

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ZINE-EDDINE BOUTAGHOU and JOEL DAVID LIMMER

Appeal No. 2006-2457
Application No. 10/358,831

ON BRIEF

Before HAIRSTON, JERRY SMITH, and BARRY, Administrative Patent Judges.
JERRY SMITH, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal under 35 U.S.C. § 134 from the examiner's rejection of claims 1-4, 8, 10, 20-24, and 30-35. Claims 11-17 and 25-29 have been withdrawn from consideration as being directed to non-elected species [answer, page 2].

The disclosed invention pertains to an actuation mechanism used in a data storage system. The actuation mechanism includes a spring member with a first end coupled to an anchor. A suspension is coupled to a second end of the spring member that supports a data head above a media surface. In one

embodiment, the suspension and data head are swept laterally over the storage media by the interaction of magnetic fields generated in the actuator component and a magnet. The spring member, however, biases the suspension to a neutral position due to expansion and contraction of the spring member.

Representative claim 1 is reproduced as follows:

1. An actuation mechanism, comprising:

an anchor fixedly attached to a structure;

a spring member having a first end coupled to the anchor;

a suspension coupled to a second end of the spring member, the suspension supporting a device above a surface, the suspension being biased by the spring member toward a first position; and

an actuator component coupled to the suspension, and configured to apply an actuation force to the suspension to move the suspension laterally relative to the surface.

The examiner does not rely on any references.¹

The following rejection is on appeal before us:

Claims 1-4, 8, 10, 20-24, and 30-35 stand rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the enablement requirement.

Rather than repeat the arguments of appellants or the examiner, we make reference to the briefs and the answer for the respective details thereof.

¹ Although the examiner did not rely upon any prior art throughout prosecution, we note that the expansive scope and breadth of at least independent claims 1 and 20 (calling for an actuator and actuation mechanism respectively) is not limited to the disclosed environment (storage media) and encompasses a variety of mechanical and electro-mechanical arts. See MPEP § 904.01(c).

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the examiner and the evidence relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

It is our view, after consideration of the record before us, that appellants' disclosure fully complies with the enablement requirement under the first paragraph of 35 U.S.C. § 112. Accordingly, we reverse.

The examiner asserts that the disclosure is non-enabling for several reasons. First, the examiner contends that the disclosure contains only "diagrammatic" [sic] drawings of the structures forming the invention that are "simply schematics" [answer, page 3]. Second, the examiner alleges that the specification does not disclose specific structures and materials used for (1) the spring arms, and (2) the ends of the spring members coupling the spring arms to the base and head suspension [answer, pages 3 and 4].

Appellants argue that the examiner failed to meet the burden of showing that undue experimentation is required to make or use the claimed invention. In this regard, appellants contend that the examiner failed to specifically identify what information was missing from the disclosure and why the skilled artisan could not supply such information without undue experimentation [brief, page 8].

According to appellants, the disclosure is enabling. Appellants first note that the spring arms can be connected or coupled in any known manner and all known attachment methods are equally acceptable [id.]. Appellants also note that the “diagrammatic” illustrations in the disclosure are sufficient since they graphically explain the arrangement of parts. Appellants cite two references to show how springs -- in particular flat springs -- are conventionally illustrated [see ev. app.]. In view of this evidence, appellants conclude that the skilled artisan would know exactly what was illustrated in the drawings [brief, page 9]. Although appellants concede that the references do not show what specific materials are used to construct the springs nor describe the coupling at the ends, appellants contend that such attachment features and material selections are nevertheless well known to skilled artisans [id.]. According to appellants, the present application did not discuss specific coupling methods between the actuation mechanism’s anchor, spring member, and suspension because the skilled artisan would know how to couple these items together [id.].

The examiner responds that the lack of disclosure pertaining to the spring arms and ends of the spring members renders the disclosure non-enabling, particularly since the claimed invention is totally different in operation and structure from the prior art (i.e., no pure rotational mechanism exists in the claimed invention for moving the head suspension) [answer, pages 4 and 5]. The examiner also contends that appellants’ two cited references are insufficient since (1) no basis allegedly exists in the specification that the springs are flat

springs, (2) the springs in the references are used in applications unrelated to disk drives, and (3) the references discuss only single springs – not dual springs [answer, pages 5 and 6].

We will not sustain the examiner's enablement rejection. "The test of enablement is whether one reasonably skilled in the art could make or use the invention from the disclosures in the patent coupled with information known in the art without undue experimentation." United States v. Telectronics, Inc., 857 F.2d 778, 785, 8 USPQ2d 1217, 1223 (Fed. Cir. 1988). A disclosure may be enabling despite the need for experimentation. The test, however, is whether such experimentation is undue. In re Angstadt, 537 F.2d 498, 504, 190 USPQ 214, 219 (CCPA 1976) [emphasis added]. Determining whether any necessary experimentation is undue involves consideration of many relevant factors including, but not limited to: (1) the breadth of the claims; (2) the nature of the invention; (3) the state of the prior art; (4) the level of one of ordinary skill; (5) the level of predictability in the art; (6) the amount of direction provided by the inventor; (7) the existence of working examples; and (8) the quantity of experimentation needed to make or use the invention based on the content of the disclosure. In re Wands, 858 F.2d 731, 737, 8 USPQ2d 1400, 1404 (Fed. Cir. 1988).

In our view, the disclosure amply describes the invention with sufficient particularity to enable the skilled artisan to make or use the invention without undue experimentation. The examiner has simply not provided any evidence

establishing that undue experimentation is required for the skilled artisan to make or use the invention as disclosed.

We agree with appellants that the drawings sufficiently illustrate the structure of the invention including the spring members. Furthermore, we agree with appellants that the skilled artisan could readily couple such spring members to the anchor and suspension in any known manner including conventional mechanical coupling methods.

The operation of the invention is clearly shown in Figs. 5A and 5B of the present application. As shown in those figures, suspension 520 with data head 530 is swept laterally over storage media 506 by the interaction of the magnetic fields generated in the actuator component (i.e., by current flowing in coil 540) and magnet 470. The spring arms 550, however, bias the suspension to neutral position 570 due to the expansion and contraction of spring arms 550 [Figs. 5A, 5B; specification, page 11, line 10 – page 13, line 5].

Furthermore, the specification states that the spring arms are designed to provide a biasing force that counteracts the applied actuation force from the actuation component [specification, page 9, lines 20-23]. To this end, the springs are designed to be bent out of plane, and the thickness of the spring arms depends upon the desired flexibility or biasing force for a particular application -- preferably 200 microns thick [id., lines 23-29].

Based on the disclosure, we see no reason why the skilled artisan could not make or use spring arms that are 200 microns thick to provide a biasing force

that counteracts the applied actuation force and couple such spring members to the anchor. Making or using such spring arms -- simple flexible mechanical components whose structure and function is clearly shown and described -- would not require undue experimentation, but rather falls well within the level of skilled artisans (electrical or mechanical engineers with substantial industry experience). Furthermore, selecting the type of material and thickness for the spring arms would also have been well within the level of skilled artisans to achieve a desired flexibility. In view of the straightforward mechanical attachment suggested by the drawings, we see no reason why the skilled artisan would not utilize conventional mechanical attachment methods to couple the flexible spring member to the anchor and suspension.

“[A] patent disclosure need not enable information within the knowledge of an ordinarily skilled artisan. Thus, a patentee preferably omits from the disclosure any routine technology that is well known at the time of application.” Chiron Corp. v. Genentech, Inc., 363 F.3d 1247, 1254, 70 USPQ2d 1321, 1325 (Fed. Cir. 2004).

Significantly, the examiner has not provided sufficient evidence and reasons on this record why the skilled artisan must unduly experiment to make or use the invention. Even assuming that some experimentation would be required to achieve the appropriate biasing force provided by the spring member, the examiner has simply not established that such experimentation would be undue.

A disclosure may be enabling despite the need for experimentation so long as such experimentation is not undue. In re Angstadt, 537 F.2d 498, 504, 190 USPQ 214, 219 (CCPA 1976).

In short, the disclosure is enabling based on this record. Accordingly, the examiner's rejection will not be sustained.

In summary, we have not sustained the examiner's rejection with respect to any of the claims on appeal. Therefore, the decision of the examiner rejecting claims 1-4, 8, 10,² 20-24, and 30-35 is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
)	
)	
)	
)	
JERRY SMITH)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
LANCE LEONARD BARRY)	
Administrative Patent Judge)	

JS/jaj/kis

² Although this issue was not before us on appeal, we note that claim 10 lacks a period at the end of the claim. In an Ex parte appeal, "the [B]oard . . . is basically a board of review - we review...rejections made by patent examiners." Ex parte Gambogi, 62 USPQ2d 1209, 1211 (B.P.A.I. 2001). Consequently, we leave the issue of whether the claim complies with proper format to the examiner and the appellants.

Appeal No. 2006-2457
Application No. 10/358,831

SEAGATE TECHNOLOGY LLC C/O WESTMAN
CHAMPLIN & KELLY, P.A.
SUITE 1400
900 SECOND AVENUE SOUTH
MINNEAPOLIS, MN 55402-3319