

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 26

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DAVID CHARLES WAUGH
and LEALON RAY MCKENZIE

Appeal No. 2001-1211
Application No. 09/070,580¹

HEARD: OCTOBER 8, 2002

Before HAIRSTON, JERRY SMITH, and SAADAT, Administrative Patent Judges.

SAADAT, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claim 8. Claims 1-7 have been allowed. The Examiner has objected to claims 9 and 10 and has indicated their allowability if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

We reverse.

¹ Application for patent filed April 30, 1998, which claims the filing priority benefit under 35 U.S.C. § 119 of the provisional Application No. 60/071,160, filed January 13, 1998.

BACKGROUND

Appellants' invention is directed to a disc drive for disc storage devices provided with improved seek function by using adaptive servo gain adjustment. The disc drive includes a head and a servo circuit which controllably positions the head adjacent tracks defined on the rotatable disc (specification, page 3). The servo circuit, as depicted in Fig. 2, includes demodulator 146 for conditioning the servo information for use by digital signal processor 148 which, in turn, generates a current command signal to a coil driver for positioning the head (specification, page 8).

Independent claim 8 is reproduced as follows:

8. A disc drive, comprising:

a head adjacent a rotatable disc on which a plurality of tracks are defined; and

position means, operably coupled to the head, for positioning the head adjacent the tracks of the disc.

The following reference is relied on by the Examiner:

Hashimoto 4,965,501 Oct. 23, 1990

Claim 8 stands rejected under 35 U.S.C. § 102(b) as being anticipated by Hashimoto.

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Rather than reiterate the viewpoints of the Examiner and Appellants regarding the above-noted rejection, we make reference to the answer (Paper No. 18, mailed January 4, 2001) for the Examiner's complete reasoning in support of the rejection, the brief (Paper No. 17, filed November 21, 2000) and the reply brief (Paper No. 19, filed March 5, 2001) for Appellants' arguments thereagainst.

OPINION

Appellants argue that Hashimoto cannot anticipate the subject matter of claim 8 as the reference does not disclose all of the elements for performing the claimed function. Additionally, Appellants argue that the Examiner did not make the necessary findings related to the functions and means specified in claim 8, i.e., "position means ... for positioning the head adjacent the tracks of the disc" (brief, page 10 and reply brief, page 8). Appellants further point out that the position means of claim 8 corresponds to the entire disclosed servo circuit including digital signal processor 148 and memory 150 which stores programming for deceleration of the head to a specific track as depicted in figures 3, 8 and 11 (brief, page 10 and reply brief, page 6). Appellants further assert that Hashimoto's system for

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smooth and efficient acceleration of the head is not the same or an equivalent to the "position means" described in the specification (brief, pages 10-12 and reply brief, page 9).

In response to Appellants' arguments, the Examiner asserts that even if the sixth paragraph of 35 U.S.C. § 112 is invoked, claim 8 does not specifically call for the servo functions but rather, is limited to the disclosed coil driver 152 and coil 113 as the head driving elements (answer, pages 5 & 6). The Examiner concludes that voice coil 111 in Hashimoto provides a structure identical to Appellants' disclosed structure that corresponds to the claimed "position means" and therefore, anticipates claim 8 (answer, page 8).

Before addressing the Examiner's rejection based on prior art, it is essential that we understand the claimed subject matter and determine its scope. Accordingly, as required by our reviewing court, we will initially direct our attention to Appellants' claim 8 in order to determine its scope. "[T]he name of the game is the claim." In re Hiniker Co., 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998). Claims will be given their broadest reasonable interpretation consistent with the specification, and limitations appearing in the specification

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are not to be read into the claims. In re Etter, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. Cir. 1985).

Appellants' claim 8 requires "position means, operably coupled to the head, for positioning the head adjacent the tracks of the disc." We note that the "position means" limitation is in means-plus-function format that creates a presumption that a section 112, ¶ 6 interpretation is called for. In construing a means-plus-function limitation, as explained in In re Donaldson Co., 16 F.3d 1189, 1193, 29 USPQ2d 1845, 1848-49 (Fed. Cir. 1994), we must identify both the claimed function and the corresponding structure(s) in the written description for performing that function.

Appellants direct us to digital signal processor 148 and memory 150 as the elements included in the structure of the servo circuit in their specification which corresponds to the claimed "position means" (oral hearing and brief, page 10). After reviewing the specification, we find that, as noted by Appellants (id.), servo circuit 144 controls the position of each head and is described to include demodulator 146, digital signal processor 148 and memory 150. In order to position a head, the processor uses the servo information conditioned by the demodulator and provides a current command signal according to the associated

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programming in the memory to coil 113 via coil driver 152 (specification, page 8). By using the stored programming, the gain of the servo circuit is continuously adapted to the changing conditions of the disc driver and stable operation of the servo system is insured (specification, page 16). Therefore, the specification clearly corresponds the "position means" to the entire servo circuit which controls the position of the head according to the current output generated by the processor and the related programming in the memory.

According to 35 U.S.C. § 112, ¶ 6, as construed by our reviewing court, the means clauses are limited to the disclosed structures and their equivalent structures. Donaldson, 16 F.3d at 1197, 29 USPQ2d at 1850. A structure is an "equivalent" if it differs from the disclosed structure by an insubstantial change which adds nothing of significance. Valmont Indus. Inc. v. Reinke Mfg. Co. Inc., 983 F.2d 1039, 1042, 25 USPQ2d 1451, 1455 (Fed. Cir. 1993).

Based on these principles that means claims are limited to the structures disclosed by the specification and equivalents, Donaldson, id., the Examiner must compare the structures disclosed in the specification with the structures taught by Hashimoto. However, based on a review of the record before us,

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we find that the Examiner conducts an incomplete analysis for determining the disclosed structure corresponding to the claimed "position means." Therefore, we do not agree with the Examiner's position that claim 8 does not require the entire servo circuit and is limited only to coil driver 152 and coil 113 and therefore, reads on the structure disclosed by Hashimoto (answer, page 6). In fact, the Examiner appears to have overlooked the complete disclosed structure necessary for positioning the head by selecting only some of the elements to construct the corresponding structure.

A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference. See Atlas Powder Co. v. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999); In re Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994). Anticipation is established only when a single prior art reference discloses, expressly or under the principles of inherency, each and every element of a claimed invention as well as disclosing structure which is capable of performing the recited functional limitations. RCA Corp. v. Applied Digital Data Sys. Inc., 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

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Upon a review of Hashimoto, we agree with Appellants that the reference fails to teach either the position means that includes a demodulator, a digital signal processor and a memory in addition to a coil and a coil driver or a structure that differs only insubstantially from Appellants' structure. The servo system of Hashimoto accelerates the head by adjusting the gain according to the values in a gain setting table (col. 5, line 59 through col. 6, line 2) to provide the detection gains suitable for the difference between a specified track position and the current track position (col. 8, lines 27-46). This arrangement differs substantially from the structure in Appellants' disclosure that corresponds to the claimed "position means" for positioning the head. As discussed above, Appellants' servo circuit uses the programming in memory 150 to obtain a continuously updated servo gain that adapts to incurring changes. The subject matter of claim 8 would not, therefore, have been prima facie anticipated by Hashimoto. Accordingly, we do not sustain the rejection of claim 8.

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CONCLUSION

In view of the foregoing, the decision of the Examiner rejecting claim 8 under 35 U.S.C. § 102 is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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JERRY SMITH)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
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