

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 38

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ANTHONY M. McCARTHY

Appeal No. 2003-1195
Application No. 08/526,339

ON BRIEF

Before KRASS, FLEMING and RUGGIERO, Administrative Patent Judges.
KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1-10 and 25-35.

The invention is directed to a structure for a semiconductor device. More particularly, the invention pertains to a silicon on insulator self-aligned transistor best shown in Figure 1 of the application.

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Representative independent claim 1 is reproduced as follows:

1. A silicon on insulator self-aligned transistor, comprising:

a substrate composed of insulator material;

a layer of doped polysilicon on a surface of said substrate, said layer of polysilicon having sections defining therein a polysilicon source, a polysilicon gate, and a polysilicon drain;

a layer of oxide material adjacent and in contact with a surface of said layer of polysilicon, said layer of oxide material having holes therein containing doped polysilicon in contact with said polysilicon source and said polysilicon drain;

a layer of silicon of conductivity type 1 adjacent and in contact with a surface of said layer of oxide material;

a diffused source and a diffused drain located in said layer of conductivity type 1 silicon and in contact with said polysilicon source and said polysilicon drain via said doped polysilicon contained in said holes in said layer of oxide material; and

a pair of bridge regions located in said layer of conductivity type 1 silicon and in electrical contact with said diffused source and said diffused drain guaranteeing electrical contact with an inversion region located under said layer of oxide material covered by said polysilicon gate.

The examiner relies on the following references:

Zavracky et al. (Zavracky)	5,206,749	Apr. 27, 1993
Spangler et al. (Spangler)	5,343,064	Aug. 30, 1994
Inoue et al. (Inoue)	5,434,441	Jul. 18, 1995

Claims 1-10 and 25-35 stand rejected under 35 U.S.C. § 112, second paragraph.

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Claims 1-10 and 25-35 stand further rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner offers Spangler and Inoue with regard to claims 1-4, 6-10, 25-27 and 29-35, adding Zavracky with regard to claims 5 and 28.

Reference is made to the brief and answer for the respective positions of appellant and the examiner.

OPINION

With regard to the rejection of the claims under 35 U.S.C. § 112, second paragraph, the examiner states that the claimed source and drain are "incorrectly identified" because claims 1, 25 and 35 state that "the polysilicon layer defines a source, a drain and a gate but those portions of the polysilicon which are identified as the source and the drain are only the connections to those features and are not those features themselves" because the source and drain are identified in the figures as 34 and 35, respectively (answer, page 3). Moreover, the examiner questions whether there are two sources and two drains because the layer of silicon "is claimed as having a diffused source and drain which seems to be a second set" (answer, page 3).

The inquiry under 35 U.S.C. § 112, second paragraph, is whether the claims do, in fact, set out and circumscribe a particular area with a reasonable degree of precision and

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particularity. It is here where 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 the ordinary skill in the pertinent art. In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

Applying this test to the instant claims, we find that the instant claims do, indeed, set out and circumscribe a particular area with a reasonable degree of precision and particularity and do not run afoul of the dictates of 35 U.S.C. § 112, second paragraph. It is clear from the instant specification, at page 6, that there is a diffused source 15 and a diffused drain 16, in addition to sections within the polysilicon layer defining a source 21 and a drain 23. When the instant claimed subject matter is read in light of the specification, we find no ambiguity in the claim language whatsoever.

The rejection of claims 1-10 and 25-35 under 35 U.S.C. § 112, second paragraph, is reversed.

Turning now to the rejections under 35 U.S.C. § 103, the examiner employs the cover figure of Spangler for a showing of a substrate composed of insulator material, at least a layer of doped polysilicon on the substrate surface, with source, gate and

drain sections defined within the layer, a layer of oxide material adjacent the polysilicon, with holes therein containing polysilicon, and a layer of n-type silicon having doped source/drain regions contacting the doped polysilicon. The examiner cites Inoue as teaching, on the cover figure, a pair of bridge regions 12/12' in contact with source/drain regions 4/5 and concludes therefrom that it would have been obvious "to provide bridge regions as taught by Inoue . . . in the device of Spangler . . . in order to limit the electric field within the channel region as desired by Inoue . . ." (answer, page 4).

For his part, in discussing the combination of Spangler and Inoue, at pages 7-8 of the brief, appellant does not argue that there is any fault with the examiner's interpretation of the references or with the combination of references. Instead, appellant merely relies on our earlier decision of July 31, 2000 (Paper No. 15), arguing that the examiner's rejection is "in conflict with points set forth" in that decision (brief, page 7). Appellant states that since that decision was based on a broad interpretation of the term "section" and that term no longer appears in the claims, the rejection is improper. While such an argument would be valid if the examiner was basing the rejection on the term "section," this does not appear to be the basis for

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the rejection. Moreover, reference to claim 1, for example, wherein a "layer of polysilicon having *sections . . .*" (emphasis added) is recited would indicate that, contrary to appellant's assertion, that term still does appear in the claims. Accordingly, appellant's argument in this regard is not persuasive of nonobviousness.

Appellant also argues that "the relationship of the gate with respect to being 'located intermediate said source section and said drain section' has now been clarified as being on the same side of the oxide layer, which is not taught by Spangler (see page 6, starting last paragraph of the Decision)" (brief, page 7). It is not clear which claim or claims are being referenced by appellant. Appellant seems to be making arguments based on our earlier decision but the language being cited by appellant, regarding the relative locations of the source, gate and drain, vis-à-vis the oxide layer, does not appear in the instant claims. Such arguments fail from the outset because they are not based on limitations appearing in the instant claims. In re Self, 671 F.2d 1344, 1348, 213 USPQ 1, 5 (CCPA 1982).

Appellant argues that the location of the "dielectric layer," as discussed at pages 7 and 8 of the Decision, has been clarified as being "in contact with the substrate and the layer

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of doped polysilicon" and directs this argument to instant claim 7, which has been amended from the claim appearing before us in our earlier decision (brief, pages 7-8). This is a plausible argument in view of our earlier affirmance based on layer 44 in Spangler not being directly in contact with dielectric layer 180 and our finding that the earlier claim did not require such contact. Instant claim 7 does require such contact with the substrate and the layer of doped polysilicon. Yet, the examiner never adequately addresses this issue.

Moreover, while appellant makes a variety of arguments, indicating various claimed features which are alleged to not be taught or suggested by Spangler, as the primary reference, the examiner never adequately addresses these arguments. For example, appellant points to the claim 1 limitation of "a layer of doped polysilicon on a surface of said substrate, said layer of polysilicon having sections defining therein a polysilicon source, a polysilicon gate, and a polysilicon drain" and argues that in Figure 2 of Spangler, gates 86 and 88 are not in layer 44 and thus fail to teach these claimed features. Similarly, appellant points out various other claimed limitations, at pages 9-11 of the brief, and argues that the cited features are not taught or suggested by the applied references.

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While appellant's arguments appear reasonable on their face, the examiner's response is actually an admission that Spangler does not show the claimed features. At page 7 of the answer, the examiner states that Spangler shows "the functional structure that is shown in the specification but do not show the incorrect structure that is described in the claims" [sic]. At the top of page 8 of the answer, the examiner states that Spangler shows "all the features shown in the specification and do not show the features erroneously shown in the claims" [sic].

Accordingly, it would appear that the examiner is somehow applying Spangler to what is disclosed in appellant's specification but is not applying the reference to the instant *claimed* subject matter and the examiner admits as much. Accordingly, the examiner's rejections based on prior art are, on their face, in error since it is the claimed subject matter to which prior art must be applied in a rejection based on such prior art.

Therefore, we will not sustain the rejection of claims 1-10 and 25-35 under 35 U.S.C. § 103.

If the examiner is trying to make a point that whereas the specification describes a "correct" structure, the instant claims do not set forth that structure, as disclosed, perhaps the

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rejection should have been under 35 U.S.C. § 112, first paragraph, under the written description clause for lack of support for the claimed subject matter. We take no such position on any such rejection since it is not before us. In any event, it is not proper to base a prior art rejection under 35 U.S.C. § 103 on subject matter which is not claimed or on subject matter which is not understood.

Since we have not sustained the rejection of claims 1-10 and 25-35 under either 35 U.S.C. § 112, second paragraph, or 35 U.S.C. § 103, the examiner's decision is reversed.

REVERSED

ERROL A. KRASS)	
Administrative Patent Judge)	
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MICHAEL R. FLEMING)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
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JOSEPH F. RUGGIERO)	
Administrative Patent Judge)	

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