Paper No. 11

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT LESLIE CLOKE

Appeal No. 2000-0379
Application No. 08/815,352

ON BRIEF

Before MARTIN, LEVY, and BLANKENSHIP, Administrative Patent Judges.

MARTIN, Administrative Patent Judge.

DECISION ON APPEAL

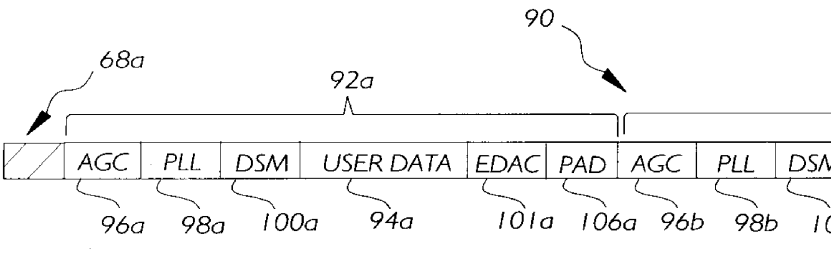
This is an appeal from the final rejection of claims 1-5, all of the pending claims, under 35 U.S.C. §§ 102 and 103. We reverse.

A. The invention

The invention relates to the format of the data sync mark in a disk drive system. Specification Figure 3B, reproduced in part

below, shows a data sector 92a which includes: (a) a constant-frequency, AGC bit stream 96a for enabling an AGC circuit to establish a desired signal level before detection of the data sync mark, DSM 100a; (b) a sequence of PLL bits 98a having sufficient consecutive flux reversals to permit phase synchr on-ization before detection of the data sync mark; (c) the data sync mark 100a; (d) user data 94a; and (e) optional data fields 101a and 106a (Specification at 25, l. 27 to p. 26, l. 19).

FIG. 3B



30	Misdetect example:	0	1	1	0	1	1	0	0	1	x	x	x
29	Bit error positions:	e							e				
28	Correct match example:	1	1	1	0	1	1	0	1	1	0	0	1
27	Sync word pattern:	x	x	x	0	1	1	0	1	1	0	0	1
26	Bit positions:	-11	-10	-09	-08	-07	-06	-05	-04	-03	-02	-01	00

The following example, taken from page 5 of the specification, demonstrates how errors during read-out of the data sync mark and preceding (i.e., preamble) bits can result in false detection of the data sync mark:

Line 27 shows the sync word pattern, which occupies bit positions -08 to -00. Line 28 shows the sync word pattern preceded by the expected "1" bits in bit positions -11 to -09. Lines 29 and 30 show that if read errors occur in bit positions -11 and -04, the bits in positions -11 to -03 of the read-out signal will be incorrectly detected to be the sync word pattern. In order to reduce the chance of such an occurrence, Appellant uses a data sync mark write string which

is an ordered set of m expected symbols selected to have the maximum distance from all non-mark substrings of m consecutive expected symbols that exist in the concatenated string of expected symbols formed by the preamble write string and data sync mark string.

B. The claims

Claim 1, the sole independent claim, reads as follows:

1. A disk drive having a pattern detector for providing fault-tolerant detection of a data sync mark represented by a substring of a concatenated string of error-prone read symbols and for providing a reduced risk of detection error, the disk drive comprising:

a disk having a plurality of track segments;

write means having an input for receiving bits;

means operative during a first operation for supplying a sequence of write bits that are received at the input of the write means;

the sequence of write bits defining a preamble write string, a data sync mark write string, and a user data write string;

the preamble write string and the data sync mark write string corresponding to a concatenated string of expected symbols;

the write means having means responsive to each write bit received at the input of the write means for magnetically defining a respective bit cell of a sequence of bit cells along a track segment;

a sampled-data read channel;

the sampled-data read channel including read means operative during a second operation for responding to the sequence of bit cells defined during the first operation to produce a sequence of error-prone symbols that are subject to error in duplicating the concatenated string of expected symbols;

the data sync mark write string corresponding to an ordered set of m expected symbols selected to have maximum distance from all non-mark substrings of m consecutive expected symbols that exist in the concatenated string of expected symbols;

means for enabling the pattern detector during an enabling interval within the second operation beginning after the read means has produced a portion of the sequence of error-prone read symbols; and

the pattern detector including fault-tolerant means operative during the enabling interval for producing a sync mark detection signal.

C. The reference and rejections

The rejections are based on the following U.S. patent:

Dudley et al. (Dudley) 5,729,396 Mar. 17, 1998

Claims 1-4 stand rejected under 35 U.S.C. § 102(e) as anticipated by the reference.

Claim 5 stands rejected under § 103 for obviousness over the reference.

Both rejections are based on Dudley's disclosure of a disk drive wherein "the sync mark (70,7) is selected to have a minimum correlation with the sync mark (70,7) concatenated with the preamble (68,5)" (col. 7, ll. 2-4), which the examiner correctly characterizes as satisfying claim 1's requirement that the data sync mark write string be an ordered set of m expected symbols selected to have the maximum distance from all non-mark substrings of m consecutive expected symbols that exist in the concatenated string of expected symbols formed by the preamble write string and data sync mark string. Answer at 3-4.

Appellant does not deny that all of the elements of claim 1 find correspondence in Dudley. Instead, Appellant argues that the subject matter relied on in the Dudley patent is not available as § 102(e) prior art against his claims because he is the inventor of that subject matter. As proof, Appellant offers a 37 CFR § 1.132 declaration by Richard W. Hull, who is not Appellant or one of the Dudley inventors,[1] citing In re

[1] The Dudley et al. inventors are Trent O. Dudley, Richard T. Behrens, and Christopher P. Zook. The Dudley patent is assigned to Cirrus Logic, Inc. ("Cirrus").

Facius, 408 F.2d 1396, 161 USPQ 294 (CCPA 1969), In re Katz, 678 F.2d 450, 215 USPQ 14 (CCPA 1982), and Manual of Patent Examining Procedure (MPEP) § 716.10, which in addition to the foregoing decisions cites In re Costello, 717 F.2d 1346, 1350, 219 USPQ 389, 392 (Fed. Cir. 1983), In re DeBaun, 687 F.2d 459, 214 USPQ 933 (CCPA 1982), In re Carreira, 532 F.2d 1356, 189 USPQ 461 (CCPA 1976), and Ex parte Kroger, 218 [sic, 219] USPQ 370 (Bd. Pat. App. 1982). We note that of the foregoing cases, Katz and Kroger concern references which are articles rather than U.S. patents.

The examiner held Hull's declaration insufficient for the following reasons:

> All of the case law cited by Appellant and in the MPEP section 716.10 pertains to overlapping inventors or assignees. For instance, at least one of the inventors or assignee is common to the authors of the reference in [sic] which the declaration addresses. In the instant case, there are no common inventors or assignee. Hence, the fact pattern of [A]ppellant's case does not follow the fact pattern of the case law cited by the MPEP section 716.10. There must be some collaboration from the inventors or assignee of the Dudley reference and the 132 declaration as it is presently written is not sufficient to prove the portion of the Dudley reference relied upon by the examiner is Appellant's own disclosure and not prior art.

Furthermore, the declaration is not written by the Appellant. There is no statement from the Appellant or the inventors of

the Dudley patent declaring that the teachings cited by the examiner are Appellant's own invention. This declaration is merely hearsay.

Answer at 6.

The examiner's objection to the declaration as containing hearsay is misplaced because hearsay is admissible in PTO ex parte proceedings. In re Epstein, 32 F.3d 1559, 1565-66, 31 USPQ2d 1817, 1821 (Fed. Cir. 1994).

As for the rest of the examiner's objections, while it is true that each of the above court decisions which concerns a reference U.S. patent involves (a) an application and reference patent that are commonly owned, (b) an application whose inventive entity overlaps the inventive entity named in the reference patent, (c) a § 1.132 affidavit or declaration executed by the applicant, or (d) a disclaiming § 1.132 affidavit declaration executed by the patentee(s), none of these factors is described as a requirement for demonstrating that the applicant is the inventor of the subject matter relied on in the reference patent. More particularly, while in two of the decisions it is noted that the application and the reference patent are commonly assigned (see Facius, 408 F.2d at 1400, 161 USPQ at 297; Mathews, 408 F.2d at 1394, 161

USPQ at 277), the court ascribes no importance to this fact.[2] Nor has the court required a patentee to submit a § 1.132 affidavit or declaration disclaiming the subject matter at issue. See DeBaun, 687 F.2d at 461 n.4, 214 USPQ at 934 n.4 (holding that a disclaiming affidavit by coinventor Noll of reference patent to DeBaun and Noll is not required). Cf. Katz, 687 F.2d at 455, 215 USPQ at 18 ("The board and the examiner held that 'disclaiming affidavits or declarations by the other authors are required to support appellant's position that he is, in fact, the sole inventor of the subject matter described in the article and claimed herein.' This was clear error. Submission of such affidavits or declarations would have ended the inquiry, but we do not agree that they are required by the statute or Rule 132. What is required is a

[2] While DeBaun notes that Air Monitor Corporation is the assignee of the DeBaun application and was the employer of Noll, who is named as a coinventor along with DeBaun in the reference patent (687 F.2d 461 & n.4; 214 USPQ at 934 & n.4), the court does not indicate that the patent is assigned to Air Monitor Corp. Carreira does not indicate whether the application or reference patent, which have overlapping inventive entities, are commonly assigned.

reasonable showing supporting the basis for the applicant's position.").[3]

Finally, that the court has not required an applicant to file a § 1.132 affidavit or declaration is evident from the fact that in Mathews the applicant successfully overcame the reference patent based on a § 1.132 affidavit by the patentee, Dewey, and on Mathews' original oath which accompanied the application. Mathews, 408 F.2d at 1396, 161 USPQ at 279.

For the foregoing reasons, in our view it is only necessary that the evidence submitted by the applicant demonstrate (1) that the patentees derived that subject matter relied on in the rejection from the applicant and (2) that the applicant is the

[3] In Kroger, the Board distinguished over Katz on the ground that Knaster, one of the authors of the reference publication, had refused to sign a § 1.132 declaration attributing the invention to Kroger and also had submitted a letter claiming to be a coinventor of the subject matter relied on in the publication. 219 USPQ at 372.

Because the reference in Kroger was an article rather than a patent, the Board's construction of Facius, Mathews, and Carriera as requiring a patentee to "disclaim the subject matter and attribute it to the applicant," 219 USPQ at 372, constitutes non-binding dictum, which we note is not mentioned in MPEP § 716.10.

inventor of that subject matter. See Facius, 408 F.2d at 1407, 161 USPQ at 302 ("The real question is whether, in addition to establishing derivation of the relevant disclosure from himself, appellant has also clearly established the fact that he invented the relevant subject matter disclosed in the patent.").[4]

We begin by noting that the "minimum correlation" encoding technique described in the Dudley patent and relied on by the examiner (corresponding to Appellant's claimed "maximum distance" encoding technique) is not claimed in the Dudley patent, which instead is directed to apparatus for controlling enablement of the sync mark detector (col. 4, ll. 10-49). As a result, there is no presumption that that encoding technique is the invention of the Dudley inventors. See DeBaun, 687 F.2d at 463, 214 USPQ at 936 (quoting Facius, 408 F.2d at 1406, 161 USPQ at 301)("[T]he existence of combination claims does not evidence inventorship by the

[4] MPEP § 716.10 is consistent with this conclusion. That section gives as Example 2 a reference in which "the author or patentee is an entity different from applicant" and explains that "[i]n the situation described in Example 2, an affidavit under 37 CFR 1.132 may be submitted to show that the relevant portions of the reference originated with or were obtained from the applicant."

patentee of the individual elements or sub-combinations thereof if the latter are not separately claimed apart from the combination. It is clear that the inventor of a combination may not have invented any element of that combination, much less each of the elements."). See also Aktiebolaget Karlstads Mekaniska Werkstad v. United States Int'l Trade Comm'n, 705 F.2d 1565, 1574, 217 USPQ 865, 871 (Fed. Cir. 1983) ("there is no presumption, or any reason to assume, that everything disclosed in a patent specification has been invented by the patentee. In re Clemens, 622 F.2d 1029, 1036, 206 USPQ 289, 297 (CCPA 1980). See In re DeBaun, 687 F.2d 459, 214 USPQ 933 (CCPA 1982)."). Moreover, the "minimum correlation" encoding technique is first described in the patent in the "Background of the Invention," at column 3, lines 49-64.

Although Appellant's original declaration filed with the application identifies Appellant as the inventor of the subject matter claimed therein and the appealed claims are the originally filed claims, that declaration fails to demonstrate derivation of that subject matter from Appellant by the patentees. See Carreira, 532 F.2d at 1359, 189 USPQ at 463

("Appellants contend that their declarations are consistent with the declarations submitted by [patentees] Tulagin and Clark, and are sufficient to support a finding that the patentees derived the relevant subject matter from them. We do not find these declarations sufficient to discharge appellants' burden of proof to establish that the patentees derived the relevant subject matter from them. Nothing in the declarations of record precludes the possibility that the relevant subject matter was disclosed to the patentees by some third party."). Nor is such a requirement implied by DeBaun's holding that the record in that case, including applicant's "unequivocal declaration [under § 1.131] that he conceived anything in the '768 [reference] patent disclosure which suggests the invention claimed in his present application," was sufficient to establish that the subject matter at issue was conceived by DeBaun.

However, Hull's declaration clearly demonstrates both inventorship by the Appellant and derivation by the patentees. Hull explains that he has been continuously employed by Western Digital Corporation (WDC), the assignee of Appellant's application, since April 1981; that he is familiar with

various aspects of the construction and operation of certain read channel chips that are custom-made for the disk drives manufactured by WDC; that during a series of meetings between July 1993 and December 1993, he, Mr. Cloke (the inventor), and other WDC engineers worked as a team to develop a performance specification (the "WDC Performance Specification") for a proposed custom read channel chip, which specification included a performance specification for robust frame synchronization detection (the "WDC robust sync mark detection specification"); and that during these meetings Mr. Cloke disclosed to Hull a criterion (the "Cloke Criterion") for selecting a robust sync mark appropriate for the WDC robust sync mark detection specification, which criterion involved providing a preamble write string and a sync mark write string that correspond to a concatenated string of expected symbols, where the sync mark write string corresponds to a set of "m" expected symbols that are selected to have the maximum distance from all non-mark substrings of "m" consecutive expected symbols that exist in the concatenated string of expected symbols formed by the preamble write string and data sync mark string. Hull Decl. ¶¶ 2-5.

Hull further explains that in April 1994, WDC selected Cirrus as the vendor to develop for WDC a custom read channel chip to comply with the WDC Performance Specification; that Hull was WDC's Program Manager responsible for disclosing WDC technical information relating to the read channel chip to employees of Cirrus, including two of the inventors in the Dudley patent, i.e., Richard T. Behrens and Christopher P. Zook; that the technical information Hull disclosed to Cirrus personnel, including Behrens, in April 1994 did not include the Cloke Criterion or any proposed implementation for complying with the WDC robust sync mark detection specification; and that the WDC Performance Specification included a note stating that "WDC has a possible implementation of this feature, but we are open to suggestions from the vendor." Id. at ¶¶ 6-7.

Hull also states that in May 1994, he visited Cirrus at its Colorado facilities to discuss various development matters concerning the read channel chip; that during this visit Behrens, on behalf of Cirrus, disclosed to Hull proposed implementing structure for elements of the read channel chip, including the structure of the chip for sync mark pattern

detection (the "Cirrus Proposed Implementation"), which structure involved a "triplet" pattern detector and other structure not compatible with a sync mark in accordance with the Cloke Criterion; that on behalf of WDC Hull informed Behrens that the Cirrus Proposed Implementation was not satisfactory to WDC; and that Hull then disclosed the Cloke Criterion to Behrens and instructed him to incorporate, in the read channel chip, structure compatible with the Cloke Criterion in order to comply with the WDC robust sync mark detection specification. Id. at ¶¶ 8-9.

Hull next explains that during a period between May 1994 and November 1994, he continued to work closely with employees of Cirrus to develop the custom read channel chip for WDC in accordance with the WDC Performance Specification; that Zook, one

of the Dudley inventors, was designated by Cirrus for selecting a sync mark in accordance with the Cloke Criterion; and that Cirrus and WDC eventually agreed to incorporate into the custom read channel chip an implementation compatible with

a sync mark pattern in accordance with the Cloke Criterion. Id. at ¶ 10.

Finally, Hull states that in preparation for making the declaration, he reviewed the Dudley patent and noted that portions thereof, including the Background of the Invention at column 3, lines 49-64, and the Detailed Description of the Preferred Embodiment at column 6, line 65 to column 7, line 11, constitute a disclosure of the invention Cloke disclosed to him and which he thereafter disclosed to certain employees of Cirrus, including Behrens. Id. at ¶ 11.

The foregoing declarations, which are uncontroverted by any other evidence of record, clearly demonstrate that the "minimum correlation" encoding technique disclosed in the Dudley patent and relied on by the examiner was invented by Appellant and thereafter derived from Appellant by the patentees through Hull. Consequently, we cannot sustain the § 102 rejection of claims 1-4 or the § 103 rejection of claim 5, both of which are based on that subject matter in the Dudley patent.

REVERSED

JOHN C. MARTIN Administrative Patent Judge	)	
STUART S. LEVY Administrative Patent Judge	)	BOARD OF PATENT APPEALS AND INTERFERENCES
HOWARD B. BLANKENSHIP Administrative Patent Judge	)	

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