

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(2) is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte KENT J. COOPER and SCOTT S. RUTH

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Appeal No. 1997-2688  
Application 08/453,689

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ON BRIEF

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Before HAIRSTON, RUGGIERO and KRASS, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

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Application No. 08/453,689

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 1-20 and 50-68, all of the claims pending in the present application. Claims 21-49 have been canceled.

The claimed invention relates to a contact structure in an integrated circuit having a semiconductor substrate with a trench isolation region formed therein which includes a trench sidewall. Further included is a conductive member which has a portion electrically coupled to a doped region which abuts the trench sidewall. Appellants assert at page 2 of the specification that the particular claimed contact structure allows high density integrated circuits to be formed with low contact resistance.

Representative claim 1 is reproduced as follows;

1. A contact structure in an integrated circuit comprising:

a semiconductor substrate having a major surface;

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a trench isolation region lying within a first portion of the semiconductor substrate, the trench isolation region comprising a trench having a trench sidewall;

a first field effect transistor having a source/drain electrode lying within a second portion of the semiconductor substrate, the source/drain electrode having a first portion and a second portion, the first portion having a first depth and a first width and the second portion having a second depth and a second width, wherein the first depth is greater than the second depth and the first width is less than the second width, and the first portion of the source/drain electrode abuts the trench sidewall; and

a conductive member overlying the trench isolation region, the conductive member having a first portion extending into the trench adjacent to the trench sidewall, wherein the first portion of the conductive member is electrically shorted to the first portion of the source/drain electrode of the first field effect transistor.

No prior art references have been relied on by the Examiner.

Claims 1-20 and 50-68 stand finally rejected as being based on an inadequate disclosure under the written description requirement of the first paragraph of under 35 U.S.C. § 112.

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Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Briefs<sup>1</sup> and Answers for the respective details.

#### OPINION

We note initially that Appellants have indicated (Brief, page 4) that, for the purposes of this appeal, claims 1-20 and 50-68 will stand or fall together. Consistent with this indication, both Appellants and the Examiner have directed and limited their arguments to claim 1, the sole independent claim on appeal. Accordingly, all the claims before us will stand or fall together. Note In re King, 801 F.2d 1324, 1325, 231 USPQ 136, 137 (Fed. Cir. 1986); In re Sernaker, 702 F.2d 989, 991, 217 USPQ 1, 3 (Fed. Cir. 1983). Therefore, we will only consider the rejection against independent claim 1 as representative of all the claims on appeal.

We have carefully considered the subject matter on

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<sup>1</sup>The Appeal Brief was filed October 22, 1996. In response to the Examiner's Answer dated November 20, 1996, a Reply Brief was filed January 22, 1997 which was acknowledged and entered without further comment in the Supplemental Examiner's Answer dated February 3, 1997.

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appeal,

the rejection advanced by the Examiner, the arguments in support of the rejection and the evidence relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Briefs along with the Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answers.

It is our view, after consideration of the record before us, that Appellants' specification in this application describes the claimed invention in a manner which complies with the requirements of 35 U.S.C. § 112. Accordingly, we reverse.

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 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

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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, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

In establishing a basis for a rejection under the written description requirement of the statute, the Examiner has the initial burden of presenting evidence or reasons why persons skilled in the art would not recognize in an applicants' disclosure a description of the invention defined by the claims. Wertheim, 541 F.2d at 265, 191 USPQ at 98. After reviewing the arguments of record, it is our opinion that the Examiner has not provided sufficient reasons or evidence to satisfy such burden.

With respect to representative independent claim 1, the

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Examiner initially asserts (Answer, page 3) a lack of description in the original disclosure of the claimed relative dimensional relationship of the first and second portions of the source/drain electrode. We agree with the Examiner's observation that the specification part of Appellants' original disclosure is silent as to the specific widths and depths of the source/drain electrode. It is our view, however, that, as argued by Appellants (Brief, page 8), the original drawings, Figure 15 in particular, provide a clear illustration of the claimed relative width and depth of the first and second portions of the source/drain electrode. It is well settled that drawings alone may provide a "written description" of an invention as required by 35 U.S.C. § 112. See, e.g., Vas-Cath, Inc. v. Mahurkar, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991). "In those instances where a visual representation can flesh out words, drawings may be used in the same manner and with the same limitations as the specification." Autogiro Co. of America v. United States, 384 F.2d 391, 398, 155 USPQ 697, 703 (Ct. Cl. 1967).

Appellants' description of the invention has further been questioned by the Examiner with respect to the designation of

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doped regions 72 and 74, illustrated in Figure 15, as "electrodes". In making this argument, the Examiner emphasizes the qualifying "proper circumstances" to the principle that drawings can be relied on to satisfy the "written description" requirement of 35 U.S.C. § 112. As asserted by the Examiner (Answer, page 6):

Those proper circumstances were described as being, "[W]hat the drawing in fact discloses to one skilled in the art." Id. One of ordinary skill in the art would not look at Figure 15 and determine that elements 72 and 74 were electrodes.

After reviewing the totality of the arguments and evidence in this case, however, we are in agreement with Appellants' position as stated in the Briefs. Initially, we note that Appellants' specification (page 8, lines 32-33) specifically and unambiguously refers to doped regions 72 and 74 as "electrodes". From the evidence of record, the description of the operation of these doped regions at pages 8 and 9 of the specification is not inconsistent and certainly not repugnant to accepted usage of the term "electrode."<sup>2</sup>

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<sup>2</sup>At page 2 of their Reply Brief, Appellants have submitted a definition of "electrode" from Webster's Ninth New Collegiate Dictionary as "a semiconductor device element that emits or collects electrons or holes or that controls their movements."

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Appellants may be their own lexicographer as long as the meaning assigned to the term is not repugnant to the term's well known usage. In re Hill, 161 F.2d 367, 73 USPQ 482 (CCPA 1947).

Further, the Examiner's contention that the skilled artisan would not determine from the illustration in Appellants' Figure 15 that doped regions 72 and 74 were electrodes is totally devoid of support on the record. No line of reasoning or evidence has been presented by the Examiner to support such assertion. We are not inclined to dispense with proof by evidence when the proposition at issue is not supported by a teaching in a prior art reference, common knowledge or capable of unquestionable demonstration. Our reviewing court requires this evidence in order to establish a prima facie case. In re Knapp-Monarch Co., 296 F.2d 230, 232, 132 USPQ 6, 8 (CCPA 1961); In re Cofer, 354 F.2d 664, 668, 148 USPQ 268, 271-72 (CCPA 1966).

For all of the above reasons, it is our opinion that Appellants have satisfied the statutory written description requirement because they were clearly in possession of the invention at the time of filing of the application.

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Therefore, we do not sustain the rejection of representative claim 1, nor of claims 2-20 and 50-68 which stand together with claim 1, under the first paragraph of 35 U.S.C. § 112. Accordingly, the decision of the Examiner rejecting claims 1-20 and 50-68 is reversed.

REVERSED

Kenneth W. Hairston	)
Administrative Patent Judge	)
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	)
	) BOARD OF PATENT
Errol A. Krass	)
Administrative Patent Judge	) APPEALS AND
	)
	) INTERFERENCES
	)
Joseph F. Ruggiero	)
Administrative Patent Judge	)

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