inconsistent with respect to the four ‘non-blend’ claims,” did “not give the court sufficient means to reconcile the verdicts.” JMOL Order, 585 F. Supp. 2d at 616. Reconciliation of inconsistent verdicts must be consistent with the evidence and theories adduced at trial. See Malley-Duff, 734 F.2d at 145–46. The contents of the four Sullivan patents, which share essentially the same specification and claim priority to the same parent application, were presented to the jury as a group. The evidence and theories at trial were also advanced concerning the patents as a group, not on a claim-by-claim basis. No party at trial asserted any patentable difference among the asserted claims before the jury or otherwise meaningfully distinguished between claims on the basis of the “blend” limitation.

The district court recognized that under Third Circuit law a court faced with inconsistent general verdicts after the jury is dismissed has an obligation to attempt to read the verdicts in a manner that will resolve the inconsistencies. JMOL Order, 585 F. Supp. 2d at 616–17; see Mosely, 102 F.3d at 90. Although the district court agreed with Acushnet that the verdicts here were genuinely and irreconcilably inconsistent, it nevertheless denied Acushnet’s motion for a new trial. The court noted that Acushnet “stipulated that it infringes each of the Sullivan patents; three of which were held valid by the jury without reservation,” and that the inconsistency therefore was harmless. JMOL Order, 585 F. Supp. 2d at 617.

This reasoning is flawed. Although it is true that the jury found “without reservation” that eight claims were not invalid, it is equally true that the jury found claim 5 invalid without reservation. Moreover, the evidence at trial was such that the jury could have rationally reached either verdict with regard to the asserted claims; neither party was entitled to judgment as a matter of law. Under Third Circuit law, in a case where a reading of the verdicts that would solve the apparent inconsistency proves impossible and the evidence might support either of the two inconsistent verdicts, “the appropriate remedy is ordinarily, not simply to accept one verdict and dismiss the other, but to order an entirely new trial.” Mosely, 102 F.3d at 90 (quoting Los Angeles v. Heller, 475 U.S. 796, 806 (1986) (Stevens, J., dissenting)).¹⁰ In these circumstances,

¹⁰ The Third Circuit has noted that in rare cases apparently inconsistent verdicts may be allowed to stand. Mosely, 102 F.3d at 90. That court has since clarified that “[t]hose circumstances are where the verdict appears to be the result of compromise as opposed to jury confusion.” Acumed LLC v. Advanced Surgical Servs., Inc., 561 F.3d 199, 217 n.13 (3d Cir. 2009) (quotation marks omitted). There is no contention that the verdict here could plausibly be considered such a compromise.

Acushnet is correct that a new trial rather than entry of judgment was required as to claims 4 and 5 of the '293 patent.

In sum, we agree with Acushnet that the verdict form returned by the jury reflects an irreconcilable inconsistency. Accordingly, we vacate the judgment of the district court and remand for a new trial on obviousness.

IV Anticipation

As noted above, the district court granted summary judgment that the claims were not anticipated by Nesbitt. Nesbitt describes a three-piece ball with a core, a relatively hard ionomer-resin inner cover, and a relatively soft ionomer-resin outer cover. Summary Judgment Order, 523 F. Supp. 2d at 395. Although Nesbitt itself does not expressly disclose two limitations of the Sullivan claims (the use of polyurethane in the outer cover and the use of a blend of ionomer resins in the inner cover), Acushnet argued that Nesbitt contains these limitations because it incorporates Molitor '637 by reference. The relevant passage of Nesbitt describing the materials that may be used in the cover layers of the Nesbitt golf ball is as follows:

The inner, intermediate, or first layer or ply 14 and the outer cover, second layer or ply 16 or either of the layers may be cellular when formed of a foamed natural or synthetic polymeric material. Polymeric materials are preferably such as ionomer resins which are foamable. Reference is made to the application Ser. No. 155,658, of Robert P. Molitor issued into U.S. Pat. No. 4,274,637 which describes a number of foamable compositions of a character which may be employed for one or both layers 14 and 16 for the golf ball of this invention.

Nesbitt col.3 ll.51–61 (emphases added). Molitor '637, in turn, undisputedly teaches that many foamable materials, including both polyurethane and ionomer-resin blends, may be used as golf ball cover materials:

The range of synthetic polymeric materials which can be used in accordance with this invention, other than the above described Surlyn [ionomer] resins, is much broader than the range of natural materials. Suitable polymer materials which may be adapted for use in this invention are as follows:

Homopolymeric and copolymeric substances, such as (1) vinyl resins . . .; (2) polyolefins such as polyethylene, polypropylene, polybutylene, transpolyisoprene, and the like . . .; (3) polyurethanes . . .; (4) polyamides . . .; (5) polystyrene . . .; (6) acrylic resins . . .; (7) thermoplastic rubbers such as the urethanes . . .; and (8) polyphenylene oxide resins. . . . This list is not meant to be limiting or exhaustive, but merely illustrates the wide range of polymeric materials which may be employed in the present invention. Mixtures of the above described material may also be used.

Molitor '637 col. 5 ll.33–55 (emphases added); see also id. col.1 ll.44–45 (“Mixtures of various [ionomer] resins as cover stock materials are likewise highly advantageous.”).

The district court rejected Acushnet’s argument, holding that Nesbitt failed to specifically incorporate polyurethane and ionomer-resin blends from Molitor '637. Summary Judgment Order, 523 F. Supp. 2d at 396. Without the benefit of Molitor’s teachings, Nesbitt failed to anticipate as a matter of law. The district court therefore granted summary judgment of no anticipation. Id. at 398. On appeal, Acushnet contends the district court erred in holding that Nesbitt does not incorporate Molitor '637.

We review the grant of summary judgment de novo. Whether material is incorporated by reference into a host document is a question of law. Advanced Display Sys., Inc. v. Kent State Univ., 212 F.3d 1272, 1283 (Fed. Cir. 2000). A patent claim is invalid due to anticipation if, within “the four corners of a single, prior art document . . . every element of the claimed invention [is described], either expressly or inherently, such that a person of ordinary skill in the art could practice the invention

without undue experimentation.” Id. at 1282. However, “[m]aterial not explicitly contained in the single, prior art document may still be considered for purposes of anticipation if that material is incorporated by reference into the document.” Id.

To incorporate matter by reference, a host document must contain language “clearly identifying the subject matter which is incorporated and where it is to be found”; a “mere reference to another application, or patent, or publication is not an incorporation of anything therein” In re de Seversky, 474 F.2d 671, 674 (CCPA 1973). Put differently, “the host document must identify with detailed particularity what specific material it incorporates and clearly indicate where that material is found in the various documents.” Adv. Display Sys., 212 F.3d at 1282. Nesbitt identifies with specificity both what material is being incorporated by reference (foamable polymeric compositions suitable for golf ball cover layers) and where it may be found (the Molitor patent). Nesbitt col.3 ll.51–61. We have previously held that language nearly identical to that used in Nesbitt (“[r]eference is made to”) can be sufficient to indicate to one of skill in the art that the referenced material is fully incorporated in the host document. See In re Voss, 557 F.2d 812, 815–16 (CCPA 1977); In re Hughes, 550 F.2d 1273, 1275–76 (CCPA 1977). Here, however, the district court held that Nesbitt satisfies the requirements for incorporation only with regard to the ionomer resins disclosed in Molitor, stating that “Molitor ’673 is mentioned in Nesbitt to identify examples of suitable resins, preferably ionomer resins, and not to specifically incorporate polyurethane.” Summary Judgment Order, 523 F. Supp. 2d at 396.

Callaway in support of the district court argues that even if Nesbitt incorporates Molitor ’637 as to ionomer resins, it does not incorporate with respect to the use of

polyurethane for the outer cover because it refers to the use of ionomer resins as “preferabl[e].” Nesbitt col.3 l.55. Polyurethane is not an ionomer resin. Although Molitor '637 does state that ionomer resins are the preferable material for such use, on its face the reference to Molitor '637 in Nesbitt is not limited to those resins. Rather, Nesbitt states broadly that the layers of the golf ball disclosed therein may be made from a “natural or synthetic polymeric material.” Id. col.3 ll.53–54. Nesbitt goes on to directly indicate that such materials include all of the foamable polymeric materials described in Molitor: “Reference is made to [Molitor '637] which describes a number of foamable compositions of a character which may be employed for one or both layers . . . for the golf ball of this invention.” Id. col.3 ll.56–61 (emphasis added). Polyurethane is a foamable composition. Nesbitt incorporates the entire list of foamable compounds (“a number of foamable compositions”) disclosed by Molitor '637 as appropriate materials for use in golf ball cover layers, including polyurethane and mixtures of ionomer resins. We perceive no basis to differentiate between incorporation of the ionomeric resins disclosed by Molitor '637 and the other compositions in the list, including polyurethane. Accordingly, we hold that Nesbitt incorporates by reference the potential cover layer materials described in Molitor '637, including polyurethane and ionomer resin blends.

Callaway contends that even if the district court erred in concluding that Nesbitt does not incorporate Molitor '637, summary judgment of no anticipation was still appropriate. That issue was not addressed by the district court, and it is not clear to us that Callaway properly raised this issue in its motion for summary judgment before that court. We are therefore reluctant to consider this issue on appeal. Nothing we say here

precludes the district court from permitting Callaway to file a new motion for summary judgment on that issue, if the district court thinks it appropriate.

One matter, however, requires our attention. Callaway contends that the trial court properly excluded the test ball evidence on the issue of anticipation. On this point we disagree. This requires us to examine the grounds for the district court's decision in this respect. First, the district court refused to consider the test ball evidence on the issue of anticipation because it found that Nesbitt did not incorporate the Molitor '637 reference, and that the test balls therefore did not embody any single item of anticipatory prior art. See Summary Judgment Order, 523 F. Supp. 2d at 400 ("The balls . . . were neither completely representative of Nesbitt, nor were they completely representative of Proudfit . . ."). This ground for excluding the evidence necessarily fails in light of our holding that Nesbitt does incorporate Molitor.¹¹ Second, with respect to obviousness, the district court refused to allow the test ball evidence at trial because presentation of the evidence could lead the jury to give undue weight to Acushnet's arguments concerning motivation to combine and obviousness. This ground is inapplicable to Acushnet's anticipation argument, where motivation to combine is not an issue. Third, at summary judgment, the district court excluded the testimony of Acushnet's expert, Dr. MacKnight, on the ground that MacKnight had not had sufficient involvement in the preparation and testing of the balls to vouch for their reliability. Daubert Order, 2007 WL 4165401, at *1 ("Dr. MacKnight neither prepared nor tested

¹¹ Indeed, while challenging Acushnet's test balls as an agglomeration of prior art elements, Callaway appears to recognize that re-creations or "models of balls described in individual prior art references" may be relevant. Pl.-Appellee's Br. 58; see id. at 25.

anything. . . . [T]o the extent that the reliability of the test results derives from Dr. MacKnight's voucher, such evidence is excluded"). As discussed above we find no error in the district court's ruling, but the fact remains that at trial Acushnet also proffered the testimony of Jeff Dalton (who supervised preparation of the balls) and of an employee of the testing laboratory. On remand, that testimony may be sufficient to authenticate the balls, and support the admission into evidence of balls designed to replicate Nesbitt on the issue of anticipation.

Because Nesbitt incorporates the compositions taught by Molitor '637, we reverse the judgment of the district court granting summary judgment to Callaway and remand for further proceedings on that issue.

CONCLUSION

For the reasons discussed above, the judgment of the district court is affirmed-in-part, reversed-in-part, and vacated-in-part. The permanent injunction against Acushnet entered on November 10, 2008, is vacated and the case is remanded for further proceedings not inconsistent with this opinion.

AFFIRMED-IN-PART, REVERSED-IN-PART,
VACATED-IN-PART, and REMANDED

COSTS

No costs.