

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 30

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte BUNSEN Y. WONG

Appeal No. 2004-1144
Application No. 09/584,765

ON BRIEF

Before GARRIS, WALTZ, and DELMENDO, Administrative Patent Judges.
GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal which involves claims 18-62 which are all of the claims remaining in the application.

The subject matter on appeal relates to a magnetic recording medium comprising a substrate and a seedlayer which includes a ternary or quaternary intermetallic alloy. In the appealed claims, this intermetallic alloy is defined either as having an

A2 lattice structure (e.g., see independent claims 18 and 48) or as having a particular composition (e.g., see independent claim 33). This appealed subject matter is further illustrated by independent claims 18 and 33 as well as dependent claims 41, 44 and 47 which read as follows:

18. A magnetic recording medium, comprising:

a substrate;

a seedlayer deposited on the substrate, wherein the seedlayer includes a ternary or quaternary intermetallic alloy with an A2 lattice structure that contacts the substrate;

a chromium or chrome alloy underlayer deposited on the seedlayer; and

a cobalt or cobalt alloy magnetic layer deposited on the underlayer.

33. A magnetic recording medium, comprising:

a substrate of NiP or ceramic glass;

a seedlayer deposited on the substrate, wherein the seedlayer includes a ternary or quaternary intermetallic alloy that contacts the substrate, the intermetallic alloy does not contain nickel below 35 atomic percent, the intermetallic alloy does not contain Al below 35 atomic percent, the intermetallic alloy does not contain Al above 65 atomic percent, the intermetallic alloy does not contain Ti above 65 atomic percent, and the intermetallic alloy does not contain a NiAlCo ternary alloy;

a chromium or chrome alloy underlayer deposited on the seedlayer; and

a cobalt or cobalt alloy magnetic layer deposited on the underlayer.

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41. The magnetic recording medium of claim 33, wherein the intermetallic alloy has the form CoTiXY , Co + X is between 35 to 65 atomic percent, Ti + Y is between 65 to 35 atomic percent, X is an element selected from the group consisting of Co, Fe, Cu, Mn, V, and Zn, and Y is an element selected from the group consisting of Nb, Ta, Hf, Zr, Zn, Ag, Au, Pt, and Pd.

44. The magnetic recording medium of claim 33, wherein the intermetallic alloy contains Ni and Al within 10 atomic percent of one another.

47. The magnetic recording medium of claim 33, wherein the intermetallic alloy does not contain Al.

The references set forth below are relied upon by the examiner as evidence of obviousness:

Suzuki et al. (Suzuki)	6,174,598	Jan. 16, 2001 (filed May 11, 1998)
Shin et al. (Shin)	6,228,515	May 8, 2001 (filed Oct. 20, 1998)
Lambeth et al. (Lambeth)	6,248,416	Jun. 19, 2001 (filed Nov. 10, 1997)

The issues before us on this appeal are raised by the following rejections.¹

Claims 41, 44 and 47 are rejected under the second paragraph of 35 U.S.C. § 112 for failing to particularly point out and

¹ As correctly indicated on page 3 of the answer, the examiner's objections to certain claims involve petitionable rather than appealable subject matter. See, for example, the Manual of Patent Examining Procedure (MPEP) § 706.01(rev. 1, Feb. 2003). Accordingly, we will not consider or further comment upon the appellant's arguments (e.g., see pages 7 and 8 of the brief) concerning these claim objections.

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distinctly claim the subject matter which the appellant regards as his invention.

Claims 29, 32, 33,² 44, 47, 59 and 62 are rejected under the first paragraph of 35 U.S.C. § 112 as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor, at the time the application was filed, had possession of the claimed invention.

Claims 18-25, 27, 28, 30, 31, 33-40, 42, 43, 45, 46, 48-55, 57, 58, 60 and 61 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Suzuki in view of Lambeth, and claims 26, 29, 32, 56, 59 and 62 are correspondingly rejected over these references and further in view of Shin.

The appealed claims have been separately grouped by the appellant in the manner indicated on page 6 of the brief. We will separately consider these separately grouped claims to the extent that they also have been separately argued. See Ex parte

² We observe that the examiner's written description rejection has been applied against independent claim 33 but not against all of the claims which depend therefrom. In the future, the examiner should bear in mind that dependent claims typically are affected by written description issues which are present in their parent claims. See Ex parte Ohshiro, 14 USPQ2d 1750, 1754 (Bd. Pat. App. & Int. 1990).

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Schier, 10 USPQ2d 1016, 1018 (Bd. Pat. App. & Int. 1991) and 37 CFR § 1.192(c)(7)(2002).

We refer to the brief and to the answer for a complete exposition of the opposing viewpoints expressed by the appellant and by the examiner concerning the above noted rejections.

OPINION

We will sustain both of the examiner's section 112 rejections as well as his section 103 rejection of claims 33-40, 42, 43, 45 and 46. However, we will not sustain the other section 103 rejections advanced on this appeal. Our reasons are set forth below.

We first consider the section 112, second paragraph, rejection. Here the inquiry is whether the rejected claims set out and circumscribe a particular area with a reasonable degree of precision and particularity. In assessing this issue, the definiteness of the language employed must be analyzed, not in a vacuum but, always in light of the teachings of the prior art and of the particular application disclosure as it would be interpreted by one possessing an ordinary level of skill in the pertinent art. See In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

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In applying these legal principles, the examiner has determined that dependent claims 41, 44 and 47 offend the second paragraph of section 112 because they exclude nickel and/or aluminum from the intermetallic alloy recited therein whereas parent independent claim 33 requires both nickel and aluminum to be present in the intermetallic alloy defined thereby.³ That is, the examiner has interpreted the claim 33 language in light of the appellant's specification disclosure as requiring the presence of nickel and aluminum in the claimed intermetallic alloy as more fully explained in the answer (e.g., see the paragraph bridging pages 14 and 15). Certainly, this claim interpretation is reasonable and consistent with the subject specification (cf. In re Sneed, 710 F.2d 1544, 1548, 218 USPQ 385, 388 (Fed. Cir. 1983)), and the appellant does not contend otherwise with any reasonable specificity. Instead, the appellant's sole response to the examiner's claim interpretation analysis is to quote the language of claim 33 and to then state without embellishment or explanation that "claim 33 does not require [Ni or Al]" (brief, pages 9 and 10).

³ Under the examiner's above noted theory, these dependent claims also could have been objected to under 37 CFR § 1.75(c) for failing to further limit parent claim 33.

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On the record before us, the examiner has established a prima facie case for his claim 33 interpretation and correspondingly for the section 112, second paragraph, rejection based thereon. In contrast, the appellant has offered no rationale at all in support of his conclusory statement that claim 33 does not require nickel or aluminum. Under these circumstances, it is our determination that the examiner has made a prima facie case of unpatentability which the appellant has failed to successfully rebut with argument or evidence of patentability. See In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

Therefore, we hereby sustain the examiner's section 112, second paragraph, rejection of claims 41, 44 and 47.

Concerning the section 112, first paragraph, rejection, the test for determining compliance with the written description requirement is whether the original disclosure conveys with reasonable clarity to those skilled in the art that the applicant, as of the filing date sought, was in possession of the invention defined by the rejected claims. See Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1116-17 (Fed. Cir. 1991). With specific regard to the negative claim limitations criticized by the examiner, the issue is whether

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these limitations introduce new concepts relative to the original disclosure and thus violate the written description requirement. See In re Anderson, 471 F.2d 1237, 1244, 176 USPQ 331, 336 (CCPA 1973) and Ex parte Grasselli, 231 USPQ 393, 394 (Bd. App. 1983).

According to the examiner, the independent claim 33 negative limitation "the intermetallic alloy does not contain a NiAlCo ternary alloy" offends the written description requirement by introducing new concepts into the appellant's original disclosure. In response, the appellant presents the following argument on page 9 of the brief:

The specification discloses a seedlayer that contain numerous ternary and quaternary intermetallic alloys that do not contain a NiAlCo ternary alloy at page 2, lines 5-23. Moreover, the specification lists six compounds ($\text{Co}_{10}\text{Ni}_{40}\text{Al}_{40}\text{Ti}_{10}$, $\text{Ni}_{48}\text{Al}_{44}\text{Nb}_8$, $\text{Cr}_{10}\text{Ni}_{40}\text{Al}_{40}\text{Mo}_{10}$, $\text{Ni}_{48}\text{Al}_{42}\text{Nb}_{12}$, $\text{Ni}_{40}\text{Al}_{50}\text{Ti}_{10}$, and $\text{Ni}_{40}\text{Al}_{40}\text{Mo}_{20}$) that do not contain a NiAlCo ternary alloy at page 4, lines 19-20.

This argument is unpersuasive. As fully explained in the answer, the negative limitation under review is not descriptively supported merely because the subject specification discloses specific seedlayer embodiments which do not contain a NiAlCo ternary alloy. This is due to the fact that the limitation introduces new concepts beyond these specific seedlayer embodiments. The new concepts include the particular seedlayer intermetallic alloys which are not the ternary alloy excluded by

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claim 33 but which also are not specifically disclosed in the appellant's specification. There is simply nothing in the specification which would reasonably convey to those skilled in the art that the appellant was in possession of such particular intermetallic alloys as of the application filing date.

Similar criticisms and arguments have been made by the examiner and the appellant concerning the negative limitations recited in dependent claims 29, 32, 44, 47, 59 and 62. For reasons analogous to those set forth above and in the answer, the appellant's arguments do not persuade us of error on the examiner's part in rejecting these claims under the first paragraph of section 112.

In light of the foregoing, we also hereby sustain the examiner's section 112, first paragraph, rejection of claims 29, 32, 33, 44, 47, 59 and 62 for failing to satisfy the written description requirement of the statute.

As for the section 103 rejection of independent claim 33 and certain of the claims which depend therefrom, the appellant argues that Suzuki contains no teaching or suggestion of an intermetallic alloy which contains aluminum above 2 atomic percent much less which contains at least 35 atomic percent aluminum as required by the rejected claims. This argument is

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based on Suzuki's disclosure of a generic intermetallic alloy formula which includes the expression "Ni₅₀Al" (e.g., see lines 36 and 56 in column 2). On the other hand, the examiner urges that this expression, though inapt, would have been understood by those skilled in this art as referring to intermetallic alloys which contain equal amounts of Ni and Al, that is, Ni₅₀Al₅₀.

In support of his position, the examiner points out that Suzuki's intermetallic alloys are formed by adding various elements to the prior art alloy AlNi which indisputably contains equal amounts of Al and Ni (e.g., see lines 6-42 in column 2). As more fully explained in the answer, the examiner's position is further supported by the fact that the lattice constant disclosed by Suzuki for Ni₅₀Al (e.g., see lines 18-19 in column 6 and lines 20-21 in column 7) is exactly the same as the lattice constant for NiAl (e.g., see lines 26-27 in column 13 of Lambeth). This position is additionally supported by the fact that Suzuki also has used inapt nomenclature in defining other aspects of his intermetallic alloys (e.g., see the examiner's discussion on page 12 of the final Office action mailed April 30, 2002 as Paper No. 14).⁴

⁴ We commend the examiner's considerable efforts to explain the manner in which Suzuki's sometimes inapt disclosure would
(continued...)

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On the record before us, the examiner has established a prima facie case in support of his proposition that an artisan with ordinary skill would have interpreted the "Ni₅₀Al" disclosure of Suzuki as describing alloys which contain equal amounts of Ni and Al. Significantly, the appellant has provided this record with no extrinsic evidence such as a declaration by one skilled in this art (e.g., the appellant himself) in rebuttal to the rationale and evidence proffered by the examiner. Under these circumstances, it is our determination that the weight of argument and evidence before us favors interpreting the Suzuki disclosure in the manner proposed by the examiner.

This leads us to the ultimate determination that the examiner has established a prima facie case of unpatentability with respect to independent claim 33 and the rejected claims which depend therefrom which the appellant has failed to successfully rebut with argument and/or evidence of patentability. See In re Oetiker, 977 F.2d at 1445, 24 USPQ2d at 1444. In summary, therefore, we likewise hereby sustain the examiner's section 103 rejection of claims 33-40, 42, 43, 45 and

⁴(...continued)
have been interpreted by those skilled in this art.

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46 as being unpatentable over Suzuki in view of Lambeth for the reasons set forth above and in the answer.

In his corresponding rejection of the remaining independent claims 18 and 48, the examiner states that:

Lambeth et al. teach that materials possessing either an A2 or B2 crystal lattice structure[] are known body centered cubic or body centered cubic derivative structures and materials possessing either an A2 or B2 crystal lattice structure are functionally equivalent in terms of their use as seed/underlayers for magnetic recording media [answer, pages 7-8].

and concludes that:

[i]t would therefore have been obvious to one of ordinary skill in the art at the time of the appellant's invention to modify the device of Suzuki . . . to use a NiAlM-alloy seed layer possessing an A2 crystal lattice structure, since both an A2 crystal lattice structure and a B2 crystal lattice structure are known functional equivalents in terms of seed/underlayers possessing lattice constants suitable for Co-alloy magnetic films [answer, page 8].

We cannot agree with this obviousness conclusion.

As an initial matter, we emphasize that components which are functionally or mechanically equivalent are not necessarily obvious in view of one another. See In re Scott, 323 F.2d 1016, 1019, 139 USPQ 297, 299 (CCPA 1963). Also see In re Flint, 330 F.2d 363, 367-68, 141 USPQ 299, 302 (CCPA 1964). In this instance, we are persuaded that Lambeth's indication of equivalency between A2 and B2 structures would not have suggested

modifying Suzuki's underlayer alloy so as to possess the here claimed A2 structure rather than a B2 structure.

This is because the applied references do not support the examiner's implicit supposition that an artisan would have reasonably expected Lambeth's indication of equivalency for his recording medium environment as applicable to the recording medium environment of Suzuki. In this regard, we observe that the environment of Lambeth involves highly oriented layers having particular structures (e.g., hexagonal close packed, face centered cubic as well as body centered cubic structures) in order to achieve patentee's desiderata (e.g., see the Abstract, lines 38-68 in column 12, lines 1-40 in column 13, the paragraph bridging columns 26 and 27 as well as lines 8-25 in column 27). These aspects of Lambeth's recording medium do not appear to have reasonably specific relevancy to the recording medium of Suzuki.

Thus, the fact that an A2 as well as a B2 structure may be acceptable for use by Lambeth would not have suggested acceptability for use in Suzuki's recording medium. This viewpoint is reinforced by the fact that the AlNi underlayer, which Suzuki seeks to improve by adding various elements thereto, is explicitly disclosed by patentee as having a B2 structure (e.g., see lines 6-28 in column 2). In the context of Suzuki's

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recording medium, the aforementioned disclosure evinces an expectation of success for using a B2 structure whereas no such expectation exists for using an A2 structure for the reasons previously explained.

In light of the foregoing, we consider the applied references inadequate to establish a prima facie case of obviousness with respect to independent claims 18 and 48 as well as with respect to the claims which depend therefrom. We cannot sustain, therefore, the examiner's section 103 rejection of claims 18-25, 27, 28, 30, 31, 48-55, 57, 58, 60 and 61 as being unpatentable over Suzuki in view of Lambeth. Moreover, because the Shin reference fails to supply the deficiencies discussed above, we also cannot sustain the section 103 rejection of claims 26, 29, 32, 56, 59 and 62 as being unpatentable over Suzuki in view of Lambeth and further in view of Shin.

The decision of the examiner is affirmed-in-part.

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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

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Administrative Patent Judge)	
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