

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 31

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YOICHIRO TANAKA, NORIO NAKAMURA, KAZUNORI MORIYA,
YUJI KUBOTA AND TAKASHI HIKOSAKA

Appeal No. 1997-2848
Application No. 08/444,106

HEARD: April 5, 2000

Before KRASS, RUGGIERO, and DIXON, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 2, 14, and 19 through 33, all of the claims pending in the application. Claims 3 through 13 and 15 through 18 have been canceled.

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The claimed invention relates to a magnetic recording and reproducing system utilizing a magnetic disk and a ring recording head. The size of the gap of the head is defined in terms of the track widths and the coercive force of the magnetic recording medium. More particularly, Appellants indicate at pages 7 and 8 of the specification that the gap size is selected so that a generated side fringe magnetic field erases unwanted signals without erasing data on adjacent tracks.

Claim 1 is illustrative of the invention and reads as follows:

1. A magnetic recording/reproducing system comprising:

a magnetic head member including a ring recording head having a magnetic gap length g and a recording track width T_w and a reproducing head having a reproducing track width T_r ; and

a rotatable magnetic recording disk having recording tracks recorded and reproduced by said magnetic head member,

wherein said magnetic gap length g is expressed by the following inequalities:

$$g < (1500/H_c - H_c/4000\mathbf{B} + 0.3)/(H_c/400\mathbf{B} - 1/2) \text{ and}$$

$$g > (1500/H_c - H_c/4000\mathbf{B} + 0.3 - T_p + T_w) / H_c/400\mathbf{B} - 1/2),$$

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where, T_p is a pitch of said recording tracks of said rotatable magnetic recording disk, and H_c is a coercive force of said magnetic recording disk,

wherein g is selected in the stated range so that the ring recording head generates a side fringe magnetic field, which extends beyond said recording track width T_w , to erase a side-fringe erase region extending outside a selected recording track in said recording disk without erasing data on adjacent tracks of said selected recording track.

The Examiner relies on the following prior art:

Koyama et al. (Koyama) 1992	5,168,409	Dec. 01,
Suyama (European) 1993	EP0521442	Jan. 07,

Claims 1, 2, 14, and 19-33 stand finally rejected under 35 U.S.C. § 103 as being unpatentable over Koyama in view of Suyama.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs¹ and Answer for the respective details.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the Examiner, the arguments

¹ The Appeal Brief was filed August 7, 1996. In response to the Examiner's Answer dated January 27, 1997, a Reply Brief was filed February 10, 1997 which was acknowledged and entered by the Examiner without further comment on May 13, 1997.

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in support of the rejection and the evidence of obviousness relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Briefs 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 and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention set forth in claims 1, 2, 14, and 19 through 33. Accordingly, we reverse.

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

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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 Hospital Systems, Inc. v. Montefiore Hospital, 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part

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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).

With respect to independent claims 1, 19, and 20, the Examiner, as the basis for the obviousness rejection, proposes to modify the recording and reproducing system disclosure of Koyama which the Examiner asserts discloses a ring recording head having a magnetic gap length g . As recognized by the Examiner (Answer, pages 3 and 4), Koyama lacks a teaching of selecting the gap length g so that the recording head generates a side fringe magnetic field which extends beyond the width of the recording track. To address this deficiency, the Examiner turns to Suyama which describes a recording head having a recording track narrower than a reproducing track and which generates side fringe magnetic fields extending outside a selected recording track. In the Examiner's line of reasoning, the skilled artisan would have found it obvious to modify the recording head of Koyama so as to

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produce side fringe magnetic fields as taught by Suyama to suppress the variations in reproducing output and thereby improve the reproducing output characteristics (Answer, page 5).

In response, Appellants have not attacked the combinability of Koyama and Suyama but, rather, assert the deficiency of either reference in disclosing the claimed limitations specifically setting forth the inequality relationship which defines the size of the magnetic gap g . After careful review of the arguments of record in light of the prior art, we are in agreement with Appellants' position as stated in the Briefs. We can find no discussion in either Koyama or Suyama which is directed to the size of the magnetic gap length of the recording head let alone any disclosure of any specific inequality relationship between gap length and other variables such as recording width as claimed.

We note that the Examiner, apparently recognizing the paucity of disclosure relating to magnetic gap length in either Koyama or Suyama, initially suggests (Answer, page 5) the inherency of the claimed gap length inequalities due to the similarities in structure between the claimed structure

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and that of the applied prior art. In the alternative, the Examiner

further asserts the obviousness to the skilled artisan of obtaining the claimed inequalities defining the recording head gap length through routine experimentation and optimization since Appellants have not provided a showing of criticality of such inequalities. We find neither contention of the Examiner to be well founded. The Examiner has provided no support on the record for the conclusion that the resulting combination of Koyama and Suyama would have an identical structure to that claimed, let

alone any reasoning as to why any such resulting structure would inherently have the claimed inequalities even if the structure were identical. To establish inherency, evidence must make clear that the missing descriptive matter is necessarily present in the thing described in the reference and would be recognized as such by persons of ordinary skill.

In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) citing Continental Can Co. v. Monsanto Co., 948 F.2d 1264, 1268, 20 USPQ2d 1746, 1749 (Fed. Cir. 1991).

"Inherency, however, may not be established by probabilities

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or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient."

Id. citing Continental, 948 F.2d at 1269,
20 USPQ2d at 1749.

Similarly, we find the Examiner's conclusion as to the obviousness of obtaining the claimed magnetic gap inequalities to be lacking in any evidentiary support to establish a prima facie case of obviousness. As to the Examiner's insistence on a showing of criticality of the particular inequality limitations, we find ample disclosure at pages 15 and 16 of Appellants' specification to support such criticality. It is our view, however, that, absent any disclosure in the prior art references of any relationship of gap length to side fringe magnetic fields or recording track width, the Examiner's attempt to shift the burden to Appellants to supply evidence of criticality is misplaced. We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference, common knowledge or capable of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a prima facie case. In re

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Knapp-Monarch Co., 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); In re Cofer, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966).

Since all of the claim limitations are not taught or suggested by the applied prior art, it is our opinion that the Examiner has not established a prima facie case of obviousness with respect to the claims on appeal. Accordingly, we do not sustain the Examiner's 35 U.S.C. § 103 rejection of independent claims 1, 19, and 20 nor of claims 2, 14, and 21 through 33 dependent thereon. Therefore, the Examiner's decision rejecting claims 1, 2, 14, and 19 through 33 is reversed.

REVERSED

ERROL A. KRASS)	
Administrative Patent Judge)	
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)	
)	
)	BOARD OF PATENT
JOSEPH F. RUGGIERO)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES

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APJ RUGGIERO

APJ KRASS

APJ DIXON

DECISION: REVERSED
Send Reference(s): Yes No
or Translation (s)
Panel Change: Yes No
Index Sheet-2901 Rejection(s):

Prepared: December 8, 2000

Draft Final

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OB/HD GAU

PALM / ACTS 2 / BOOK
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