

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. 23

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MAKOTO NAKAYAMA

Appeal No. 1999-2276
Application 08/785,802

ON BRIEF

Before JERRY SMITH, BARRETT, and FLEMING, ***Administrative Patent Judges***

FLEMING, ***Administrative Patent Judge.***

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 1 and 3-5, all the claims pending in the instant application. Claim 2 has been cancelled.

The instant invention relates to a composite magnetic head assembly having a write/read (W/R) head and an erase head.

Appellant's specification ("Specification"), page 1, lines 1-4. The invention's magnetic head assembly for a flexible disk drive is capable of preventing the erasure of data beyond a predetermined erasure width. Specification, page 2, lines 7-11. In a conventional assembly, the W/R track width and erase track widths are defined only by the L-shaped core of the erase head. Specification, page 4, lines 21-24. Hence, magnetic fluxes from the erase gaps extend to the outside of the erase track widths and erase data over more than a predetermined width. Specification, page 4, line 24, to page 5, line 3. As a result, the reproduction output is lowered. Specification, page 5, lines 3-5.

As reproduced below in Appellant's Figures 2A and 2B, the magnetic head assembly 40 of the present invention has a W/R head 50 made up of an L-shaped core 51 and an I-shaped core 52 and an erase head 60 made up of an L-shaped core 61 and an I-shaped core 62. The cores 51 and 52 are chamfered (grooved) to provide a W/R width 53 while the core 62 is chamfered to provide e r a s e t r a c k widths 63a and 63b and a W/R track width 64. The L-shaped core 61 of the erase head 60 is not chamfered. Specification, page

Appeal No. 1999-2276
Application 08/785,802

5, lines 8-24. Therefore, the erase track widths 63a and 63b
a n d W / R
track width 64 are defined only by the I-shaped core 62.

FIG. 2A

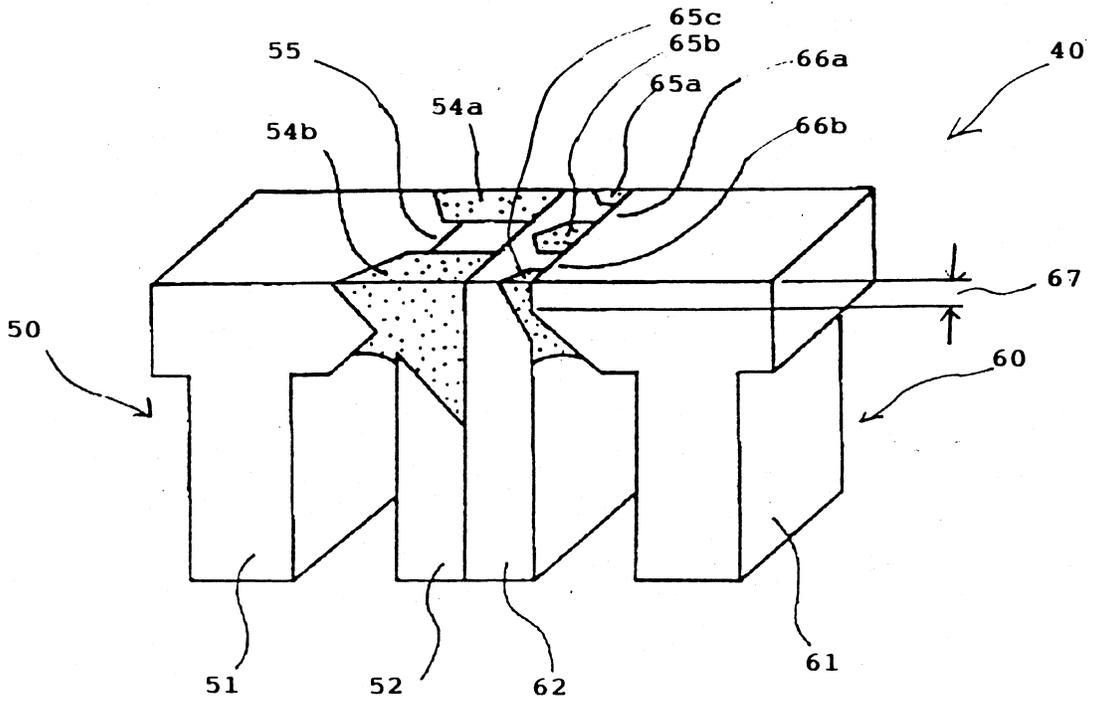
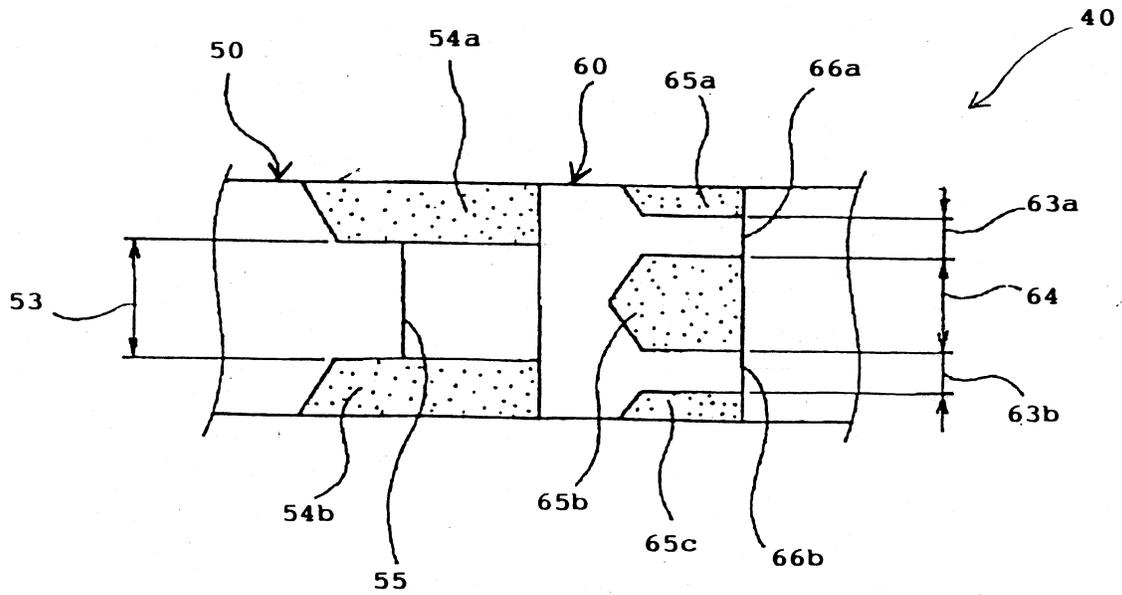


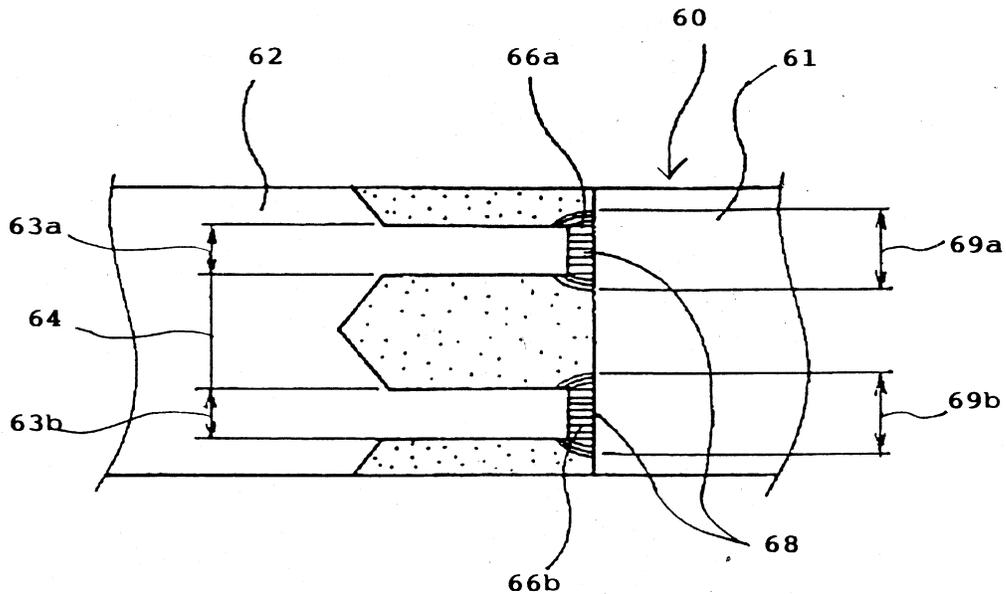
FIG. 2B



Specification, page 6, lines 1-4. There is also a W/R gap 55 included in the W/R head 50, erase gaps 66a and 66b included in the erase head 60, and an erase gap depth 67 defined in the core 61. Specification, page 6, lines 1-4.

When the erase head 60 is operated, a magnetic flux is formed from each of the erase gaps 66a and 66b defined by the cores 61 and 62. Specification, page 6, lines 5-7. As shown below in Fig. 3, the magnetic fluxes extend beyond erase track widths 63a and 63b over widths 69a and 69b which are broader than the erase track widths 63a and 63b. Specification, page 6, lines 7-10.

FIG. 3



In the present invention, the magnetic head assembly cores are chamfered so as to correct the extension of magnetic fluxes from erase gaps. Specification, page 7, lines 19-22. The assembly ensures an optimal track width and an optimal erase track width without increasing the amount of data to be erased. Specification, page 7, lines 22-24.

Appellant's representative claim 1 recites as follows:

1. A magnetic head assembly for erasing a first predetermined erase track width, and for leaving a first predetermined write/read track width, the assembly comprising:

a write/read head comprising a pair of first cores adhered to each other and having a coil opening, said write/read head having a first groove defining a write/read width; and

an erase head comprising a pair of second cores adhered to each other and having a coil opening, only one of said pair of second cores having second grooves defining a write/read track width and two erase track widths, said second grooves of said erase head being formed in one of said pair of second cores which most closely adjoins said pair of first cores of said write/read head so that the first predetermined write/read track width is less than said write/read track width by a defined distance and so that the first predetermined erase track width is greater than

Appeal No. 1999-2276
Application 08/785,802

each of said two erase track widths by said defined distance;

said write/read head and said erase head being constructed integrally with each other.

In rejecting Appellant's claims, the Examiner relies on Appellant's admitted prior art (APA) and the following reference:

Mori	JP 3-173,908	Jul. 29, 1991
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Claims 1 and 3-5 stand rejected under 35 U.S.C. § 103(a) as being obvious over Appellant's APA and Mori. Rather than repeat the arguments of the Appellant and Examiner, we refer the reader to the Appellant's Brief¹ and Examiner's Answer² for the respective details thereof.

OPINION

¹Appellant filed an Appeal Brief ("Brief") on February 8, 1999.

²The Examiner, in response to Appellant's Brief, filed an Examiner's Answer on March 15, 1999.

Appeal No. 1999-2276
Application 08/785,802

With full consideration being given the subject matter on appeal, the Examiner's rejection and the arguments of Appellant and Examiner, for the reasons stated *infra*, we will reverse the Examiner's rejection of claims 1 and 3-5 under 35 U.S.C. § 103(a) as unpatentable over Appellant's admitted prior art and Mori.

In rejecting claims under 35 U.S.C. § 103, the Examiner bears the initial burden of establishing a *prima facie* case of obviousness. ***In re Oetiker***, 977 F.2d 1443, 1445, 24 USPQ 1443, 1444 (Fed Cir. 1992). ***See also In re Piasecki***, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed Cir. 1984). The Examiner can satisfy this burden by showing that some objective teaching in the prior art or knowledge generally available to one of ordinary skill in the art suggests the claimed subject matter. ***In re Fine***, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). Only if this initial burden is met does the burden of coming forward with evidence or argument shift to the Appellants. ***Oetiker***, 977 F.2d at 1445, 24 USPQ at 1444. ***See also Piasecki***, 745 F.2d at 1472, 223 USPQ at 788 ("After a

prima facie case of obviousness has been established, the burden of going forward shifts to the applicant.").

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. **See Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444 ("In reviewing the examiner's decision on appeal, the Board must necessarily weigh all of the evidence and argument."). With these principles in mind, we now turn to consider Appellant's claims in conjunction with Appellant's drawings reproduced herein for quick reference.

Appellant first revisits the problem with the APA and states that in the APA the claimed "defined distance" could not be defined; the magnetic flux extended into the core a much longer distance and expanded to a greater width than shown in Figure 3 (which shows the extension of the flux in core 62 of the present invention). Brief at page 5, lines 3-9. Continuing, the Appellant states that the distance that the flux influenced the recording medium and the width to which the influence extended could not be controlled and therefore was not definable. Brief at page 5, lines 9-11. By moving the grooves to the core 62, the inventor found that the distance could be controlled and

Appeal No. 1999-2276
Application 08/785,802

defined. Brief at page 5, lines 12-13. In conclusion, the Appellant argues that nothing in the APA suggests moving the grooves to the core. Brief at page 5, line 14. Moreover, Appellant argues that the Mori prior art does not recognize the connection between moving the grooves to the core 62, and controlling and defining the distance. Brief at page 5, lines 15-16.

The Examiner, after reviewing Appellant's Figures 1A and 1B and Mori's Figure, concludes that it would have been obvious to one of ordinary skill in the art at the time the invention was made "to provide the magnetic head assembly of AAPA [Appellant's Admitted Prior Art] with grooves in the erase head in one of the pair of the second cores most closely adjoining the pair of first cores of the read/write head as taught by Mori." Examiner's Answer at page 5, lines 13-16. The Examiner provides the rationale to support the conclusion and states:

[O]ne of ordinary skill in the art at the time the invention was made would have been motivated to provide a magnetic head assembly with grooves in the erase head in one of the pair of second cores most closely adjoining the pair of first cores of the read/write head so as to 'reduce the cost of machining and the cost of a product by providing track regulating grooves by chemical etching only

Appeal No. 1999-2276
Application 08/785,802

in the I-shaped core between two magnetic cores.' See the Abstract of Mori.

Examiner's Answer at page 5, line 17, to page 6, line 2.

We find that the Examiner has failed to establish a *prima facie* case of obviousness. The plain language of Appellant's claim 1 requires the limitation of "said second grooves of said erase head being formed in one of said pair of second cores which most closely adjoins said pair of first cores of said write/read head." (emphasis added). Neither Appellant's APA nor Mori teaches or suggests this structural limitation. Furthermore, considering either prior art reference singularly or in combination, we do not find that this limitation would have been obvious to one of ordinary skill in the art at the time Appellant's invention was made.

Because the APA and Mori lack this essential structural limitation, they necessarily lack the other related limitations which follow from its premise. Specifically, neither the APA nor Mori teaches or suggests that "the first predetermined write/read track width is less than said write/read track width by a defined distance"; neither prior art teaches or suggests

Appeal No. 1999-2276
Application 08/785,802

"the first predetermined erase track width is greater than each of said two erase track widths by said defined distance."

When an obviousness determination is based on multiple prior art references, there must be a showing of some "teaching, suggestion, or reason" to combine the references. **Winner Int'l Royalty Corp. v. Wang**, 202 F.3d 1340, 1348, 53 USPQ2d 1580, 1586 (Fed. Cir. 2000). The Federal Circuit further instructs that "[t]he mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." **In re Fritch**, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992), **citing In re Gordon**, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). It is further established that "such a suggestion may come from the nature of the problem to be solved, leading inventors to look to references relating to possible solutions to that problem." **Pro-Mold & Tool Co. v. Great Lakes Plastics, Inc.**, 75 F.3d 1568, 1573, 37 USPQ2d 1626, 1630 (Fed. Cir. 1996), **citing In re Rinehart**, 531 F.2d 1048, 1054, 189 USPQ 143, 149 (C.C.P.A. 1976)(considering the problem

Appeal No. 1999-2276
Application 08/785,802

to be solved in a determination of obviousness). The Federal Circuit reasons in ***Para-Ordnance Mfg. Inc. v. SGS Importers Int'l Inc.***, 73 F.3d 1085, 1088-89, 37 USPQ2d 1237, 1239-40 (Fed. Cir. 1995), that for the determination of obviousness, the court must answer whether one of ordinary skill in the art who sets out to solve the problem and who had before him in his workshop the prior art, would have been reasonably expected to use the solution that is claimed by the Appellants. However, "[o]bviousness may not be established using hindsight or in view of the teachings or suggestions of the invention." ***Para-Ordnance***, 73 F.3d at 1087, 37 USPQ2d at 1239, ***citing W.L. Gore & Assocs., Inc. v. Garlock, Inc.***, 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13. In addition, our reviewing court requires the PTO to make specific findings on a suggestion to combine prior art references. ***In re Dembiczak***, 175 F.3d 994, 1000-01, 50 USPQ2d 1614, 1617-19 (Fed. Cir. 1999). "The combination of elements from non-analogous sources, in a manner that reconstructs

Appeal No. 1999-2276
Application 08/785,802

the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness." **In re Oetiker**, 977 F.2d at 1447, 24 USPQ2d at 1446.

In accordance with our finding that the Examiner has failed to establish a *prima facie* case of obviousness, we reverse the rejection of claim 1 and dependent claims 3-5 under 35 U.S.C. § 103(a) as unpatentable over the APA and Mori.

REVERSED

JERRY SMITH)	
Administrative Patent Judge)	
)	
)	
)	BOARD OF PATENT
LEE E. BARRETT)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
MICHAEL R. FLEMING)	
Administrative Patent Judge)	

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Appeal No. 1999-2276
Application 08/785,802

ROBERT J. PATCH
YOUNG & THOMPSON
745 SOUTH 23RD STREET
ARLINGTON, VA 22202