

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. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HIENMINH HUU LE and TZONG-SHII PAN

Appeal No. 2003-1499
Application No. 09/531,872

ON BRIEF

Before WALTZ, TIMM, and PAWLIKOWSKI, Administrative Patent Judges.
WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the primary examiner's final rejection of claims 1 through 12, which are the only claims pending in this application. We have jurisdiction pursuant to 35 U.S.C. § 134.

According to appellants, the invention is directed to a unitary, integrated suspension that is formed having a single-piece design, using only one piece of material to form the entire suspension, including the load beam, flexure and gimbal assembly (Brief, page 2). This invention eliminates the need for mechanical

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reinforcement such as flange forming, and requires no additional weld processing to form the functional portion of the assembly (*id.*). Representative independent claim 1 is reproduced below:

1. A suspension for a disk drive, comprising:

an integrated suspension body having a unitary, continuous load beam, flexure, and gimbal, wherein the integrated suspension body is free of assembly welds and structural forming for enhancing mechanical strength of the integrated suspension body;

a plurality of pockets in the load beam and flexure of the integrated suspension body;

a load/unload feature on the integrated suspension body; and wherein the gimbal comprises:

an etched gimbal assembly including outriggers and front and rear limiters for limiting slider displacement relative to the load beam.

The examiner has relied upon the following references as evidence of obviousness:

Girard	5,771,136	Jun. 23, 1998
Arya et al. (Arya) (filed Apr. 12, 1999)	6,219,203	Apr. 17, 2001

The claims on appeal stand rejected under 35 U.S.C. § 103(a) as unpatentable over Arya in view of Girard (Answer, page 3). We reverse the examiner's rejection essentially for the reasons stated in the Brief and those reasons set forth below.

OPINION

The examiner finds that Arya discloses in Figure 1 "an integrated suspension body having a unitary continuous load beam 11, flexure and gimbal for a disk drive free of assembly welds and structural forming" (Answer, page 3). The examiner also finds that Arya discloses a plurality of pockets 23 in load beam 11 as well as a load/unload feature, with the load beam 11 formed from stainless steel (Answer, paragraph bridging pages 3-4).

The examiner recognizes that Arya is "silent as to a gimbal including outriggers and front and rear limiters for limiting slider displacement relative to the load beam." Answer, page 4. Accordingly, the examiner applies Girard for the disclosure of an integrated suspension body having a unitary continuous load beam, flexure and gimbal, including outriggers 208 and front and rear limiters 202 for limiting slider displacement relative to the load beam (*id.*). From these findings, the examiner concludes it would have been obvious to one of ordinary skill in this art at the time of appellants' invention "to provide the load beam of Arya et al with an integrated suspension body having a unitary continuous load beam, flexure and gimbal such that the gimbal including [sic, includes] outriggers and front and rear limiters for limiting

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slider displacement" for the purpose of providing "a simplified assembly of the components." *Id.*

The dispositive issue in this appeal is the claim construction advanced by the examiner. The examiner finds that Arya discloses an integrated suspension body having a unitary continuous load beam, flexure and gimbal (Answer, pages 3 and 5). The examiner states that the "claimed invention" does not require a "one-piece" load beam, flexure and gimbal (Answer, page 5). Contrary to appellants' arguments (Brief, paragraph bridging pages 3-4), the examiner construes the claimed language "free of assembly welds and structural forming" as a method limitation in a product claim, which in this instance has no effect on the completed structure (Answer, page 5). We disagree with the examiner's claim construction.

During *ex parte* prosecution before the examiner, the claim language must be given its broadest reasonable interpretation, when read in light of the specification and as understood by one of ordinary skill in the relevant art. See *In re Morris*, 127 F.3d 1048, 1054, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997). Claim 1 on appeal recites that the "integrated suspension body having a unitary, continuous load beam, flexure and gimbal" is "free of assembly welds and structural forming." As defined by the examiner

(Answer, page 5), "unitary" means "whole" or "based on or characterized by unity." Appellants define their invention as an integrated suspension for a hard disk drive which is formed "as a single-piece flat design," eliminating the need for mechanical reinforcement such as flange forming with no additional weld processing required. Specification, page 4, ll. 1-8. Appellants further teach that conventional disk drive suspensions are made of two pieces, or if made as a single assembly the suspensions require flanges for mechanical reinforcement (specification, page 2, ll. 25-34). Accordingly, we determine that the claim language, when read in light of the specification as understood by one of ordinary skill in the suspension art, requires a "unitary" or one-piece integrated suspension body with no welds or structural reinforcement.

The examiner has failed to present any convincing evidence or technical reasoning supporting the claim construction that "assembly welds" are a "method limitation" which has no effect on the completed structure (Answer, page 5).¹ It is clear that assembly welds would have an effect on the completed structure, as

¹The examiner has not addressed the corresponding claim language "free of ... structural forming." See the Answer in its entirety.

the suspension would be weaker at the weld joints, as well as having welding material or flux at these joints, and have less flexibility than the same suspension that was not welded.² Of course, it is equally clear that structural forming would have an effect on the completed structure (e.g., see Girard, Figure 1 and col. 4, ll. 37-39). Therefore we determine that the examiner has not established that the load beam, flexure and gimbal welded together to form the suspension body of Arya would be identical to the unitary, continuous load beam, flexure and gimbal of the claimed integrated suspension body.

For the foregoing reasons, we determine that the scope of claim 1 on appeal includes a unitary or one-piece integrated suspension body including the load beam, flexure and gimbal, with the structural limitations "free of assembly welds and structural forming." Appellants point out numerous disclosures in both Arya and Girard where the suspension body comprises at least two pieces which are welded together, as well as the disclosure of stiffening rails 32 in Girard (Brief, pages 4-5; see Arya, col. 2, ll. 45-57; col. 3, ll. 33-36; col. 4, ll. 1-9; and Girard, col. 4, ll. 29-64). The examiner has not shown either reference to be free of assembly

²See Arya, col. 2, ll. 45-54, and col. 4, ll. 1-5.

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welds or structural forming, nor established why the absence of assembly welds and structural forming would have been obvious to one of ordinary skill in this art (see the Answer in its entirety). Therefore, in view of our claim construction set forth above, we determine that the examiner has failed to establish a *prima facie* case of obviousness in view of the reference evidence. Accordingly, we cannot sustain the examiner's rejection of claims 1-12 under 35 U.S.C. § 103(a) over Arya in view of Girard.

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The decision of the examiner is reversed.

REVERSED

THOMAS A. WALTZ)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
CATHERINE TIMM)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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)	
BEVERLY A. PAWLIKOWSKI)	
Administrative Patent Judge)	

TAW/jrg

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BRACEWELL & PATTERSON, L.L.P.
P.O. BOX 969
AUSTIN, TX 78767-0969