

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 25

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HISASHI SHICHIJO and RICHARD J. MATYI

Appeal No. 95-4761
Application No. 08/012,781¹

ON BRIEF

Before URYNOWICZ, FLEMING and RUGGIERO, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 14-20, all of the claims pending in the present application. Claims 1-13 have been canceled. An amendment

¹ Application for patent filed January 29, 1993. According to the appellants, the application is a division of Application No. 07/918,777, filed July 27, 1992, now Patent No. 5,238,869, issued August 24, 1993, which is a continuation of Application No. 07/224,428, filed July 25, 1988, now abandoned.

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after final rejection was filed January 12, 1995 and was
entered by the

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The specification stands objected to under 35 U.S.C. § 112, first paragraph, as failing to provide support for the invention as claimed. Claims 17 and 18 stand finally rejected under

35 U.S.C. § 112, first paragraph, for the reasons set forth in the objection to the specification. Claims 14-20 stand finally rejected under U.S.C. § 103 as being unpatentable over Soga or Luryi. Claims 14-20 stand further finally rejected under U.S.C. § 103 as being unpatentable over Soga or Luryi and further in view of Yokogawa. In the statement of the grounds of rejection and in the arguments in the Answer, the Examiner no longer relies on Yokogawa but rather only on Luryi or Soga to support the rejection under U.S.C. § 103.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs³ and Answer for the respective details thereof.

OPINION

³ The Appeal Brief was filed August 25, 1995. In response to the Examiner's Answer dated December 6, 1995, a Reply Brief was filed February 6, 1996 which was acknowledged and entered by the Examiner without further comment on March 8, 1996.

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With respect to the 35 U.S.C. § 112, first paragraph rejection, we note that the Examiner, instead of relying on the "written description" or "enablement" language of the statute, has used the terminology "lack of support" in the statement of the rejection. Our reviewing court has made it clear that written description and enablement are separate requirements under the first paragraph of 35 U.S.C. § 112. Vas-Cath Inc. v. Mahurkar, 935 F.2d 1555, 1560, 19 USPQ 2d 1111, 1114 (Fed. Cir. 1991). The terminology "lack of support" has also been held to imply a reliance on the written description requirement of the statute. In re Higbee and Jasper, 527 F.2d 1405, 1406, 188 USPQ 488, 489 (CCPA 1976).

In view of the factual situation presented to us in this instance we will interpret the Examiner's basis for the 35 U.S.C. § 112, first paragraph rejection as reliance on the "written description" portion of the statute. "The function of the description requirement [of the first paragraph of 35 U.S.C. § 112] is to ensure that the inventor has possession, as of the filing date of the application relied on, of the specific subject matter later claimed by him." In re Wertheim, 541

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F.2d 257, 262, 191 USPQ 90, 96 (CCPA 1976). "It is not necessary that the application describe the claim limitations exactly, . . . but only so clearly that persons of ordinary skill in the art will recognize from the disclosure that appellants invented processes including those limitations." Wertheim, 541 F.2d at 262, 191 USPQ at 96 citing In re Smythe, 480 F.2d 1376, 1382, 178 USPQ 279, 284 (CCPA 1973). Furthermore, the Federal Circuit points out that "[i]t is not necessary that the claimed subject matter be described identically, but the disclosure originally filed must convey to those skilled in the art that applicant had invented the subject matter later claimed." In re Wilder, 736 F.2d 1516, 1520, 222 USPQ 369, 372 (Fed. Cir. 1984), cert. denied, 469 U.S. 1209 (1985), citing In re Kaslow, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

In the Examiner's view (Answer, page 3), the grid described at page 8 of the specification and illustrated in Figure 3 of the drawings does not have non-intersecting lines as recited in claim 17. We agree with the Examiner that each of the lines 500 and 502, although identified by Appellants' specification as non-intersecting relative to each other, are

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ultimately intersecting lines when viewed in the entire context of the described grid. We reach the conclusion, however, that one of ordinary skill in the art would have recognized that Appellants' disclosed grid structure would have non-intersecting as well as intersecting lines. For example, lines around the perimeter of a grid that define the outer contours of the grid are non-intersecting lines. We note that "intersect" is defined in Webster's Ninth New Collegiate Dictionary as "to pierce or divide by passing through or across; to meet and cross at a point". Thus, contour defining perimeter lines which abut but do not cross the grid lines are non-intersecting lines. For the above reasons we can not sustain the rejection of claims 17 and 18 under the first paragraph of 35 U.S.C. § 112.

We will also not sustain the rejection of claims 1-6 under 35 U.S.C. § 103. The Examiner has failed to set forth a prima facie case. It is the burden of the Examiner to establish why one having ordinary skill in the art would have been led to the claimed invention by the express teachings or suggestions found in the prior art, or by implications

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contained in such teachings or suggestions. In re Sernaker,
702 F.2d 989, 995, 217 USPQ 1, 6 (Fed. Cir. 1983).

"Additionally, when determining obviousness, the claimed
invention should be considered as a whole; there is no legally
recognizable 'heart' of the invention." Para-Ordnance Mfg.,
Inc. v. SGS Importers Int'l, Inc., 73 F.3d 1085, 1087, 37
USPQ2d 1237, 1239 (Fed. Cir. 1995), cert. denied, 117 S. Ct.
80 (1996) citing W. L. Gore & Assocs., Inc. v. Garlock, Inc.,
721 F.2d 1540, 1548, 220 USPQ 303, 309 (Fed. Cir. 1983), cert.
denied, 469 U.S. 851 (1984).

We note at the outset that Appellants have not contested
the Examiner's position concerning the obviousness of
forming integrated circuit devices in the first layer of a
heteroepitaxial substrate. Rather, Appellants' arguments in
the Briefs center on the claimed size of the diameter of the
dislocation absorbing grid formed over the second substrate
layer. This particular size is recited as "on the order of 10
 μm " in independent claims 14 and 17 and "being about 10
micrometers" in independent claim 19. The Soga and Luryi
references cited by the Examiner each disclose grid layers
formed on a silicon substrate having a grid diameter size of

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500 μm and 200 Angstroms (0.02 μm), respectively. The Examiner relies on a dictionary definition of the word "order" to support his position that the prior art 500 μm and .02 μm grid diameter sizes meet the claimed requirements.

It is our view, however, that the Examiner has taken the term "order" out of context. Terms in claims are to be given their ordinary and accustomed meaning, unless it appears that the inventor used them differently. Envirotech Corp. v. Al George, Inc., 730 F.2d 753, 759, 221 USPQ 473, 477 (Fed. Cir. 1984). See also Hoechst Celanese Corp. v. BP Chems. Ltd., 78 F.3d 1575, 1578, 38 USPQ2d 1126, 1129 (Fed. Cir. 1996). The clear language of independent claims 14 and 17 uses the phrase "on the order of 10 μm " to describe the size of the grid diameter. We note that Webster's Ninth New Collegiate Dictionary provides a definition of "on the order of" as meaning "about, approximately." "Such broadening usages as "about" must be given reasonable scope; they must be viewed by the decision maker as they would be understood by persons experienced in the field of the invention. Although it is rarely feasible to attach a precise limit to 'about,' the usage can usually be understood in the light of the technology

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embodied in the invention." Modine Mfg. Co. v. United States International Trade Commission, 75 F. 3d 1545, 1554, 37 USPQ2d 1609, 1615 (Fed. Cir. 1996) citing Andrew Corp. v. Gabriel Electronics, Inc., 847 F.2d 819, 821-22, 6 USPQ2d 2010, 2013 (Fed. Cir.), cert. denied, 488 U.S. 927 (1988). In the present instance, the Examiner has provided no showing as to why one of ordinary skill would consider the 500 μm grid size diameter of Soga or the 200 Angstrom (0.02 μm) diameter of Luryi to approximate Appellants' 10 μm dimension.

The Examiner at page 4 of the Answer has further questioned the criticality of Appellants' 10 μm diameter size and asserts the obviousness of any value between the 500 μm and .02 μm grid sizes in the cited references. Appellants have responded (Reply Brief, page 2) that the Examiner has not established a prima facie case of obviousness since there is no suggestion in either of the references that the grid diameter size could be extended to any degree. In contrast to Appellants grid layer which absorbs migrating dislocations, Appellants point to the Luryi reference in which it is disclosed (column 5, line 10) that if the grid dimension is kept below 200 Angstroms (.02 μm) dislocations will be

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prevented from forming in the Ge epitaxial layer. After careful review of Appellants' arguments and the Soga and Luryi references, we agree with Appellants that no teaching exists in the references that would support the desirability of modifying the disclosed grid sizes to achieve Appellants' 10 μm value. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritsch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

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In summary, we have not sustained the rejection of claims 17 and 18 under the first paragraph of 35 U.S.C. § 112 nor the rejection of claims 14-20 under U.S.C. § 103. Therefore, the decision of the Examiner is reversed.

REVERSED

STANLEY M. URYNOWICZ, Jr.)	
Administrative Patent Judge)	
)	
)	BOARD OF PATENT
)	APPEALS
MICHAEL R. FLEMING)	AND
Administrative Patent Judge)	INTERFERENCES
)	
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