The opinion in support of the decision being entered today was *not* written for publication in and is *not* binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte BRAD L. SHERWOOD

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Appeal No. 2006-1938
Application No. 10/823,886
Technology Center 3700

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ON BRIEF

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Before PATE, LEVY, and FETTING, *Administrative Patent Judges.*

PATE, *Administrative Patent Judge.*

Statement of the Case

This is an appeal under 35 U.S.C. § 134 from the final rejection of claims 1 and 69. These are the only claims remaining in the application.

The claimed invention is directed to a set of individual golf club irons conventionally numbered from low to high and having loft angles that progressively change from low loft angle to higher loft angle. The golf clubs have grooves in the face wherein the grooves are configured to provide decreasing golf

ball spin in going from the low numbered head to the higher numbered head.

The references of record relied upon by the Examiner as evidence of obviousness are:

Kobayashi	4,754,971	July 1988
Kawamatsu	5,766,087	June 1998

Claims 1 and 69 stand rejected under 35 U.S.C. § 103 as unpatentable over Kobayashi in view of Kawamatsu.

For the complete details of Appellant's claims on appeal reference is made to the Appendix of the brief where the claims are set out.

Issue

The sole issue for consideration in this appeal is whether the examiner, by a preponderance of the evidence, has established the *prima facie* obviousness of claims 1 and 69?

Findings of Fact

These are our findings of fact pertaining to the scope and content of the prior art and the differences between the prior art and the claimed subject matter. Both references applied by the examiner evince a recognition in the golf club art of the importance of spin imparted to the ball as the ball is struck by the golf club face. The amount and direction of spin are

directly related to the flight of the ball and the amount of run as the ball rolls along the ground. See Kobayashi, generally at Col. 1, lines 39-52. In general, conventional clubs are designed to increase the backspin imparted to the ball as the loft of the club and the corresponding club number increase. Id., lines 59-62. This results in the higher number clubs tending to stop the ball closer to where it lands.

Kobayashi is directed to sets of golf clubs. As noted above, Kobayashi recognizes the importance of spin and discloses changing the coefficient of friction on the club faces in a gradual manner either decreasing or increasing the friction in proportion to the increase in loft angle and club number. Col. 2, lines 50-55. For example, in Figure 3, sets of clubs are contemplated with rising coefficients of friction with increasing club numbers (club sets C and D) and falling coefficients of friction with increasing club numbers (club sets E and F). One manner disclosed by Kobayashi of changing the coefficient of friction and thus the spin imparted to the ball is to alter the grooving in the club face. Col. 2, lines 60-64; Col. 4, lines 28-49; Figure 2. Appellant admits that Kobayashi is principally directed to decreasing golf ball spin in going from the lower numbered head to a higher number head in the set. Brief at 7, lines 4 and 5. We agree.

Kawamatsu discloses a set of clubs wherein the cross-sectional angles of the corner portions of the face grooves progressively decrease beginning with the long irons and progressing to the short irons. Consequently, the irons with low club numbers impart a lesser amount of backspin and the backspin is increased gradually for irons with higher club numbers. See Col. 4, lines 14-24; Col.4, lines 31-45. Note that in tables 2 and 3 actual values for backspin, carry and run are given for selected clubs with iron numbers 3, 6 and 9. Tables 2 and 3 show that the club face designs of Kawamatsu do result in lesser backspin for low club number irons and greater backspin for high club number irons as compared to conventional golf clubs of the same club number. This is as Kawamatsu desires—increased backspin for the higher numbered clubs.

Principals of Law

A claimed invention is unpatentable if the differences between it 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 pertinent art. *In re Kahn,* 441 F3d. 977, 985, 78 USPQ2d 1329, 1334-35 (Fed. Cir. 2006)(citing 35 U.S.C. §103(a) (2000)); *Graham v. John Deere Co.,* 383 U.S. 1, 13-14, 148 USPQ 459, 467 (1966). The ultimate determination of whether an invention would have been obvious is

a legal conclusion based on underlying findings of fact. *Id.* (citing *In re Dembiczak,* 175 F.3d 994, 998, 50 USPQ2d 1614, 1616 (Fed. Cir. 1999)).

In assessing whether subject matter would have been non-obvious under § 103, the Board follows the guidance of the Supreme Court in *Graham v. John Deere Co. Kahn* at 985, 78 USPQ2d at 1335. The Board determines "'the scope and content of the prior art,'" ascertains "'the differences between the prior art and the claims at issue,'" and resolves "'the level of ordinary skill in the pertinent art.'" *Id.* (citing *Dann v. Johnston,* 425 U.S. 219, 226, 189 USPQ 257, 261 (1976)) (quoting *Graham,* 383 U.S. at 17, 148 USPQ at 467). Against this background, the Board determines whether the subject matter would have been obvious to a person of ordinary skill in the art at the time of the asserted invention. *Id.* (citing *Graham,* 383 U.S. at 17, 148 USPQ 467). In making this determination, the Board can assess evidence related to secondary indicia of non-obviousness like "commercial success, long felt but unresolved needs, failure of others, etc." *Id.,* 383 at 17-18, 148 USPQ at 1335; *accord In re Rouffett,* 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998). We have explained that to reject claims in an application under section 103, an examiner must show an

unrebutted *prima facie* case of obviousness. On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness. *Id.* (citing *Rouffett,* 149 F.3d at 1355, 47 USPQ2d at 1456).

Analysis

Appellant argues that since Kawamatsu teaches increased backspin for the higher numbered clubs, it teaches away from a combination with Kobayashi. In our view the teaching of Kawamatsu is broader than this, however. At the time the invention now claimed was made, Kawamatsu would have suggested to one of ordinary skill that there would be a likelihood of success in modifying the geometry in the club face head grooves in the inverse relationship to that shown in the tables 2 and 3 and discussed in the specification. Namely, the disclosure of Kawamatsu is suggestive of changing the cross-sectional angle of the corner portions of the groove opposite to that shown in the tables (the inverse relationship being from 90 degrees for low numbered clubs to 150 degrees for high number clubs) to achieve a decrease in backspin from the low number clubs to the high numbered clubs, if such a modification was desired by one of ordinary skill. Since the desirability of having decreasing

golf ball spin from the lower number iron clubs to the higher numbered clubs is taught by Kobayashi, and the disclosure of Kawamatsu is suggestive of how to make this modification if it is desired, it is our legal conclusion that the subject matter of claim 1 would have been obvious to one of ordinary skill.

Appellant argues that the teachings of the references are directed to *the exact opposite* of one another. Brief at 7; Reply at 3. However, such a view is to read the disclosure of Kawamatsu with blinders on. If Kawamatsu teaches a groove geometry that increases backspin when applied in one direction, i.e., with decreasing cross-sectional angles, then it provides a reasonable expectation of success that increasing the angles in the direction from low number clubs to higher number clubs would provide decreasing backspin. For obviousness under § 103, all that is required is a reasonable expectation of success. *In re Longi,* 759 F.2d 887, 897, 225 USPQ 645, 651-52 (Fed. Cir. 1985; *In re Clinton,* 527 F.2d 1226, 1228, 188 USPQ 365, 367 (CCPA 1976). The information in the Kawamatsu reference, when combined with the Kobayashi reference provides such a reasonable expectation of success.

Appellant argues that the examiner has merely picked and chosen from portions of the prior art and thus has not

considered the references as a whole. We disagree. As explained above, the examiner has considered the teachings in their entirety particularly as regards the full scope of the suggestions in the Kawamatsu disclosure. Appellant's argument that combining the references results in an "inoperable" invention unsuitable for its intended purpose or that a combination would be "unsatisfactory" is also not credited. As noted above, Kawamatsu provides a reasonable expectation of success.

Turning to claim 69, we note the limitation wherein the groove base or sidewall has a protrusion. We acknowledge the examiner's position and the exemplary sketch appended the examiner's answer. Not withstanding the examiner's imaginative description, we are of the view that it is unreasonable to interpret two adjacent grooves as a single groove with a protrusion. We are constrained to give the claim language the broadest reasonable interpretation, and we believe the interpretation the examiner gives to the prior art is not reasonable. Accordingly, the rejection of claim 69 is reversed.

Conclusion of Law

The examiner has made out a case of *prima facie* obviousness by a preponderance of the evidence with respect to claim 1. The

examiner has not established the *prima facie* obviousness of claim 69.

Order

The rejection on appeal is affirmed-in-part.

AFFIRMED-IN-PART

WILLIAM F. PATE, III Administrative Patent Judge	)	
STUART S. LEVY Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
ANTON W. FETTING Administrative Patent Judge	)	

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