

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 32

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte ADOLF SCHONER and KURT ROTTNER

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Appeal No. 2001-0032  
Application No. 08/735,389

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HEARD: July 16, 2003

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Before OWENS, PAWLIKOWSKI, and MOORE, Administrative Patent Judges.

OWENS, Administrative Patent Judge.

*DECISION ON APPEAL*

This appeal is from the final rejection of claims 2-4, 6 and 7, which are all of the claims remaining in the application.

*THE INVENTION*

The appellants claim a method for making a crystalline layer of SiC having at least a region thereof doped with boron atoms, wherein the SiC is implanted with both boron atoms and carbon atoms. Claim 6 is illustrative:



such that layer remains crystalline' in the instant application"  
(answer, page 3).

The appellants' specification discloses an embodiment wherein boron atoms are implanted into an SiC crystal, then carbon atoms are implanted, and "[a]fter that, the SiC crystal is heated for annealing" (page 6, line 36 - page 7, line 10). This method, wherein the SiC is crystalline initially and remains crystalline, is the embodiment in the appellants' independent claims (6 and 7) wherein step (b) is performed after step (a).

Therefore, the examiner's argument that there is no explicit disclosure of implanting carbon atoms into the SiC such that it remains crystalline clearly is incorrect as to this embodiment. Moreover, the examiner's argument does not provide the required reasoning as to why one of ordinary skill in the art would not have considered the appellants' specification, which describes this embodiment and does not disclose any embodiment wherein the SiC becomes amorphous, to be inadequate for reasonably indicating possession of a method wherein the SiC remains crystalline when the boron is implanted after or simultaneously with the carbon. See *In re Alton*, 76 F.3d 1168, 1175, 37 USPQ2d 1578, 1583 (Fed. Cir. 1996).

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The examiner argues that "[t]here is not even an exemplified carbon dose to determine whether the layer of SiC becomes amorphous or crystalline due to carbon implantation" (answer, page 3), and that "[w]ithout proper disclosure such as carbon dose and substrate temperature, one can not conclude that carbon is implanted in SiC in a manner [such that] SiC remains crystalline" (answer, page 6). These arguments are not well taken because they are directed toward operability or enablement, which are not issues before us.

For the above reasons we find that the examiner has not carried the burden of establishing a *prima facie* case of lack of adequate written description of the appellants' claimed invention.

*Rejection under 35 U.S.C. § 102(b)*

Baliga discloses a method for forming a p-n junction in SiC wherein, sequentially, SiC is amorphodized by implanting ions which can be carbon into the SiC, p-type dopant ions which can be boron are implanted into the SiC, the SiC is annealed, and the SiC is recrystallized to convert the amorphous region into a substantially monocrystalline region (col. 3, lines 27-64; col. 4, lines 29-31).

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The examiner states that he has not considered the appellants' claim requirement, which the examiner considers to be new matter, that the SiC remains crystalline (answer, pages 3 and 6). The examiner's refusal to consider this claim requirement is contrary to standard examining practice. As stated in the *Manual of Patent Examining Procedure* § 2163.06(I) (8<sup>th</sup> ed. rev. 1, Feb. 2003): "If new matter is added to the claims, the examiner should reject the claims under 35 U.S.C. 112, first paragraph - written description requirement. *In re Rasmussen*, 650 F.2d 1212, 211 USPQ 323 (CCPA 1981). The examiner should still consider the subject matter added to the claim in making rejections based on prior art since the new matter rejection may be overcome by applicant."

Moreover, even if the appellants' claim requirement that the SiC remains crystalline is ignored, the examiner has not established a *prima facie* case of anticipation. First, the appellants' claims require that boron is implanted into crystalline SiC, whereas Baliga's boron is implanted into amorphous SiC (col. 3, lines 55-58). Second, for the appellants' claimed invention to be anticipated by Baliga, the reference must lead one of ordinary skill in the art to a composition which falls within the scope of the claim "without any need for

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picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference." *In re Arkley*, 455 F.2d 586, 587, 172 USPQ 524, 526 (CCPA 1972). To arrive at the appellants' combination of boron and carbon from Baliga's disclosure, however, one must pick boron from among four disclosed p-type dopants (col. 3, lines 55-57) and carbon from among six disclosed electrically inactive ions (col. 3, lines 33-37). The examiner has not established that boron and carbon are directly related by Baliga.

Accordingly, we find that the examiner has not established a *prima facie* case of anticipation of the appellants' claimed invention by Baliga.

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*DECISION*

The rejections of claims 2-4, 6 and 7 under 35 U.S.C. § 112, first paragraph, written description requirement, and claims 2-4 and 6 under 35 U.S.C. § 102(b) over Baliga, are reversed.

*REVERSED*

TERRY J. OWENS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
BEVERLY A. PAWLIKOWSKI	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
JAMES T. MOORE	)	
Administrative Patent Judge	)	

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Burton A. Amernick  
CONNOLLY BOVE LODGE & HUTZ LLP  
1990 M Street, N.W., Suite 800  
Washington, D.C. 20036-3425