United States District Court,
N.D. Illinois, Eastern Division.

FENTON GOLF TRUST,
Plaintiff-Counterdefendant.
v.
COBRA GOLF, INC,
Defendant-Counterplaintiff.

No. 97 C 247

June 30, 1999.

MEMORANDUM OPINION AND ORDER

PALLMEYER**, J.**

Fenton Golf Trust sues Cobra Golf, a manufacturer of golf clubs, for infringement of several claims of a golf club design patent. Cobra earlier successfully moved for summary judgment on all counts of Fenton's complaint except one. Cobra now moves for summary judgment on Fenton's remaining allegation of infringement, which turns on the meaning of the word "elliptical" in the patent. For the reasons set forth below, Cobra's motion is granted, and this case is dismissed.

BACKGROUND

This case centers on the design of the part of a golf club called the hosel, which the dictionary describes as "a socket in the head of a golf club into which the shaft is inserted." WEBSTER'S COLLEGIATE DICTIONARY, at 560 (10th ed.1997). In 1995 Francis Fenton, an agent of Fenton Golf Trust, obtained U.S. Patent No. 5,395,109 ("the '109 patent"). (12M para. 5.) FN1 The '109 patent "describes a golf club hosel design with the primary objective of removing weight from the hosel by forming at least one depression on the exterior surface of the hosel wall." (Id. para. 7.)

FN1. For reasons that are not explained, the '109 patent is assigned to Fenton Golf Trust. (12M para. 5.)

Francis Fenton apparently sought to market the '109 patent to Cobra. (Fenton Decl., at 3.) Fenton met several times with Rob Hirsch, Vice President of Research and Development for Cobra, in 1994, and discussed Fenton's golf club designs and prototypes. (12N Add'l Facts para. 4.) Fenton and Hirsch discussed the '109 patent, and Fenton provided Hirsch with a copy of the '109 patent, sample club heads and color photos. (Id. para. 6.)

In 1996, Cobra introduced its King Cobra Ti clubs. (Id. para. 7 .) On January 14, 1997, Fenton Golf Trust (hereinafter "Fenton") sued Cobra, alleging that the King Cobra clubs infringe the '109 patent due to their

hosel depressions. Cobra moved for summary judgment arguing that the '109 patent was invalid because its claims were anticipated or obvious in the prior art. Judge Zagel, who was assigned this case originally, found this argument persuasive, and concluded that, except for claim 4, the '109 patent was invalid.FN2 *See* Fenton Golf Trust v. Cobra Golf, Inc., No. 97 C 247, 1998 WL 292997, at *6 (N.D.Ill. May 28, 1998). Judge Zagel granted summary judgment on all Fenton's counts of infringement except those related to claim 4 of the '109 patent. *Id*. Fenton's lone remaining allegation is that the King Cobra clubs infringe claim 4 of the '109 patent.

FN2. Although the '109 patent consists of eighteen claims, Fenton decided in response to Cobra's first motion for summary judgment to assert only claims 4 and 7.1998 WL 292997, at *3. Claim 7, which Judge Zagel dismissed, read, "The head portion of the golf club of claim 1, wherein the head portion comprises a 'wood'-type head." (12M Ex. 2, at col. 12, Il. 66-68.)

Claim 4 is dependent on claim 1; claim 1 describes the parts of a golf club, including a hosel with material removed from the outer surface of the hosel wall in the form of depressions in the hosel wall.FN3 (12M Ex. 2, at col. 12, ll. 19-47.) Claim 4 reads, "The head portion of the golf club of claim 1, wherein the hosel has an elliptical cross-sectional shape." (Id. at col. 12, 11, 58-59.) With regard to the issue of elliptical cross section shape, the patent specification FN4 states:

FN3. Claim 1 reads as follows:

1. A head portion of a golf club, comprising:
a. a striking face;

b. a heel;

c. a toe;

d. a sole; and

e. a hosel having a bore formed at least a portion of the way through a material that constitutes the hosel wherein a hosel wall continuously surrounds the bore, the hosel wall having a portion of the wall material removed in the form of at least one depression beginning at an outer surface of the hosel wall and extending inward toward a center axis of the hosel, each depression being formed in the hosel wall at a depth of thickness of the hosel wall that is less than the entire thickness of the hosel wall, the depth of each depression being a maximum distance that the depression achieves as measured from the hosel wall outer surface, the depth of each depression being in the range of from ten percent of the hosel wall thickness to 75 percent of the hosel wall thickness, wherein a ten percent depth of each depression ranges from 0.0013

inches for a minimum hosel wall thickness of 0.0125 inches to 0.0525 inches for a maximum hosel wall thickness of 0.525 inches, wherein a 75 percent depth of each depression ranges from 0.0094 inches for a minimum hosel wall thickness of 0.0125 inches to 0.3938 inches for a maximum hosel wall thickness of 0.525 inches.

FN4. A patent document comprises two elements. The first is a specification, which describes the invention "in such full, clear, concise, and exact terms as to enable any person skilled in the art ... to make and use the same." 35 U.S.C. s. 112. The second element is "one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." *Id*.

As described hereinbefore, the typical hosel is cylindrical in shape throughout the majority of its length. However, it is to be understood that the hosel may instead b[e] of other shapes, such as elliptical, as seen in FIG. 6 .... [which] illustrates an elliptical hosel.
(*Id*. at col. 9, ll. 54-60.) A copy of Figure 6 is attached to this opinion as Exhibit 1. It depicts a hosel cross section shape that is oval, rounded, and symmetrical both horizontally and vertically. The only other mention of the term "elliptical" in the specification occurs in the following passage:
[T]he invention has been described for use with a hosel having an internal bore hole. As such, the shaft of the golf club is inserted into the bore hole. However, it is to be understood that the depressions may be utilized on a hosel in which the shaft instead fits over a solid "male" portion of the hosel.... That is, the hosel ... has a first portion that may be generally cylindrical, elliptical or other form in shape, into which the depressions of the present invention are formed. Integral with and disposed above the first or lower hosel portion is a second "male" portion....

(*Id*. at col. 11, ll. 35-45.)
The '109 patent application was a continuation-in-part of the application for the "parent" patent, U.S. Patent No. 5,324,033. (12M para. 6). The parent of the '109 patent contained several claims which used the phrase "generally elliptical" to describe the hosel cross section shape. (12M Ex. 4, at col. 8, 10.) The Patent and Trademark Office (PTO) rejected all the parent claims on various grounds. The PTO made the following comment with regard to the effect of the prior art "Pedersen" and "Hill" patents:

Claims 6, 16 and 26 are rejected under 35 U.S.C. s. 103 as being unpatentable over Pedersen in view of Hill.... Pedersen differs form [sic] the claimed invention in that Pedersen does not expressly show or suggest a hosel having an elliptical cross-sectional shape. Hill shows it to be old in the art to provide a hosel (10) with a generally elliptical shape in order to define a streamlined leading edge which helps to reduce the amount of wind resistance during a swing. In view of the patent to Hill, it would have been obvious to modify the device in the cited art reference to Pedersen by forming the hosel (3) with a generally elliptical shape.

(Id. Ex. 5, at 6.)

In pursuit of the '109 patent, Francis Fenton submitted an Information Disclosure Statement (IDS) for the purpose of disclosing prior art pertinent to the '109 application. Cobra asserts, and Fenton has not disputed, that the IDS in question was part of a "Petition to Make Special," which is a request for expedited review of the '109 patent. The IDS described two existing patents as follows:

Taylor discloses a golf club.... The cross section of the shaft transforms into a "tear-drop" shape down towards the interface of the shaft with the head of the club.

* * *

Smith discloses a golf club having a tear-shaped hosel.

(Id. Ex. 7, at 2, 4.)

The allegedly infringing King Cobra clubs have hosels with a non-circular cross section shape. Cobra argues that these are not elliptical and therefore do not infringe claim 4 of the '109 patent, the only claim left standing by Judge Zagel's order. Cobra maintains that elliptical refers to a rounded oval shape, symmetrical both vertically and horizontally, and that its hosel does not fit that description. The parties have presented differing depictions of the shape of the cross section of the King Cobra clubs; notably, however, both sides' depictions of the King Cobra hosel are teardrop-shaped and somewhat resemble a side view of a household lightbulb. In Fenton's version, attached as Exhibit 2, the small end of the shape is rounded, while in Cobra's drawing, attached as Exhibit 3, the small end is flat. The court utilizes Fenton's drawing for purposes of deciding this motion, as presumably it represents the evidence most favorable to the non-movant.

DISCUSSION

A. Literal Infringement

A patent infringement analysis requires determination of 1) the proper construction of the asserted claim and 2) whether the accused method or product infringes the asserted claim as properly construed. Markman v. Westview Instruments, Inc., 52 F.3d 967, 976 (Fed.Cir.1995) (en banc) *aff'd,* 517 U.S. 370 (1996). Thus, the court's first task is to determine the scope and meaning of claim 4, if possible solely by resort to intrinsic evidence, including the words of the claims, the specification, and the prosecution history. Vitronics Corp. v. Conceptronic, Inc., 90 F.3d 1576, 1581-82 (Fed.Cir.1996). When intrinsic evidence unambiguously delineates the scope of the patent, reference to extrinsic evidence is unnecessary. Id. at 1582.

At the heart of the parties' disagreement is the meaning of the word "elliptical" in claim 4. The primary definition of elliptical is "of, relating to, or shaped like an ellipse." WEBSTER'S COLLEGIATE DICTIONARY, at 375. FN5 Cobra argues that claim 4's requirement of an "elliptical" hosel cross section shape means a cross section shape that is rounded and symmetrical along both the X and Y axes, with no flat or irregular surfaces. Fenton insists this definition unduly limits the meaning of elliptical, and that the term is broad enough to encompass a host of elongated, non-circular cross section shapes, not only those in the form of a mathematically perfect ellipse.

FN5. Courts may make limited reference to dictionary definitions even before moving to the extrinsic evidence stage of inquiry. As the Federal Circuit has explained,
[a]lthough technical treatises and dictionaries fall within the category of extrinsic evidence, as they do not form a part of an integrated patent document, they are worthy of special note. Judges are free to consult such resources at any time in order to better understand the underlying technology and may also rely on dictionary definitions when construing claim terms, so long as the dictionary definition does not contradict any definition found in or ascertained by a reading of the patent documents.

Vitronics, 90 F.3d at 1584 n. 6.
Resolution of this issue is appropriate on summary judgment. "A mere dispute over the meaning of a term does not itself create an issue of fact. This is true even where the meaning cannot be determined without resort to the specification, the prosecution history" or extrinsic evidence. Johnston v. IVAC Corp., 885 F.2d 1574, 1579 (Fed.Cir.1989).

1. Claim Construction

a. Intrinsic Evidence

Intrinsic evidence includes the language of the claims themselves, the language of the specification, and prosecution history. As discussed below, the court concludes that the intrinsic evidence in this case supports Cobra's argument that its product does not infringe claim 4.

i. Words of the Claims

Claim 4, the only claim that uses the term elliptical, does not expressly define the term. The other claims shed some light on the definition, however. Claim 3 reads, "The head portion of the golf club of claim 1, wherein the hosel has a cylindrical cross-sectional shape," (12M Ex. 2, at col. 12, ll. 55-59), and claim 9 reads, "The head portion of the golf club of claim 1, wherein an outside diameter of the hosel is in the range of from 0.250 inches to 1.250 inches." (*Id*. at col. 13, ll. 4-6.) Taken together with claims 3 and 4, claim 9 appears to be a catch-all to cover those irregularly-shaped hosel cross sections which are not either elliptical (claim 4) or cylindrical (claim 3). The existence of a claim with catch-all language would seem to be inconsistent with the notion that the term elliptical is intended to describe a broad spectrum of irregularly-shaped cross sections. Thus, the language of the claims is contrary to Fenton's position.

ii. Specification

The specification describes several forms of the claimed invention. In particular, the specification notes that hosels are not only cylindrically shaped, and cites an elliptically shaped hosel as an alternative possibility. (*Id*. at col. 9, ll. 55-56 ("[I]t is to be understood that the hosel may instead b[e] of other shapes, such as elliptical.").) The specification makes reference to an illustrative drawing when it discusses hosels with an elliptical shape: it states that Figure 6 (here, Exhibit 1) "illustrates an elliptical hosel." (*Id*. Ex. 2, at col. 9, l. 60.) As noted, the illustration in Figure 6 shows a hosel with a symmetrical, rounded oval cross section shape.

These passages from the specification suggest two related points: 1) that hosels come in a variety of non-cylindrical shapes, only one of which is an elliptical hosel; and 2) that a hosel having an elliptical cross section looks like Figure 6. This implies that a hosel with an irregular, non-cylindrical shape is not elliptical, but rather is another of the "other shapes" referenced (though not enumerated) in the specification. This conclusion logically follows, and supports the interpretation urged by Cobra.

Fenton protests that " '[w]hile examples disclosed in the preferred embodiment may aid in the proper interpretation of a claim term, the scope of a claim is not necessarily limited by such examples." ' (Pl. Resp., at 8 (quoting Ekchian v. Home Depot, Inc., 104 F.3d 1299, 1303 (Fed.Cir.1997)).) The rule cited by Fenton, however, is designed to prevent reliance on language that exists only in the specification as a basis for limiting the claim. *See* Intervet Am., Inc. v. Kee-Vet Labs., Inc., 887 F.2d 1050, 1053 (Fed.Cir.1989)

("[L]imitations appearing in the specification will not be read into claims, and ... interpreting what is meant by a word in a claim is not to be confused with adding an extraneous limitation appearing in the specification, which is improper.") (quotes omitted). Here, the term elliptical is part of the claim, and the use of this term in the specification sheds light on its proper meaning. *See* CCPI Inc. v. American Premier, Inc., 966 F.Supp. 276, 282 (D.Del.1997) (permissible to use specification "to hone the meaning of murky language already in the claims").

Fenton also argues that the Figure 6 cross section is not actually symmetrical, because the illustration shows indentations on the outer wall of the hosel. This is technically true; however, the drawing also represents the overall shape of the cross section as symmetrical. In the court's view, the significance of Figure 6 is as an illustration of hosel shape notwithstanding indentations, since every hosel pertinent to the patent would have such indentations.

The only other mention of the term "elliptical" in the specification occurs in the discussion of hosels with an upper "male" portion (as opposed to those with a bore hole into which the shaft fits). In describing this variation of the invention, the specification observes that the first portion of the hosel "may be generally cylindrical, elliptical or other form in shape." (12M Ex. 2, at col. 11, ll. 43-44.) According to Fenton, this means "the invention can be practiced by using hosel shapes other than those meeting the precise, mathematical formula of an 'ellipse." ' (Pl. Resp., at 9.)

There are two difficulties with this argument. First, this language in the specification is part of the narrow discussion of an alternative type of hosel configuration where the shaft fits over the hosel, so the court is reluctant to attach broad significance to it. *Cf.* Unique Concepts, Inc. v. Brown, 939 F.2d 1558, 1562 (Fed.Cir.1991) (inventor may not avoid a limitation in the claim by stating in the specification an alternative lacking the limitation). Moreover, as the court reads it, the phrase "may be generally cylindrical, elliptical or other form in shape" does not mean that the term "elliptical" should be broadly construed, but rather that, as a general matter, there exist cylindrical, elliptical, and "other form[s]" of hosels. That the specification indicates that the invention can be practiced by using various hosel shapes does not support Fenton's position that the definition of "elliptical" encompasses all those variations in cross section shape.

In sum, only one portion of the specification speaks to the meaning of the term "elliptical," and it does so by particular reference to Figure 6 as an illustration of an elliptical shape. Figure 6 is offered not as an example but as an illustration of the meaning of the term. The cross section in Figure 6 is oval, rounded, and appears symmetrical about both the X and Y axes. Therefore, the specification weighs strongly in favor of the definition of elliptical advanced by Cobra.

iii. Prosecution History

The record of proceedings before the PTO with regard to a patent may shed light on claim construction. The prosecution history "cannot 'enlarge, diminish, or vary' the limitations in the claims," Markman, 52 F.3d at 980 (citation omitted); it only "limits the interpretation of the claim terms so as to exclude any interpretation that was disclaimed during prosecution." Southwall Tech., Inc. v. Cardinal IG Co., 54 F.3d 1570, 1576 (Fed.Cir.1995). The court looks also to the history of the parent patent. *See* Jonsson v. Stanley Works, 903 F.2d 812, 818 (Fed.Cir.1990) (prosecution history of parent application is relevant to understanding scope of claims issuing in a continuation-in-part application).

The history of the '109 patent and its parent do not support the broad reading of the word elliptical in claim

4 for which Fenton argues. The PTO rejected the parent application which used the term "generally elliptical," and cited prior art which indicated that hosels with "generally elliptical" shape were "old in the art." FN6 (12 Ex. 5, at 6.) The '109 patent dropped the "generally" modifier, and utilized only the term elliptical. Fenton nonetheless urges that elliptical in the '109 patent essentially means generally elliptical. In fact, this parent prosecution history yields the opposite inference, *i.e.* that Fenton intended a term with a narrower scope when it used the word elliptical in the '109 patent, in order to distinguish the prior art cited by the PTO when it rejected the parent claims.

FN6. Fenton also finds significant that the PTO referred to two patents teaching tear-drop shaped hosels as "having elliptical configurations." (12M Ex. 5, at 6.) The court disagrees. The PTO used the expression "elliptical configurations" as part of its discussion of "generally elliptical shape." In that context, the court perceives the expression to be shorthand, rather than a binding definition of the term elliptical, as Fenton argues.

Additionally, in applying for the '109 patent, Fenton described two other patents as teaching a "tear-shape" or "tear drop shape" when disclosing pertinent prior art in the IDS submitted with its Petition to Make Special. Fenton contends that these statements in the IDS were "mere characterizations," not attempts to argue or distinguish the prior art, and therefore the court should accord them no weight. As Cobra notes, however, the purpose of this disclosure made in conjunction with the Petition to Make Special was to provide the PTO with details as to "how the claimed subject matter is distinguishable" from the prior art. *See* Mark I Marketing Corp. v. R.R. Donnelly & Sons Co., 66 F.3d 285, 290 n. 5 (Fed.Cir.1995) (discussing the requirements of a Petition to Make Special). Having offered the IDS to the PTO for this purpose, Fenton cannot now disclaim its references to prior art as meaningless characterizations. Indeed, if the IDS descriptions were not provided to differentiate the prior art from Fenton's claimed invention, they would seem to have no utility to the PTO. Thus, while Fenton's argument in the IDS was not extensive, Fenton plainly sought to distinguish prior art from what it claimed in the '109 patent on the grounds that the prior art was tear-drop shaped. This significantly undermines Fenton's present contention that the term elliptical is broad enough to cover a hosel with a non-symmetrical cross section shape.

The prosecution history relevant to the scope and meaning of the term elliptical is not extensive, but neither is it ambiguous. Fenton's prosecution of the '109 patent and its parent militate in favor of a narrow definition of elliptical.

b. Extrinsic Evidence

For purposes of claim construction, extrinsic evidence generally includes expert testimony, inventor testimony, dictionaries, and technical treatises. Vitronics, 90 F.3d at 1584. Both Fenton and Cobra direct the court to evidence of this sort, in the form of secondary and tertiary dictionary definitions, citation to calculus textbooks, and testimony from several golf club designers. None of this evidence is particularly illuminating. For instance, designer Samuel Simmons, when asked if the King Cobra hosel cross section was elliptical, said "yes." (Simmons Dep., at 79, 81.) On cross, he agreed that the shape "appears like a cylindrical hosel, with something added on the back"; on re-direct he admitted, "I don't know exactly what [the hosel shape is] called. You people are confusing me." (*Id.* at 89.) He finally conceded, "A portion of it is elliptically shaped." (*Id.*) Rob Hirsch, Cobra Vice President of Research and Development, offered similarly equivocal testimony, stating that the allegedly infringing clubs "might look elliptical to me, but that doesn't mean by the technical definition it is an ellipse. Because an ellipse is a very definite equation."

(Hirsch Dep., at 159.)

In any event, the court need not consider this evidence. Where the intrinsic evidence resolves any ambiguity regarding the meaning of a disputed claim term, reliance on extrinsic evidence is improper. Vitronics, 90 F.3d at 1583. Such is the case here, and consequently the court will not consider the extrinsic evidence submitted by each side.

c. The Meaning of Claim 4

Claim 4 reads, "The head portion of the golf club of claim 1, wherein the hosel has an elliptical cross-sectional shape." The claims, specification and prosecution history of the '109 patent lead to only one conclusion. For the reasons discussed above, the court construes "elliptical cross-sectional shape" to mean a rounded oval shape, symmetrical about both the X and Y axes.

2. Infringement

"To establish literal infringement, every limitation set forth in a claim must be found in an accused product, exactly." Southwall, 54 F.3d at 1575. Fenton is correct that the issue of whether the accused product lacks any limitations of the construed claims is ordinarily a question of fact. However, where, as here, material facts are not in dispute, the court may resolve this issue on summary judgment. *See* Chemical Eng'g Corp. v. Essef Indus., Inc ., 795 F.2d 1565, 1571 (Fed.Cir.1986); ROBERT L. HARMON, PATENTS AND THE FEDERAL CIRCUIT s. 6.2(a)(i), at 245 ("[S]ummary judgment on the issue [of infringement] is appropriate where comparison of a properly interpreted claim with an uncontested description of the accused device reflects absence of a genuine issue of material fact.") (citing *Chemical Eng'g*).

The cross section of the King Cobra hosel, as represented in Exhibit 2, shows a distinctly non-symmetrical shape with some flat surfaces. Claim 4 of the '109 patent teaches an elliptically-shaped hosel cross section. The King Cobra hosel cross section is not elliptical, as the court has construed that term, because it has flat surfaces and is non-symmetrical. Thus, the King Cobra does not literally infringe claim 4, because its hosel is missing a limitation of the claim, namely an elliptical cross section shape. No reasonable juror could find otherwise, and summary judgment for Cobra is granted on the question of literal infringement.

B. Doctrine of Equivalents

Fenton also alleges that the King Cobra infringes the '109 patent under the doctrine of equivalents. According to this equitable doctrine, an accused product outside the literal meaning of a claim may still infringe if each claimed element or its equivalent is found in the accused product.FN7 *See* Warner-Jenkinson Co. v. Hilton Davis Chem. Co., 520 U.S. 17, 29 (1997). "Whether an element of the accused device is equivalent to a claim limitation depends on 'whether the substitute element matches the function, way, and result of the claimed element, or whether the substitute element plays a role substantially different from the claimed element." ' Tronzo v. Biomet Inc., 156 F.3d 1154, 1160 (Fed.Cir.1998) (quoting *id*. at 40). Fenton maintains that application of the function-way-result test is satisfied here with regard to hosel shape, and therefore the King Cobra infringes by equivalents. This argument runs afoul of an important restriction on the doctrine, however.

FN7. This issue, too, is susceptible to summary judgment. *See* Warner-Jenkinson, 520 U.S. at 39 n. 8 ("Where the evidence is such that no reasonable jury could determine two elements to be equivalent, district courts are obliged to grant ... summary judgment.").

"If a theory of equivalence would vitiate a claim limitation ... then there can be no infringement." Id.; Warner-Jenkinson, 520 U.S. at 29 ("It is important to ensure that the application of the doctrine, even as to an individual element, is not allowed such broad play as to effectively eliminate that element in its entirety."). As Cobra observes, this rule applies here, because to find the cross section shape of the King Cobra hosel equivalent to an elliptical shape would be to write the elliptical shape element completely out of claim 4. Fenton responds that claim 4 "covers hosel shapes that are 'generally elliptical,' as Cobra's hosel is, so no claim element is being 'vitiated" ' under its theory of equivalent infringement. (Surreply, at 5.) But this argument must fail for the same reasons, articulated above, that the court rejects a broad interpretation of the term elliptical in construing claim 4; indeed, if elliptical in claim 4 meant generally elliptical, Fenton likely would not need to resort to the doctrine of equivalents to support its infringement claim.

The Supreme Court cautioned that an equivalent which "enlarg[es] the metes and bounds of the invention beyond what is claimed," creates a "conflict [ ] with the definitional and public-notice functions of the statutory claiming requirement." Warner-Jenkinson, 520 U.S. at 29 (quotes omitted). Fenton's doctrine of equivalents theory is the sort of unwarranted expansion of a claim which the Supreme Court warned against. Therefore, summary judgment must be granted on this issue as well.FN8

FN8. The court need not decide whether Cobra could defend against equivalents infringement based on prosecution history estoppel, *see* Warner-Jenkinson, 520 U.S. at 30, or because the equivalent would read on prior art, *see* General Am. Transp. Corp. v. Cryo-Trans., Inc., 93 F.3d 766, 771 (Fed.Cir.1996).

CONCLUSION

No genuine issues of material fact remain as to whether the King Cobra clubs infringe claim 4 of the '109 patent. Defendant's motion for summary judgment is granted.

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