

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(2) is not binding precedent of the Board.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. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

Ex parte LOWELL J. BERG, WILLIAM W. BROOKS,  
JEROME T. COFFEY, DANIEL L. GOOD, RICHARD  
GREENBERG, PETER M. HERMAN, JOHN C. JANS SR.,  
KENNETH W. MEYER, JERRY L. NEUBAUER, JOHN R.  
REIDENBACH, STEVEN H. VOSS, DONALD J. WANEK,  
and WALTER E. ZAHN

---

Appeal No. 96-2181  
Application 07/963,440<sup>1</sup>

---

ON BRIEF

---

Before MARTIN, FLEMING, and HECKER, Administrative Patent  
Judges.

HECKER, Administrative Patent Judge.

---

<sup>1</sup> Application for patent filed October 19, 1992.

Appeal No. 96-2181  
Application No. 07/963,440

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 3 through 13, 16, 17 and 19 through 28, all of the claims pending in the present application. Claims 2, 14, 15, 18, 29 and 30 have been canceled.

The invention (shown in Figure 1) relates to a low profile, high capacity disk drive (10) including a plurality of disk surfaces (20) mounted in parallel for simultaneous rotation about an axis. Each of a plurality of data transducer heads (22), for reading and/or writing data to the data surfaces (20), is attached to a slider (52 in Figure 5). A supporting arm (32), for moving the data transducer heads in a radial direction across the disk surfaces, is attached to a suspension load beam (50). The suspension load beam (50) includes a load dimple (74 in Figure 5) bearing on the slider (52). Figure 6 shows a flexible cable interconnect (54) which is used, instead of wires, for electrical connection to the transducer heads (22). As shown in Figure 8, the dimple 74 extends through the flexure cable (54), bearing directly on the slider. Additional features of the supporting arms,

Appeal No. 96-2181  
Application No. 07/963,440

suspension load beams and disk drive housing are described,  
but need not be discussed for disposition of this appeal.

Representative independent claim 1 is reproduced as  
follows:

1. A data storage disk drive comprising:

a plurality of disk surfaces mounted in parallel for  
simultaneous rotation about an axis;

a plurality of data transducer heads for reading  
and/or writing data to said disk surfaces; each data  
transducer head attached to a slider and disposed adjacent a  
respective one of said disk surfaces;

an actuator for moving said data transducer heads in  
a radial direction across said disk surfaces; said actuator  
including;

a series of supporting arms;

at least one suspension load beam attached to each  
said supporting arm; said suspension load beam connecting said  
supporting arm to said slider; said suspension load beam  
including a load dimple bearing in direct engagement with said  
slider and having opposed stiffening flanges extending toward  
said respective disk surface in a plane adjacent said slider;  
and

a flexible cable interconnect attached to said  
suspension load beam and coupled to said data transducer head,  
said load dimple extending through said flexible cable  
interconnect, said flexible cable interconnect defining at

Appeal No. 96-2181  
Application No. 07/963,440

least one flexure element for positioning said slider in a flying plane relative to said disk surface and providing slider gimbaling function, whereby a separate flexure element is eliminated.

The Examiner relies on the following references:

Wright 1989	4,805,055	Feb. 14,
Hinlein 1990	4,912,583	Mar. 27,
Erpelding et al. (Erpelding) 26, 1991	4,996,623	Feb.
McAllister et al. (McAllister) 1991	4,999,724	Mar. 12,
Hsu 1992	5,121,296	Jun. 9,
Foote et al. (Foote) 1993	5,184,265 (filed Jun. 10, 1991)	Feb. 2,
Blaeser et al. (Blaeser)	5,187,625	Feb.

Appeal No. 96-2181  
Application No. 07/963,440

16, 1993  
1991)

(filed Jan. 22,

Claims 1, 3 through 5, 7 through 13, 16 and 17 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wright in view of Blaeser, Hinlein and Erpelding. Claim 6 stands rejected under 35 U.S.C. § 103 as being unpatentable over Wright, Hinlein and Erpelding in view of Foote. Claims 19 through 25 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wright, Blaeser, Hinlein and Hsu. Claims 26 through 28 stand rejected under 35 U.S.C. § 103 as being unpatentable over Wright, Blaeser, Hinlein and Hsu in view of McAllister.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the brief and answer for the respective details thereof.

#### OPINION

We will not sustain the rejection of claims 1, 3 through 13, 16, 17 and 19 through 28 under 35 U.S.C. § 103.

The Examiner has failed to set forth a ***prima facie***

Appeal No. 96-2181  
Application No. 07/963,440

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 reasonable teachings or suggestions found in the prior art, or by a reasonable inference to the artisan contained in such teachings or suggestions.

In re Sernaker, 702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983).

With regard to the rejection of claim 1 under 35 U.S.C. § 103 as being unpatentable over Wright in view of Blaeser, Hinlein and Erpelding, Appellants argue on page 12 of the brief that "The cited references provide no hint of the claimed arrangement including a suspension load beam with a load dimple bearing in direct engagement with a slider and extending through a flexible cable interconnect." (emphasis added).

Reviewing claim 1 we find "said suspension load beam including a load dimple bearing in direct engagement with said slider..."(lines 14-16), and "said load dimple extending through said flexible cable interconnect,..." (lines 21 and 22).

Appeal No. 96-2181  
Application No. 07/963,440

The Examiner recites "Hinlein shows (in Figures 4, 6, 7 and 10) an improved suspension load beam (14) having a load dimple (17) bearing in direct engagement with the slider (see Figure 4) and ..." (Answer at pages 5 and 6).

In their reply brief (top of page 2), Appellants argue:

The Examiner's analysis of Hinlein is incorrect. Hinlein does not teach a suspension load beam having a load dimple bearing in direct engagement with the slider as recited in each of the independent claims 1, 11 and 19.

In the detachable load beam slider arm 14 disclose[d] by Hinlein, a magnetic head 12 is secured to a slider 16 by a gimbal mechanism 17. Column 4, lines 14-19. The magnetic head 12 is allowed to move on the gimbal 17. Column 5, lines 26-27. The gimbal 17 is not the load dimple as claimed in the present application. [Emphasis added.]

Reviewing Appellants' citations to Hinlein, and noting corresponding Figure 4, we see that gimbal 17 is indeed located between slider 16 and magnetic head 12 (unlabeled in this figure). Therefore gimbal 17 is separate from the load beam and does not meet the claim limitation of the load beam's dimple (claim language--"load beam including a load dimple") being in direct engagement with the slider.

Appeal No. 96-2181  
Application No. 07/963,440

In further response, the Examiner explains:

Although the specification is largely silent [as] to the arrangement and makeup of the element 17, Figures 2 and 4 would have been seen by one of ordinary skill in the art as clearly suggesting a dimple arrangement which bears in direct contact with the slider. This arrangement is well known and has been documented in other prior art as well - see Mitsubishi Electric Corp (JP 3-16069, Figure 2b) and Matsushita Electric Ind Co LTD (JP 3-201281, Figures 1-6). (Supplemental Examiner's at pages 1 and 2.)

Although the Examiner makes reference to additional art, we find none of the applied references make this suggestion. Furthermore, our reviewing court has stated that where a reference is relied on to support a rejection, whether or not in a minor capacity, there would appear to be no excuse for not positively including the reference in the statement of the rejection. In re Hoch, 428 F.2d 1341, 1342, 166 USPQ 406, 407 (CCPA 1970).

The Examiner has applied several secondary references which may or may not meet most of the claim limitations, however we find that the "load beam including a load dimple bearing in direct engagement with said slider" of

Appeal No. 96-2181  
Application No. 07/963,440

claim 1 has not been met. "Additionally, when 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)(citing W. L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)). We will therefore not sustain the rejection of claim 1, and thereby the rejection of its dependent claims 3 through 10.

Remaining independent claims 11 and 19 on appeal also contain the above limitations discussed with regard to claim 1.

Claim 11 recites "a load dimple formed in said suspension load beam extending through said flexible signal cable and bearing on each slider." Claim 19 recites "said suspension load beam including a load dimple bearing in direct engagement with said slider." Therefore we will not sustain the rejection of independent claims 11 and 19 or the rejection of their

Appeal No. 96-2181  
Application No. 07/963,440

dependent claims 12, 13, 16, 17 and 20 through 28.

We have not sustained the rejection of claims 1, 3 through 13, 16, 17 and 19 through 28 under 35 U.S.C. § 103. Accordingly, the Examiner's decision is reversed.<sup>2</sup>

REVERSED

John C. Martin )  
Administrative Patent Judge )  
)  
)  
) BOARD OF  
PATENT )

---

<sup>2</sup> We note that there is no antecedent for "said 9 head arm suspension assemblies" recited in claim 16.

Appeal No. 96-2181  
Application No. 07/963,440

Michael R. Fleming ) APPEALS AND  
Administrative Patent Judge )  
 ) INTERFERENCES  
 )  
 )  
Stuart N. Hecker )  
Administrative Patent Judge )

dm

Joan Pennington  
Mason, Kolehmainen, Rathburn & Wyss  
Suite 2400  
300 South Wacker Drive  
Chicago, IL 60606