The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Ex parte DAVE HELSEL, JAMES ARALIS and DINO J. POLLALIS

Appeal No. 2003-0212
Application No. 09/089,053

HEARD: June 10, 2003

Before HAIRSTON, KRASS, and JERRY SMITH, 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 1-12, which constitute all the claims in the application. An amendment after final rejection was filed on August 17, 2001 and was entered by the examiner.

The disclosed invention pertains to a method and apparatus for detecting the fly height of a magnetic head transducer and for determining if a threshold fly height has been reached.

Representative claim 1 is reproduced as follows:

1. A circuit for detecting fly height, comprising:
a circuit for reading with a head a transition signal being previously recorded on a disk;
a circuit for measuring the fly height of said head from said disk based on a PW50 signal determined from said transition signal;
a circuit to determine if a threshold height has been reached based on said fly height.

The examiner relies on the following reference:

Meyer et al. (Meyer)	5,991,113	Nov. 23, 1999 (filed Apr. 07, 1997)

Claims 1-6 stand rejected under 35 U.S.C. § 102(e) as being anticipated by the disclosure of Meyer. Claims 7-12 stand rejected under 35 U.S.C. § 103. As evidence of obviousness the examiner offers Meyer taken alone.

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

OPINION

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

It is our view, after consideration of the record before us, that the evidence relied upon supports the examiner's rejection of claims 1-6, but does not support the examiner's rejection of claims 7-12. Accordingly, we affirm-in-part.

Appellants have indicated that for purposes of this appeal the claims within each rejection will all stand or fall together as a single group [brief, page 4]. Consistent with this indication appellants have made no separate arguments with respect to any of the claims on appeal within each rejection. Accordingly, all the claims before us subject to each rejection will stand or fall together. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). Therefore, we will consider the rejection against independent claims 1 and 7 as representative of all the claims on appeal.

We consider first the rejection of claims 1-6 under 35 U.S.C. § 102(e) as being anticipated by the disclosure of Meyer. Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Systems, Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir.); cert. dismissed, 468 U.S. 1228 (1984); W.L. Gore and

Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1554, 220 USPQ 303, 313 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

The examiner has indicated how he finds the invention of claim 1 to be anticipated by Meyer in the final rejection which has been incorporated into the answer [page 3]. Appellants argue that the fly height determination in Meyer is not based on the transition signal, but instead, is based on temperature. Appellants argue, therefore, that a threshold in Meyer is not used for fly height [brief, pages 4-5]. The examiner responds that the signal from the magnetic transducer of Meyer constitutes a transition signal as claimed. The examiner also responds that appellants have not provided any specific arguments directed to the claimed circuit to determine if a threshold height has been reached. The examiner finds that Meyer inherently compares the measured fly heights with predetermined fly heights based on temperature changes. The examiner also finds that any measured fly height can be considered to be the threshold height [answer, pages 4-5].

We will sustain the rejection of claims 1-6. In our view, the fly height measured in Meyer is clearly based on signals received from the magnetic transducer. Meyer discloses that the fly height of the magnetic transducer can be tested in situ in the assembled disk drive. Meyer then discloses that the fly height is determined by measuring pulse widths at one-half

peak amplitudes as one way of determining fly height. When the magnetic transducer is in situ, the artisan would have understood that the transducer is actually reading signals from a magnetic disk in order to measure the fly height of the transducer. This transducer produces the same transition signals in response to magnetic information on the disk as the transducer disclosed by appellants. Therefore, we do not agree with appellants' argument that the fly height in Meyer is based on temperature rather than a transition signal. Once the fly height in Meyer is measured, however, Meyer discloses that the fly height of the transducer is temperature adjusted to determine what temperature is necessary to achieve a different fly height than the nominally measured fly height. We agree with the examiner that broadly speaking, this requires that the measured fly height in Meyer be compared to a desired fly height to determine the amount of temperature compensation which is necessary. For example, Meyer discloses that a transducer fly height might be measured at 2.9 microinches although it is desired to use it at 0.5 microinches. The temperature is adjusted to achieve the fly height of 0.5 microinches. Nevertheless, for purposes of the claimed invention, the 2.9 microinches is the measured fly height and the 0.5 microinches is the threshold height. Meyer must make this comparison in order to determine the amount of temperature adjustment which is necessary to reach the threshold fly height.

We agree with the examiner that this operation fully meets the invention as recited in claim 1.

We now consider the rejection of claims 7-12 under 35 U.S.C. § 103(a) based on Meyer. In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444

(Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole and the relative persuasiveness of the arguments. See Id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976). Only those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered and are deemed to be waived by appellants [see 37 CFR § 1.192(a)].

Representative claim 7 differs from claim 1 in that the threshold height is recited as varying in accordance with a radial position over the disk. The examiner's rejection is again incorporated into the answer from the final rejection. This rejection finds that it would have been obvious to the artisan to use various thresholds to obtain a more precise value of fly height because fly height is known to change based on the radial location of the transducer over the disk. Appellants argue that Meyer does not teach this aspect of the claimed invention. Appellants argue that this concept is not obvious and the examiner has provided no teaching from the prior art [brief, page 5]. The examiner responds that for any given rotational velocity

of the disk, the slider will be slightly closer to the disk at the inner portion than at the outer portion based on air flow. The examiner asserts that the claimed "threshold height varying" limitation is an inherent feature of a flying slider due to the dynamics of a slider/disk interface [answer, pages 5-6].

We will not sustain the rejection of claims 7-12. Although the examiner is correct that the fly height of a transducer will inherently change based on its radial location over the disk, this property is not related to the claimed circuit for determining a threshold height which varies as claimed. Meyer assumes that the fly height is substantially constant over the disk surface. Thus, Meyer is not interested in this inherent fly height property. Although we determined above that Meyer does determine a threshold height when testing the transducers for temperature variation, this determination does not assume any change in threshold height over the disk surface. The examiner has not pointed to any teaching within Meyer which would have suggested to the artisan that the threshold height should vary as claimed.

In summary, we have sustained the examiner's rejection of claims 1-6, but we have not sustained the examiner's rejection of claims 7-12. Therefore, the decision of the examiner rejecting claims 1-12 is affirmed-in-part.

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

AFFIRMED-IN-PART

Kenneth W. Hairston Administrative Patent Judge	)	
Errol A. Krass Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
Jerry Smith Administrative Patent Judge	)	

JS/eld

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