

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(2) is not binding precedent of the Board.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. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RICHARD F. HARWOOD,
FERDINAND HENDRIKS and CHRISTOPHER G. KELLER

Appeal No. 1996-1309
Application 08/053,174¹

ON BRIEF

Before KRASS, FLEMING and HECKER, ***Administrative Patent Judges.***

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

DECISION ON APPEAL

¹ Application for patent filed April 26, 1993.

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This is a decision on appeal from the final rejection of claims 21 through 30, the only claims pending in the application. Claims 1 through 20 have been cancelled.

The invention relates to direct access type magnetic storage systems including rigid disk drive systems and contact type read/record systems (e.g., floppy or diskette systems). More particularly, the invention relates to apparatus for increasing fly height between a read head or slider and the recording media when positioned over a modified zone on the surface of the recording media.

Independent claim 21 is reproduced as follows:

21. A direct access storage system comprising:

a disk drive having a first annular surface adapted for rotation;

a transducer head mounted to a slider having an air bearing surface facing said first annular surface wherein lift is generated upon relative movement of said slider and said first annular surface;

a data storage region within said first annular surface, said data storage region having a substantially smooth surface wherein a selected amount of lift is generated upon relative movement of said slider and said data storage region; and

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an idling region within said first annular surface, said idling region having a plurality of depressions therein wherein an amount of lift greater than said selected amount of lift is generated upon relative movement of said slider and said idling region, resulting in a greater separation between said transducer head and said first annular surface within said idling region.

The Examiner relies on the following references:

Ono et al. (Ono) 1983	4,366,993	Jan. 4,
Doerner et al. (Doerner) 1994	5,302,434	Apr. 12,
		(filed Aug. 7,
		1992)
Kato 1989 (Japanese Kokai)	1-98118	Apr. 17,
Samoto 1992 (Japanese Kokai)	4-387716	Feb. 7,

Claim 21 stands rejected under 35 U.S.C. § 102 as being anticipated by Kato. Claims 22 through 26 and 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kato and Samoto. Claim 27 stands rejected under 35 U.S.C. § 103 as being unpatent-

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able over Kato and Ono. On page 6 of the Examiner's answer, the Examiner sets forth a new ground of rejection in which claims 29 and 30 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kato and Doerner.

Rather than repeat the arguments of Appellants or the Examiner, we make reference to the briefs² and answers³ for the details thereof.

OPINION

After a careful review of the evidence before us, we agree with the Examiner that claim 21 is properly rejected under 35 U.S.C. § 102 and that claims 22, 23 and 26 are properly rejected under 35 U.S.C. § 103. Thus, we will sustain

² Appellants filed an appeal brief on February 24, 1995. Appellants filed a reply brief on July 10, 1995. On August 7, 1995, the Examiner mailed a communication stating that the reply brief has been entered and considered but no further response by the Examiner is deemed necessary.

³ The Examiner filed an Examiner's answer on May 26, 1995. The Examiner filed a supplemental Examiner's answer on November 17, 1998.

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the rejection of these claims but we will reverse the rejection of the remaining claims on appeal for the reasons set forth *infra*.

Turning first to the rejection of claim 21 under 35 U.S.C. § 102, Appellants point out on page 6 of the brief that claim 21 expressly sets forth a disk drive which includes a data storage region having a substantially smooth surface "when a selected amount of lift is generated upon relative movement of said slider in said data storage region . . ." and an idling region having a plurality of depressions therein "wherein an amount of lift greater than the selected amount of lift is generated upon relative movement of said slider in said idling region, resulting in a greater separation between said transducer head and said first annular surface within said idling region."

Appellants argue on page 7 that Kato alone does not anticipate that the amount of lift generated within the data storage region is less than the amount of lift generated in the idle region.

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It is axiomatic that anticipation of a claim under § 102 can be found only if the prior art reference discloses every element of the claim. **See *In re King***, 801 F.2d 1324, 1326, 231 USPQ 136, 138 (Fed. Cir. 1986) and ***Lindemann Maschinenfabrik GMBH v. American Hoist & Derrick Co.***, 730 F.2d 1452, 1458, 221 USPQ 481, 485 (Fed. Cir. 1984). "Anticipation is established only when a single prior art reference discloses, expressly or under principles of inherency, each and every element of a claimed invention." ***RCA Corp. v. Applied Digital Data Sys., Inc.***, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984), ***cert. dismissed***, 468 U.S. 1228 (1994), ***citing Kalman v. Kimberly-Clark Corp.***, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), ***cert. denied***, 465 U.S. 1026 (1984). The prior art disclosure need not be expressed in order to anticipate. ***Standard Havens Prods., Inc. v. Gencor Indus., Inc.***, 953 F.2d 1360, 1369, 21 USPQ2d 1321, 1328 (Fed. Cir.), ***cert. denied***, 506 U.S. 817 (1992).

We note that Appellants' claim 21 recites a direct access storage system. On page 3 of the Examiner's answer,

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the Examiner has shown that Kato teaches all the structural limitations recited in Appellants' claim 21. Our reviewing court states:

[I]t is elementary that the mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to those things to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

In re Ludtke, 441 F.2d 660, 664, 169 USPQ 563, 566 (CCPA 1971),

citing In re Swinehart, 439 F.2d 210, 212-13, 169 USPQ 226, 229

(CCPA 1971).

Appellants' argument that Kato does not expressly teach that the amount of lift generated within the data storage region is less than the amount of lift generated within the idle region is an inherent property possessed by the structure set forth in Kato. We find that the Examiner

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has shown that there are reasons to believe that this functional limitation asserted in claim 21 is an inherent characteristic of Kato. Therefore, we find that it is the burden of the Appellants to come forward with evidence to prove that the subject matter shown in the prior art does not possess the characteristic relied on by the Examiner.

Therefore,

we will sustain the Examiner's rejection of claim 21 as being anticipated by Kato.

Claims 22 through 26 and 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kato and Samoto.

We note that Appellants have indicated on page 5 of the brief that claims 21 through 23 stand or fall together. We note that Appellants have not argued the claims separately. 37 CFR § 1.192(c)(7) (July 1, 1995) **as amended at** 60 Fed. Reg. 14518 (March 17, 1995), which was controlling at the time of Appellants' filing the brief, states:

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For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable.

Appellants have provided a statement that the claims stand or fall together. We will, thereby, consider the Appellants' claims as standing or falling together as a group.

On page 8 of the brief, Appellants argue that nowhere within Samoto is there the slightest suggestion of the relation-
ship between lift generated within a data storage region and the lift generated in the idle region in the manner which is expressly set forth within claims 21 through 23. We have shown above that Kato teaches all the structure as recited in

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Appellants' claim 21 and that it was reasonable for the Examiner to believe that the lift generated within the data storage region is less than the lift generated within the idle region. Therefore, we will sustain the Examiner's rejection of claims 22 and 23 as being unpatentable over Kato and Samoto.

Appellants argue on page 8 of the brief that claim 24 recites the provision of a plurality of channels grouped on a radially inward portion of the disk wherein each channel has a selected depth which is greater than the depth of an adjoining channel which is radially outward from the channel wherein a transition region is provided between the outer region and the storage region. Appellants argue that neither Kato nor Samoto teaches or suggests this above limitation as set forth within claim 24.

Appellants also argue that claim 25 recites the provisions of a plurality of channels grouped on a radially inward portion of the annular surface wherein each channel has a selected width and wherein the width of a particular channel

is greater than the width of an adjoining channel and is radially outward therefrom, providing a transition region between the idle region and the data storage region. Appellants argue that neither Kato nor Samoto teaches or suggests the above limitation as recited in Appellants' claim 25.

On page 5 of the Examiner's answer, the Examiner states that neither Kato nor Samoto shows the specific arrangement of grooves becoming either deeper or wider as the grooves approach the inside of the disk. The Examiner argues that this feature would be a matter of routine experimentation and optimization for those skilled in the art.

The Examiner has failed to set forth a *prima facie* case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by implications contained in such teachings or suggestions. *In re Sernaker*, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983). "Additionally, when

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determining obviousness, the claimed invention should be considered as a whole; there is

no legally recognizable 'heart' of the invention." **Para-Ordnance Mfg. v. SGS Importers Int'l, Inc.**, 73 F.3d 1085, 1087, 37 USPQ2d 1237, 1239 (Fed. Cir. 1995), **cert. denied**, 519 U.S. 822 (1996) **citing W. L. Gore & Assoc., Inc. v. Garlock, Inc.**, 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), **cert. denied**, 469 U.S. 851 (1984). "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." **Para-Ordnance Mfg.**, 73 F.3d at 1087, 37 USPQ2d at 1239, **citing W. L. Gore**, 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-313.

We fail to find any teaching or suggestion in either Kato or Samoto that would have led those skilled in the art to provide a plurality of channels that are grouped on a radially inward portion of said annular surface and wherein the channels have a selected depth which is greater than the depth of the adjoining channel which is radially outward therefrom

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wherein a transition region between the idling region and the data storage region is provided as recited in Appellants' claims 24 and 25. Therefore, we will not sustain the Examiner's rejection of claims 24 and 25 under 35 U.S.C. § 103.

On page 9 of the brief, Appellants argue that neither Samoto nor Kato shows or suggests the provision of rails which

generate an increase in pressure as set forth within Appellants' claim 26. On page 9 of the Examiner's answer, the Examiner maintains that this feature is shown by Samoto in Figure 1 as rails 4a. We agree and thereby affirm the Examiner's decision to reject claim 26 under 35 U.S.C. § 103.

Appellants argue that claim 28 recites the provision of a plurality of indentations which run substantially transverse to the direction of rotation of the first annular surface. Appellants argue that neither Kato nor Samoto teaches or suggests this limitation.

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On page 9 of the answer, the Examiner argues that Figure 5 of Samoto shows a conventional disk wherein abrasive tape was used to create a rough surface so that the slider would not stick to the disk surface. The Examiner argues that Samoto shows a plurality of indentations caused by the abrasive tape which would run in any direction based on the indentation's random placement by the abrasive tape.

We note that claim 28 recites not a random placement of indentations but a particular geometry of the indentations. In particular, claim 28 recites said plurality of depressions comprising a plurality of indentations running substantially

transverse to the direction of rotation of said first annular surface. We fail to find that the random placement of the indentations by the abrasive tape as taught by Samoto meets this limitation.

Claim 27 stands rejected under 35 U.S.C. § 103 as being unpatentable over Kato and Ono. Appellants argue that Ono does not suggest Appellants' claimed limitation of a

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plurality of depressions comprising a plurality of indentations arranged in a herringbone pattern as recited in Appellants' claim 27. In our review of Ono, we find that Ono teaches a bearing which utilizes pressurized gas applied to a plurality of annular space ports to support rotation of a rotary shaft. We agree that Ono teaches the pattern is a herringbone pattern, however, we fail to find that this pattern in any way is adjusted to be used in Kato's reference. The Federal Circuit states 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 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), **citing In re Gordon**, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Therefore, we fail to find

any reason that is suggested in the prior art to modify Kato to provide a herringbone pattern as recited in Appellants' claim 27.

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Claims 29 and 30 stand rejected under 35 U.S.C. § 103 as being unpatentable over Kato and Doerner. In the reply brief, Appellants argue that Doerner's teaching in column 1, lines 58 through 61, that the disk must be extremely smooth is a teaching away from combining the teachings of Doerner with Kato. We agree. We fail to find any reason to modify Kato with Doerner's teaching when Doerner is expressly teaching that the disk surfaces must be extremely smooth, which is counter to Kato's teaching to increase the roughness of a portion of the disk.

In view of the foregoing, the decision of the Examiner rejecting claim 21 under 35 U.S.C. § 102 and claims 22, 23 and 26 under 35 U.S.C. § 103 is affirmed; however, the decision of the Examiner rejecting claims 24, 25 and 27 through 30 under 35 U.S.C. § 103 is reversed.

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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

	ERROL A. KRASS)	
	Administrative Patent Judge)	
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)	
)	BOARD OF
PATENT)	
	MICHAEL R. FLEMING)	APPEALS AND
	Administrative Patent Judge)	
INTERFERENCES)	
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