

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 40

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID M. SCRUGGS,
WILLIAM L. JOHNSON and ATAKAN PEKER

Appeal No. 2002-1037
Application 08/963,131

ON BRIEF

Before STAAB, MCQUADE, and NASE, Administrative Patent Judges.
MCQUADE, Administrative Patent Judge.

DECISION ON APPEAL

David M. Scruggs et al. appeal from the final rejection (Paper No. 28) of claims 1, 4 through 14 and 21 through 29, all of the claims pending in the application.

THE INVENTION

The invention relates to a golf club head made of a bulk-solidifying amorphous metal. The appellants' specification (see pages 6, 8 and 9) and most of the appealed claims define a bulk-solidifying amorphous metal as one that retains its amorphous structure when cooled from a melt at a rate of about 500°C per

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second or less. Representative claims 1 and 28 read as follows:

1. A golf club head made at least in part of a bulk-solidifying amorphous metal that may be cooled from the melt at a cooling rate of about 500°C per second or less, yet retain an amorphous structure, the golf club head being fabricated by casting the bulk-solidifying amorphous metal to shape in a mold.

28. A golf club head having at least a portion thereof cast to shape against a mold and made of a metal having a strength-to-density ratio of at least about 1×10^6 inches, an elastic strain limit of more than about 1.5 percent, and a density of from about 5.0 to about 7.0 grams per cubic centimeter.

THE PRIOR ART

The references relied on by the examiner to support the final rejection are:

Peker et al. (Peker)	5,288,344	Feb. 22, 1994
Anderson et al. (Anderson)	5,417,419	May 23, 1995

THE REJECTION

Claims 1, 4 through 14 and 21 through 29 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Anderson in view of Peker.

Attention is directed to the appellants' main and reply briefs (Paper Nos. 34 and 36) and to the examiner's answer (Paper No. 35) for the respective positions of the appellants and the examiner regarding the merits of this rejection.

DISCUSSION

Anderson, the examiner's primary reference, discloses a golf club head, and more particularly a metal wood head, comprising a metallic main body portion, a metallic front face reinforcement plate having a recess therein, and a non-metallic ball striking plate bonded within the recess. The main body portion and reinforcement plate may be made of stainless steel, aluminum, beryllium copper or titanium, and the ball striking plate may be made of graphite, ceramic or KEVLAR®.

As conceded by the examiner, Anderson does not respond to the limitations in independent claims 1, 21 and 24 requiring the claimed club head to be made at least in part of a "bulk-solidifying amorphous metal," or the limitations in independent claim 28 requiring the club head to be made of a metal having a strength-to-density ratio of at least about 1×10^6 inches, an elastic strain limit of more than about 1.5 percent, and a density of from about 5.0 to about 7.0 grams per cubic centimeter. To overcome these deficiencies, the examiner turns to Peker.

Peker discloses amorphous metallic alloys having high strength to weight ratios (see column 12, lines 26 through 35) for use in making plates, rods, strips and net shape parts (see

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column 4, lines 28 through 34). The preferred alloys have cooling rates in the range of from 1 to 100 K/sec. (see column 4, lines 23 and 24) and a composition of 10 to 35 percent beryllium content, 43 to 67 percent early transition metal content (e.g., zirconium plus titanium), and 10 to 38 percent late transition metal content (e.g., copper plus nickel). The appellants' specification (see page 9) cites Peker as describing a most preferred type of the bulk-solidifying amorphous alloy family contemplated by the appellants.

In proposing to combine Anderson and Peker to reject independent claims 1, 21 and 24, the examiner submits that "[a] metallic glass such as those disclosed by [Peker] would exhibit the strong lightweight materials desired by the ordinarily skilled artisan in fashioning a club head and therefore would have been obvious to the ordinarily skilled artisan selecting a suitable metallic material to cast Anderson's club head" (answer, page 3). Regarding independent claim 28, the examiner adds that "because Peker discloses the identical material it will inherently possess the same physical properties" (answer, page 4). In response to the appellants' argument of these conclusions, the examiner further explains that

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[t]he ordinarily skilled artisan in the golf club head art, as is commonly known, experiments with all variety of known materials to construct durable high performing golf club heads. As is also well known, and indicated by Anderson's disclosure, the use of light-weight, high-strength metals such as aluminum and titanium are considered advantageous materials for forming golf club heads. Thus, when Anderson's disclosure indicates that a variety of suitable materials of this class would be suitable to form his club head, it cannot be said to have been unobvious for one [of] ordinary skill in the art to have used a material such as Peker's which is of the class of light-weight, high strength materials suitable for Anderson's purpose [answer, page 4].

There is nothing in the fair teachings of Anderson and Peker, however, which would have suggested the use of amorphous metals to make a metal golf club head. The examiner's attempt to bridge this gap by categorizing Peker's amorphous metals in the same class as the golf club head metals (stainless steel, aluminum, beryllium copper and titanium) described by Anderson lacks evidentiary support, and ostensibly stems from an impermissible hindsight analysis of the obviousness issue at hand. This flaw in the examiner's position is illustrated by the resort to the purported common knowledge that the artisan "experiments" with all variety of known materials to construct durable high performing golf club heads. Such amounts to an "obvious to try" test which is not the proper standard under

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§ 103(a). In re O'Farrell, 853 F.2d 894, 903-04, 7 USPQ2d 1673, 1680-81 (Fed. Cir. 1988).

Thus, the combined teachings of Anderson and Peker do not justify the examiner's conclusion that the differences between the subject matter recited in independent claims 1, 21, 24 and 28 and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art. Accordingly, we shall not sustain the standing 35 U.S.C. § 103(a) rejection of claims 1, 21, 24 and 28, and dependent claims 4 through 14, 22, 23, 25 through 27 and 29, as being unpatentable over Anderson in view of Peker.

SUMMARY

The decision of the examiner to reject claims 1, 4 through 14 and 21 through 29 is reversed.

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REVERSED

LAWRENCE J. STAAB)	
Administrative Patent Judge)	
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JOHN P. MCQUADE)	
Administrative Patent Judge)	INTERFERENCES
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JEFFREY V. NASE)	
Administrative Patent Judge)	

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