

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. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STANLEY C. SMITH, JR.

Appeal No. 2001-1094
Application 09/237,578

ON BRIEF

Before FLEMING, LALL and GROSS, **Administrative Patent Judges**.

FLEMING, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of
claims 1-6 and 9-11.

The invention relates to a glide head structure adapted
for use with a system for testing moving surfaces to detect the
presence of asperities. See Appellant's specification on page 1,
lines 8-9. The glide head structure (50) includes a slider (60)
that projects downwardly from a tongue (44) and a piezoelectric

transducer (70) which is secured to a sidewall surface (65) of the slider (60) and projects outwardly. See Appellant's specification on page 11, lines 19-23.

Independent claim 1 present in the application is representative and reproduced as follows:

1. A glide head assembly associated with a mounting structure and adapted for use with a test system for detecting a presence of asperities on a moving surface, wherein the test system includes a signal processor operative to process an electronic signal generated in response to the presence of an asperity, said glide head assembly comprising:

(a) an elongated flexure having a longitudinal axis and including a first end portion attachable to said mounting structure and a second end portion opposite said first end portion, said second end portion adapted to be positioned in proximity to the moving surface when in an operative state;

(b) a slider disposed on said second end portion, said slider having a first surface facing the moving surface when in the operative state, a second surface opposite the first surface and a surrounding sidewall surface extending therebetween; and

(c) a piezoelectric transducer secured to said surrounding sidewall surface and projecting outwardly therefrom, said piezoelectric transducer responsive in the operative state to the presence of the asperity relative to said slider as the asperity moves past said slider to vibrate, thereby to produce the electronic signal at a selected signal frequency.

REFERENCES

The references relied on by the Examiner are as follows:

Zak	5,166,847	Nov. 24, 1992
Flehsig et al. (Flehsig)	5,423,207	June 13, 1995
Horikawa et al. (Horikawa)	5,640,089	June 17, 1997

Appeal No. 2001-1094
Application 09/237,578

REJECTIONS AT ISSUE

Claims 1-3, 5, 6, and 9-11 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Flechsig in view of Horikawa.

Claim 4 stands rejected under 35 U.S.C. § 103(a) as being unpatentable over Flechsig and Horikawa as applied to the claims above, and further in view of Zak.

Rather than repeat the arguments of Appellant or the Examiner, we make reference to the Brief¹ and the Answer for the respective details thereof.

OPINION

With full consideration being given to the subject matter on appeal, the Examiner's rejections and the arguments of Appellant and Examiner, for the reasons stated *infra*, we will not sustain the Examiner's rejection of claims 1-6 and 9-11 under 35 U.S.C. § 103.

Appellant points out that the Examiner maintains that Flechsig shows every limitation of claims 1, 9 and 11, with the exception of locating the piezoelectric element on the side face

¹ The Appellant filed an Appeal Brief on October 23, 2000, Paper No. 16. In response, the Examiner's Answer, Paper No. 17, was mailed on November 13, 2000.

Appeal No. 2001-1094
Application 09/237,578

surface of the slider. Further, Appellant points out that the Examiner maintains that it would have been obvious to relocate the Flechsig sensor on the side face surface of the slider in view of the teachings in Horikawa of locating a force sensor on the side face of a slider to test for roughness. See Appeal Brief, page 12, lines 11-16. However, Appellant argues that the Examiner has failed to present some objective teaching leading to the purported combination of these references. In addition, Appellant argues that a careful reading of these references would steer one of ordinary skill away from combining them in the manner suggested by the Examiner. See Appeal Brief, Page 13, lines 9-13.

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*, 87 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

Appeal No. 2001-1094
Application 09/237,578

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.

The factual inquiry whether to combine references under 35 U.S.C. § 103 must "be based on objective evidence of record." **In re Lee**, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1433 (Fed. Cir. 2002). This "showing must be clear and particular." **In re Dembiczak**, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). "In other words, the Board must explain the reasons one of ordinary skill in the art would have been motivated to select the references and combine them to render the claimed invention obvious." **In re Lee**, 277 F.3d at 1343, 61 USPQ2d at 1434 quoting **In re Fritch**, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). See also **Dembiczak**, 175 F.3d at 999, 50 USPQ2d at 1617 quoting **In re Rouffet**, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998). "[T]he Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion." **In re Lee**, 277 F.3d at 1344, 61 USPQ2d at 1434. With these principles in mind, we

Appeal No. 2001-1094
Application 09/237,578

commence review of the pertinent evidence and arguments of Appellant and Examiner.

Upon review, we fail to find that the Examiner has provided us with objective evidence to support why one of ordinary skill in the art would have combined Horikawa with Flechsig. All of the independent claims include the limitation of a piezoelectric transducer secured to the surrounding sidewall surface and projecting outwardly. See Appeal Brief, Page 17, lines 14-15 and Page 19, lines 5-6 and Page 20, lines 1-2. We find Flechsig teaches a piezoelectric sensor sandwiched within a slider. See Flechsig, Figure 2, and column 4, lines 5-9. However, we find that Flechsig fails to provide any suggestion to move the piezoelectric sensor to be secured to the surrounding sidewall surface.

We find that Horikawa teaches a composite magnetic head portion 20 attached to the front surface of the head slider 13. See Horikawa Figure 1(B) and column 4, lines 21-23. We also find that the composite magnetic head portion 20 is used for detecting surface roughness of a magnetic recording medium, a magnetic disk 11. See Horikawa, column 3, lines 45-53. However, we find this teaching of placing a roughness sensor on the front surface of

Appeal No. 2001-1094
Application 09/237,578

the head slider 13 alone would not lead one of ordinary skill in the art to conclude that a piezoelectric sensor would prove beneficial if positioned on the slider's front surface of the head.

In conclusion, we find the references fail to disclose, teach or suggest a piezoelectric transducer which projects outwardly from the slider's surrounding sidewall to produce an electronic signal in response to the presence of an asperity relative to the slider as recited in claims 1, 9, and 11. Since claims 2-6 and 10 are dependent on independent claims 1, 9, and

Appeal No. 2001-1094
Application 09/237,578

11, we also cannot sustain the art rejections of these claims.
Therefore, we cannot sustain the rejection of claims 1-6 and 9-11
under 35 U.S.C. § 103(a).

REVERSED

Michael R. Fleming)	
Administrative Patent Judge)	
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Parshotam S. Lall)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
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