

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. 53

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte EDWARD R. MOYNIHAN, DAVID W. GAILUS, ROBERT G. PALIFKA,
PAUL A. HOISINGTON, NATHAN P. HINE, DAVID ADAMS-BRADY,
MELVIN L. BIGGS, MARLENE M. MCDONALD, STEVEN H. BARSS,
DIANE MACKAY, BRUCE A. PAULSON, and STEPHEN C. MACKAY

Appeal No. 2002-2184
Application No. 08/406,297

HEARD : May 6, 2003

Before BARRETT, FLEMING, and DIXON, **Administrative Patent Judges**.
DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-10, 22-24, 67, 68, and 71, which are all of the claims pending in this application.

We REVERSE.

BACKGROUND

Appellants' invention relates to a simplified ink jet head having a continuous body of carbon to reduce temperature variations. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. An ink jet head comprising at least one member made of a continuous body of carbon and having at least one ink passage and a piezoelectric plate affixed to a surface of the carbon member.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Gordon, III	3,823,408	Jul. 09, 1974
Tanaka, et al. (Tanaka)	4,769,654	Sep. 06, 1988
Baker et al. (Baker)	4,771,295	Sep. 13, 1988
Hubbard et al. (Hubbard)	4,605,939	Aug. 12, 1986
Yasuhara et al. (Yasuhara)	4,937,597	Jun. 26, 1990
Shimizu et al. (Shimizu)	5,581,288	Dec. 03, 1996 (filed Mar. 05, 1993)
Komai et al. (Komai)	JP 5-147209 (Translation by USPTO May 2003)	Jun. 15, 1993

Hawley's Condensed Chemical Dictionary, 12th Edition, page 217 (1993). (Hawley)

Claims 1-10 and 22-24 stand rejected under 35 U.S.C. § 112, first paragraph 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 inventors, at the time the invention was made, had possession of the claimed invention. Claims 1-10 and 22-24

stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 67 and 68 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Yasuhara. Claim 1 stands rejected under 35 U.S.C. § 103 as being unpatentable over Gordon, III in view of Hawley. Claims 2-8 and 10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Gordon, III in view of Tanaka.¹ Claim 9 stands rejected under 35 U.S.C. § 103 as being unpatentable over Gordon, III in view of Shimizu.² Claim 22 stands rejected under 35 U.S.C. § 103 as being unpatentable over Gordon, III in view of Baker.³ Claim 24 stands rejected under 35 U.S.C. § 103 as being unpatentable over Gordon, III in view of Komai. Claim 71 stands rejected under 35 U.S.C. § 103 as being unpatentable over Yasuhara in view of Hubbard.

Rather than reiterate the conflicting viewpoints advanced by the examiner and appellants regarding the above-noted rejections, we make reference to the examiner's answer (Paper No. 44, mailed May 2, 2002) for the examiner's reasoning in support of

¹While the examiner has not recited the reliance upon Hawley in the rejection of the claims dependent on claim 1, we interpret the rejections to also include a reliance thereon.

²We note that the examiner has not included Tanaka in the statement of the rejection, but we interpret the rejections including Tanaka due to its dependency on claim 8.

³We do not find that the examiner has set forth a rejection of dependent claim 23. The examiner indicated at page 7 of the final rejection that claim 23 is objected to and would be allowed if rewritten. This objection to claim 23 is unclear since it has been rejected under 35 U.S.C. § 112. Therefore, we will not address this claim with respect to a prior art rejection, but will address it under 35 U.S.C. § 112.

the rejections, and to appellants' brief (Paper No. 42, filed Jan. 31, 2002) for appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by appellants and the examiner. As a consequence of our review, we make the determinations which follow.

35 U.S.C. § 112, FIRST and SECOND PARAGRAPHS

Appellants argue that the examiner has not provided any justification in the statement of the rejection. (See brief at page 11.) We agree with appellants, but find that the examiner has detailed the basis of the rejection in a response to the arguments. The examiner maintains a rejection of the claims based upon a lack of a clear discussion in the original specification of the quoted language "a continuous body of carbon." (See answer at pages 3 and 8-9.) Appellants argue that pages 12 and 13 of the original specification provide implicit support for the language "a continuous body of carbon." (See brief at pages 9-10.) We agree with appellants. In addition to describing the characteristics of the material as "engineering carbon graphite, which is preferably about 80-90% dense, providing a slightly porous plate structure. . . The

coefficient of thermal expansion of the carbon graphite body is substantially the same as that of the ceramic piezoelectric material.” (Specification at pages 12-13.)

Additionally, the specification at page 13 states that the “preferred carbon material for use in forming components on ink jet heads is polycrystalline graphite, which is mixture of small crystals of graphite sintered with amorphous carbon black (lamp black) . . . The thermal properties of polycrystalline graphite (Grade DFP-1 available from POCO Graphite, Inc. Decatur, Texas).” Here, we find that the two materials described in the making of the carbon material for the body are both carbon and they are sintered together to make the body. Therefore, we find that appellants have described the invention in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the invention was made, had possession of the claimed invention.

The examiner maintains that the examiner consulted with another examiner from the chemical area of the PTO and that after a detailed discussion, concluded that the specification is required to identify whether the carbon body is continuous based on the arrangement and bonding of the carbon atoms throughout the member. (See answer at page 9.) We disagree with the examiner’s requirement for a description of an

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arrangement and bonding of the carbon atoms throughout the member. It is clear that the specification describes the process on making the carbon member as sintering the mixture of carbon materials. We find this sufficient description to prove that the inventors had possession of the claimed "continuous body of carbon" at the time of filing, and we will not sustain the rejection of claims 1-10 and 22-24 under 35 U.S.C. § 112, first paragraph. Similarly, we find that the claims are not indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention since we do not deem it necessary to disclose a description of an arrangement and bonding of the carbon atoms throughout the member. It is clear that the specification describes the process on making the carbon member as sintering the mixture of carbon materials which would still produce a carbon body, and we will not sustain the rejection of claims 1-10 and 22-24 under 35 U.S.C. § 112, second paragraph.

35 U.S.C. § 102

"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." **RCA Corp. v. Applied Digital Data Systems, Inc.**, 730 F.2d 1440, 1444, 221 USPQ 385, 388 (Fed. Cir. 1984).

It is well settled that the burden of establishing a *prima facie* case of anticipation resides with the Patent and Trademark Office (PTO). **See In re Piasecki**, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). After the PTO establishes a *prima facie* case of anticipation based on inherency, the burden shifts to the appellant to prove that the subject matter shown to be in the prior art does not possess the characteristics of the claimed invention. **See In re Thorpe**, 777 F.2d 695, 698, 227 USPQ 964, 966 (Fed. Cir. 1985); **In re King**, 801 F.2d 1324, 1327, 231 USPQ 136, 138 (Fed. Cir. 1986). Hence, appellants' burden before the PTO is to prove that the applied prior art reference does not perform the functions defined in the claims. Compare **In re Best**, 562 F.2d 1252, 1255, 195 USPQ 430, 433-34 (CCPA 1977); **In re Ludtke**, 441 F.2d 660, 664, 169 USPQ 563, 566-67 (CCPA 1971). Here, we find that appellants have met this burden, and we will not sustain the rejection of claims 67 and 68.

Appellants argue that independent claim 67 requires "a manifold plate having a surface affixed to a surface of the orifice plate and having spaced arrays of ink passages extending through the manifold plate as well as arrays of passages in the surface of the manifold plate affixed to the surface of the orifice plate which communicate with the orifices in the orifice plate." (Brief, page 38, emphasis original). Appellants argue that Yasuhara does not teach the manifold plate having arrays of

passages in the surface of the manifold plate affixed to the surface of the orifice plate. (See brief at page 38.) We agree with appellants. Appellants argue that the ink supply paths 32 in Figure 2 appear to be formed in the surface of the plate that is affixed to the orifice plate, but none of those passages communicate with any of the orifices in the orifice plate as required by claim 67. (See brief at page 38.) We agree with appellants.

The examiner maintains at page 4 of the answer that the array of passages is item 32 which appellants address as discussed above. In the response to arguments section of the answer, the examiner maintains that Yasuhara disclose pressure chambers formed in a first surface and a corresponding array of passageways leading from the pressure chamber to a second surface of the pressure chamber plate. The examiner appears to maintain that the pressure chambers and ink passages of item 32 extend throughout the entire plate and thereby meets the language of claim 67. Here, the examiner appears to change the interpretation of the teachings of Yasuhara from that set forth in the statement of the rejection. We disagree with the examiner's interpretation/application of Yasuhara. The examiner essentially maintains that the passageways 32 (or 38) go through the manifold plate and that their cross section in the surface of the manifold plate would meet the language of claim 67. First the language of claim 67 requires that there be passages through the manifold plate and passages in

the surface. Therefore, the through passages cannot also be the surface passages. Additionally, the examiner states that “one of ordinary skill in the art would anticipate the ink, which is expelled from the orifices, comes from the ink supplying paths; and hence passages, i.e., ink supplying paths communicates with any of the orifices in the orifice plate.” (See answer at page 13.) While we agree with the examiner that ink passages would have some function with respect to the supplying of ink, they need not all “communicate” with the orifices. Therefore, we disagree with the examiner’s apparent reliance upon anticipation or inherency in that all passages communicate with the orifices. Therefore, the examiner’s position/argument is not persuasive, and we cannot sustain the rejection of independent claim 67 and dependent claim 68.

35 U.S.C. § 103

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

An obviousness analysis commences with a review and consideration of all the pertinent evidence and arguments. "In reviewing the [E]xaminer's decision on appeal, the Board must necessarily weigh all of the evidence and arguments." **In re Oetiker**, 977 F.2d at 1445, 24 USPQ2d at 1444. "[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 1338, 1344, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002). With these principles in mind, we commence review of the pertinent evidence and arguments of Appellants and Examiner.

When determining obviousness, "the [E]xaminer can satisfy the burden of showing obviousness of the combination only by showing some objective teaching in the prior art or individual to combine the relevant teachings of the references". **In re Lee**, 277 F.3d 1338, 1343, 61 USPQ2d 1430, 1434 (Fed. Cir. 2002), **citing In re Fritch**, 972 F.2d 1260, 1265, 23 USPQ2d 1780, 1783 (Fed. Cir. 1992). "Broad conclusory statements regarding the teaching of multiple references, standing alone,

are not `evidence.'" **In re Dembiczak**, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617.

"Mere denials and conclusory statements, however, are not sufficient to establish a genuine issue of material fact." **Dembiczak**, 175 F.3d at 999, 50 USPQ2d at 1617, citing **McElmurry v. Arkansas Power & Light Co.**, 995 F.2d 1576, 1578, 27 USPQ2d 1129, 1131 (Fed. Cir. 1993) .

With respect to independent claim 1, appellants argue that Gordon does not teach or suggest the use of a continuous body of carbon as recited in the claim language. (See brief at page 33.) We agree with appellants. The examiner maintains that with respect to the use of a "diamond quartz", Gordon, III teaches such at column 2. The examiner maintains that since Gordon, III suggest the use of diamond quartz, it would have been obvious to one of ordinary skill in the art at the time of the invention to use diamond which is a natural corrosion resistant form of carbon. We disagree with the examiner interpretation of the teachings of Gordon, III. While the examiner finds the word "diamond" in this reference, appellants argue that it does not appear to refer to a hard carbon substance, but to a form of quartz which is not actually a diamond and therefore is not pure carbon. (See brief at page 34.) We agree with appellants. Additionally, appellants included evidence that the use of various types of quartz may

be referenced by specific names. (See McGraw-Hill Encyclopedia attached as Appendix II.) While we do not find the specific terminology used in Gordon, III, we agree that more likely than not, the teaching of Gordon, III does not teach or fairly suggest the use of a predominantly carbon based material as the nozzle. Therefore, we cannot sustain the rejection of independent claim 1 over Gordon, III in view of Hawley.

While the examiner has relied upon the teachings of various additional prior art, the examiner has not identified any other teachings of a continuous body of carbon, nor has the examiner provided a convincing line of reasoning why it would have been obvious to one of ordinary skill in the art at the time of the invention to use a continuous body of carbon in the claimed manner. Therefore, we cannot sustain the rejection of dependent claims 2-10, 22, and 24.

With respect to dependent claim 71, the examiner has not identified how Hubbard remedies the deficiency in Yasuhara as noted above. Therefore, we cannot sustain the rejection of dependent claim 71.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-10 and 22-24 under 35 U.S.C. § 112, first and second paragraphs, and the decision of the examiner to reject claims 1-10, 22, 24, 67, 68, and 71 under 35 U.S.C. §§ 102 and 103 are reversed.

REVERSED

LEE E. BARRETT)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
MICHAEL R. FLEMING)	APPEALS
Administrative Patent Judge)	AND
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