

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today
(1) was not written for publication in a law journal and
(2) is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GRAEME HORWOOD, SCOTT COKEING and
KENNEY RUMP

Appeal No. 2005-2393
Application 10/228,392¹

ON BRIEF

Before PAK, TIMM, and JEFFREY T. SMITH, Administrative Patent Judges.

PAK, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 1, 4, 6, 7, 10, 13, 15, 16, 19 and 20, which are all of the claims pending in the above-identified application. We have jurisdiction pursuant to 35 U.S.C. § 134.

¹ Application for patent filed August 27, 2002.

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APPEALED SUBJECT MATTER

The subject matter on appeal relates to a golf club shaft set with shafts defining upper (butt) ends and metal tip ends wherein the lengths of the metal tip ends are inversely proportional to the overall lengths of the shafts. See the specification, page 1. Claims 1, 10, 19 and 20 are representative of the appealed subject matter² and read as

² The appellants state at page 7 of the Brief that:
Claims 4, 6 and 7 depend from claim 1 and stand or fall with claim 1.

Claims 13, 15 and 16 depend from claim 10 and stand or fall with claim 10.

Claim 20 depends from claim 19 and stands or falls with claim 19.

Consistent with this statement, the appellants do not provide any substantive arguments for the separate patentability of claims 4, 6, 7, 13, 15, 16 and 20. See the Brief and the Reply Brief in their entirety. Claim 20, however, is subject to a different

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follows:

1. A set of golf club shafts comprising:
a plurality of shafts progressively increasing in length, each of said shafts including:
 a composite butt section; and
 a metal tip section coupled to said butt section;
 wherein a length of each tip section progressively decreases as said plurality of shafts progressively increase in length;
 wherein a length of said tip section of a shortest one of shafts is about 30 - 33 percent of an entire length of said shortest one of said shafts; and
 wherein a length of said tip section of a longest one of said shafts is about 17 -19 percent of an entire length of said longest one of said shafts.
10. A set of golf clubs comprising:
 a plurality of club heads progressively decreasing in loft; a plurality of shafts independently coupled to said

ground of rejection than the rest of the claims on appeal. Therefore, for purposes of this appeal, we select claims 1, 10, 19 and 20 from all of the claims on appeal and determine the propriety of the examiner's Section 103 rejections set forth in the Answer based on these claims alone consistent with 37 CFR § 41.37(c)(1)(vii) (2004). In re McDaniel, 293 F.3d 1379, 1384, 63 USPQ2d 1462, 1465-66 (Fed. Cir. 2002).

plurality of club heads, each of said shafts including:
a composite butt section; and
a metal tip section coupled to said butt section;
wherein a length of each tip section progressively decreases as said plurality of club heads progressively decrease in loft;
wherein a length of said tip section of a shortest one of said shafts is about 30 - 33 percent of an entire length of said shortest one of said shafts; and
wherein a length of said tip section of a longest one of said shafts is about 17 - 19 percent of an entire length of said longest one of said shafts.

19. A set of golf club shafts comprising:
a plurality of shafts progressively increasing in length, each of said shafts including:
a composite butt section; and
a metal tip section coupled to said butt section;
wherein a length of each tip section progressively decreases as said plurality of shafts progressively increase in length.

20. The set of golf club shafts of claim 19 wherein said plurality of shafts further comprise:
a 3-iron having a 39.5 - 40.5 inch length, the 3-iron including a composite butt section coupled to a 7.5 - 8.5 inch metal tip section;
a 4-iron having a 39 - 40 inch length, the 4-iron including a composite butt section coupled to a 8 - 9 inch metal tip section;
a 5-iron having a 38.5 - 39.5 inch length, the 5-iron including a composite butt section coupled to a 8.5 - 9.5 inch metal tip section;
a 6-iron having a 38 - 39 inch length, the 6-iron including a composite butt section coupled to a 9 - 10 inch metal tip section;
a 7-iron having a 37.5 - 38.5 inch length, the 7-iron including a composite butt section coupled to a 9.5 - 10.5 inch metal tip section;
a 8-iron having a 37 - 38 inch length, the 8-iron including a composite butt section coupled to a 10 - 11 inch metal tip section; and
a 9-iron having a 36.5 - 37.5 inch length, the 9-iron including a composite butt section coupled to a 10.5 - 11.5

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inch metal tip section.

PRIOR ART

As evidence of obviousness of the claimed subject matter,
the examiner relies on the following prior art references:

Bayliss et al (Bayliss)	4,563,007	Jan. 7, 1986
Pompa	4,836,545	Jun. 6, 1989
Whitaker	5,505,446	Apr. 9, 1996
Penley	5,924,936	Jul. 20, 1999
Dillard	6,203,447 B1	Mar. 20, 2001
Murtland et al. (Murtland)	6,343,991 B1	Feb. 5, 2002

REJECTIONS

Claims 1, 4, 6, 7, 10, 13, 15, 16 and 19 stand rejected under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Dillard, Whitaker, Bayliss, Murtland and Pompa. Claim 20 stands rejected under 35 U.S.C. § 103 as unpatentable over the combined disclosures of Dillard, Whitaker, Bayliss, Murtland, Pompa and Penley.

DISCUSSION

We have carefully reviewed the claims, specification and prior art, including all of the arguments advanced by both the examiner and the appellants in support of their respective

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positions. This review has led us to conclude that the examiner's Section 103 rejections are well founded. Accordingly, we affirm the examiner's Section 103 rejections. Our reasons for this determination follow.

We observe that the appellants do not dispute the examiner's finding at page 4 of the Answer that:

Dillard discloses a [golf] club having [a shaft defined by]... a metal tip section and a composite butt section...[wherein the] metallic material ...[has] a higher strength and higher resistance to torque than a composite material ...

As argued by the appellants (e.g., the Brief, page 9), Dillard does not mention a set of golf club shafts progressively increasing in length, (1) with metal tip section lengths of the shafts decreasing as overall shaft lengths are increased as required by claims 1, 10 and 19³; and (2) with club heads progressively decreasing in loft (angle) as the lengths of metal tip sections are decreased as required by claim 10.

³ Independent Claims 1 and 10 further recite ratios of the decreased metal tip sections to the increased overall lengths of the shafts.

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To remedy these deficiencies, the examiner relies on the disclosures of Whitaker, Bayliss, Murtland and Pompa. We find that Whitaker illustrates a set of golf clubs having shafts which are progressively increased in length. See Figure 2 and column 3, lines 29-45. We find that Whitaker teaches (column 1, lines 24-30) :

It is known in the golfing art to provide an array of clubs for engaging in the game of golf. The clubs are sequentially configured to provide differing ball striking range potentials varying from longest distance to shortest distance due to differences therebetween in shaft length and club head face angle or "loft".

It is also known that the ball striking distance range potential increases as the shaft increases in length. See also Whitaker, column 1, lines 30-42. We find that Whitaker teaches (column 1, lines 60-67) that:

The effect of shaft flexibilities on golf shots is well known. A more flexible shaft...will provide a greater ball striking range potential than a more stiff shaft...when the same swing or striking force is applied. However, it is also known that a more flexible shaft will impart a potential for poorer accuracy on a given golf shot when compared to a similar shot made with a club having a stiffer shaft.

The appellants also acknowledges at page 1 of the specification that metal shafts are known to have characteristics, such as high torsional stiffness, which yield accurate ball control and good feel, but poorer distance, and that composite shafts are known to

have characteristics, such as more flexible tips, which yield more distances, but poorer accuracy. Consistent with Whitaker's need for providing shafts having differing flexibilities for given ball striking range potentials (column 2, lines 58-67), Pompa teaches at column 2, line 62 to column 3, line 15 that:

The bottom end 22 of the upper composite butt section 14 is reduced in diameter, to telescopingly and slidably fit into the inside wall of the elongated last step 26 of lower metallic tip section 12. It is bonded therein with high strength epoxy adhesive 24, as shown in FIG. 2. The length of the bonded section is denoted in FIG. 1 by dimension C and, in practice, is about 1¹/₂ inches. The junction shoulder 20, between lower metallic tip section 12 and upper composite butt section 14, is smooth and flush. From that point, the upper composite butt section 14 tapers progressively and outwardly to a standard butt diameter as its top end 28. Using the standard 43 inch driver previously mentioned as an example, **it may been seen that the proportion of the length of the lower metallic tip section 12 and the upper composition butt section 14, to total shaft length, denoted by dimension A in FIG. 1, is on the order of one-third and two-thirds respectively.** This

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ratio may vary up or down depending upon the desired flex rating of a particular shaft, plus the desired total length of the club in which the shaft is installed. (Emphasis added).

Given the above teachings, we concur with the examiner that to a set of golf club shafts formed of a composite butt section and a metal tip section, one of ordinary skill in the art, following the teachings of Dillard, Whitaker and Pompa, would have been led to provide progressively decreasing lengths of metal tip sections as the overall lengths of the shafts are progressively increased, motivated by a reasonable expectation of successfully increasing shaft flexibilities in a direct relation to the increased overall shaft lengths for the purposes of improving ball striking range potentials (increased flexibility for longer shafts) or accurate ball control (decreased flexibility for shorter shafts).

With respect to the specific proportions or sizes of the metal tip section to the total shaft length (remainder of which is made up of the composite butt section) recited in claims 1, 10 and 20, Pompa and Whitaker teach that they affect flexibilities (distance) and stiffness (accuracy) of the shafts as indicated supra. Thus, we determine that it would have been obvious for an

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artisan with ordinary skill to determine workable or even optimum proportions or lengths of the metal tip sections for given total shaft lengths to obtain desired flex ranges since such proportions and lengths are shown to be result effective variables. In re Boesch, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). This is especially true in this case since Pompa and Whitaker, by virtue of suggesting the desirability of decreasing the lengths of the metal tip sections as the overall lengths of the shafts are increasing, would have directed one of

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ordinary skill in the art towards the claimed proportions and lengths of the metal tip sections for given total shaft lengths.

With respect to progressively decreasing club head lofts (angles) in relation to decreasing the lengths of the metal tip sections of shafts (i.e., increasing total shaft lengths) as recited in claim 10, we concur with the examiner that one of ordinary skill in the art would have been led to progressively decrease club head lofts as the lengths of metal tip sections of the shafts are decreasing as suggested by Dillard, Whitaker, Pompa and Bayliss. Bayliss shows conventional club head face lofts (angles), like the metal tip section lengths, are inversely related to total shaft lengths (a longer shaft, a smaller club face angle and greater flexibility (shorter metal tip section) are all associated with a longer distance)). See Figure 1. We also note that Whitaker indicates that the determination of desired shaft flexibilities, overall shaft lengths and club head face angle (loft) for given ball striking range potentials is well within the ambit of one of ordinary skill in the art.
Boesch, 617 F.2d at 276, 205 USPQ at 219.

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Thus, for the factual findings set forth in the Answer and above, we determine that the examiner has established a prima facie case of obviousness regarding the claimed subject matter which is not sufficiently rebutted by the appellants. Hence, we determine that the preponderance of evidence weighs most heavily in favor of obviousness within the meaning of Section 103(a).⁴ Accordingly, we affirm the examiner's decision rejecting claims 1, 4, 6, 7, 10, 13, 15, 16, 19 and 20 under 35 U.S.C. § 103.

CONCLUSION

In view of the foregoing, the decision of the examiner is affirmed.

⁴ We need not discuss the contents of Murtland and Penley since they are, at best, cumulative to the teachings of Dillard, Whitaker, Pompa and Bayliss.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

AFFIRMED

CHUNG K. PAK)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
CATHERINE TIMM)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
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JEFFREY T. SMITH)	
Administrative Patent Judge)	

CKP:TF

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