

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. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte STEVEN FALABELLA

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Appeal No. 1998-2910  
Application No. 08/500,282

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ON BRIEF

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Before KRASS, RUGGIERO, and LALL, Administrative Patent Judges.

KRASS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the final rejection of claims 1, 3-6, 9-12 and 15-20. Claims 2, 7, 8 and 14 have been canceled and claim 13 has been found by the examiner to be directed to allowable subject matter.

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The invention is directed to an amorphous-diamond electron emitter and method of forming same.

Representative independent claim 6 is reproduced as follows:

6. In an electron emitter, the improvement comprising:  
a substrate having a textured surface, and  
a layer of doped amorphous-diamond on the substrate.

The examiner relies on the following references:

Kumar [Kumar 193] 1996	5,536,193	Jul. 16,
Blanchet-Fincher et al. 1996 [Fincher]	5,578,901	Nov. 26,
Kumar et al. 1997 [Kumar 200]	5,600,200	Feb. 4,

Claims 1, 3-6, 9-12 and 15-20 stand rejected under 35 U.S.C. § 103 as unpatentable over Kumar [193], Kumar [200],

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and Fincher.

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

OPINION

We affirm.

In our view, the examiner has established a prima facie case of obviousness of the claimed subject matter at pages 4-5 of the answer, explaining how the various references are applied, identifying various portions of the references which disclose the claimed features, and providing a rationale basis as to why the references would have been combined within the meaning of

35 U.S.C. § 103.

Thus, the burden of overcoming this prima facie showing of obviousness of the claimed subject matter shifted to

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appellant.

Appellant initially contends that the rejection is improper on its face because "the Examiner is relying on Kumar et al., in view of Kumar, and not on each reference individually as stated in the rejection. Further, it is noted that there is zero mention of 'Fincher et al.' in the body of the rejection, and thus it appears that this reference is not being relied upon" [brief-page 8]. We do not find this argument to be persuasive as the statement of the rejection makes it clear that the examiner is relying on Kumar 200, Kumar 193 **and** Fincher, i.e., the combination of all the references taken together, and not on the references individually. Thus, we do not agree with appellant that the rejection states that the references are relied upon individually. Further, insofar as Fincher not being mentioned in the body of the rejection, as set forth in the final rejection, while the examiner may have inadvertently omitted Fincher therein, Fincher was clearly part of the statement of the rejection and the examiner explained the applicability of Fincher in the answer, giving appellant ample opportunity, in

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a reply brief, to respond, if appellant so desired. The record does not show any reply brief filed by appellant.

With regard to the substantive nature of the claimed invention, appellant agrees that Kumar 200 discloses an electron emitter including a substrate and a layer of doped amorphous diamond [brief-page 7] but argues that there is no teaching in any of the applied references of the substrate "having a textured surface," as recited in the claims. Although the examiner does not point to anything in particular in the Kumar 200 disclosure related to a "textured surface" of the substrate, the examiner does argue, convincingly, in our opinion, that all surfaces of substrates are "textured" to some extent unless stated to be otherwise. Appellant does not respond to this cogent reasoning but merely notes that no applied reference teaches a substrate with a "textured surface."

In our view, the examiner is correct in the assessment that all substrates have a textured surface, to some extent. If the textured surface of the instant invention is somehow

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distinguishable from any such substrate surface, it is up to appellant to show how the disclosed textured surface of the instant invention differs from other textured surfaces. Yet, there is no disclosure in the instant application of the textured surface being unique, in any regard, from textured surfaces of any substrates. Appellant calls this textured surface a "primary feature of the invention" [brief-page 9]. Yet, it is interesting to note that the original claims never even mentioned such a "textured surface." Moreover, at page 7, lines 5-7, of the instant specification, it is stated that "the substrate can be composed of any flat or textured material composition required as long as an appropriate binder or adhesive layer is used." Thus, it is clear that there is no criticality to the surface being "textured." It is only important that proper adhesion is attained. As the examiner points out, it would have been obvious that, in general, better adhesion is attained with a textured, as opposed to a smooth, surface. Since there is clearly no criticality to the claimed "textured surface," we fail to find a distinction between the claimed "textured surface" and any prior art substrate surface which will be "textured" to some degree,

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however microscopic. Appellant does not disclose or claim any specific degree, or range, of texture of the substrate surface. Accordingly, we find appellant's argument regarding the substrate surface being "textured" to be unpersuasive of nonobviousness.

With regard to claim 10, appellant argues the nonobviousness of the textured surface comprising "an array of pyramids etched on the surface." The examiner points to two references (U.S. Patent Nos. 5,581,146 and 5,448,132) as evidence of pyramid-shaped emitters. To whatever extent these two references may be applicable to the instant claimed invention, we will not consider them because they are not part of the statement of rejection and may not properly be relied upon. In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970). However, column 7, lines 28-35, of Kumar 200 is clearly suggestive of pyramid-shaped emitters. Since it is recited therein that "[c]ertain micro-tip geometries may result in a larger enhancement factor and, in fact, the present invention could be used in a micro-tip or 'peaked' structure," the skilled artisan would have understood such a

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"peaked" structure to be pyramid-shaped and, notably, for the same reason espoused by appellant, i.e., larger enhancement, or better emission characteristics. The disclosed "peak" structure would also be suggestive of the "textured surface" discussed supra.

Since all of appellant's arguments have been treated and dismissed, for the reasons supra, as being not persuasive of nonobviousness in view of the prima facie case presented by the examiner, we will sustain the rejection of claims 1, 3-6, 9-12 and 15-20 under 35 U.S.C. § 103.

The examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

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AFFIRMED

ERROL A. KRASS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
JOSEPH F. RUGGIERO	)	
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
PARSHOTAM S. LALL	)	
Administrative Patent Judge	)	

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