

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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 INGVAR ERIKSSON, JAN BACKLUND and LEIF ZACKRISSON

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Appeal No. 1998-1266  
Application No. 08/354,459<sup>1</sup>

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ON BRIEF

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Before McCANDLISH, Senior Administrative Judge, MEISTER, and ABRAMS, Administrative Patent Judges.

McCANDLISH, Senior Administrative Patent Judge.

DECISION ON APPEAL

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<sup>1</sup> Application for patent filed December 12, 1994. According to appellants, this application is a continuation of Application No. 08/064,812, filed May 19, 1993, now abandoned.

This is a decision on an appeal from the examiner's final rejection of claims 3 and 5 through 8.<sup>2</sup> No other claims are pending in the application.

The claimed invention relates to a method of machining a transverse opening in a fiber-reinforced laminated composite material. According to claim 5, the only independent claim on appeal, a hole (3) is initially formed in the composite material. A cutting tool (5)<sup>3</sup> positioned in the initial hole (called a "formed hole" in the appealed claims) is rotated

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<sup>2</sup> An amendment to claim 3 as filed after the examiner's answer has been entered by the examiner. This amendment responded to a new ground of rejection introduced in the examiner's answer. As a result of this amendment, the copy of claim 3 in the appendix to appellants' brief is no longer correct.

<sup>3</sup> According to appellants' specification (see page 4, for example), "the cutting tool is in the form of a grinding tool, . . ." Appealed claim 6 also recites that the "cutting tool comprises a grinding tool." However, according to its dictionary definition in Webster's Third New International Dictionary (G. & C. Merriam Company, 1971), "grinding" is not a cutting action. Instead, "grinding" in this dictionary authority means "to wear down, polish or sharpen by friction." For purposes of this appeal, we will nevertheless interpret the word "cutting" to be broad enough to encompass the act of grinding to be consistent with appellants' specification.

and moved relative to the edge of the initially formed hole to machine the hole. Claim 5 recites that "said moving [of the cutting tool is] dependent on a radial extent of any physical defects in the composite material caused from making the formed hole, whereby substantially all of the said physical defects in the composite material caused from making the formed hole are removed . . ."

A copy of claim 5, which is illustrative of the subject matter at issue, is appended to this decision.

The following references are relied upon by the examiner as evidence of obviousness in support of his rejection under 35 U.S.C. § 103:

DeFries et al. (DeFries) 19, 1988	4,720,218	Jan.
Hirabayashi et al. 1989 (Hirabayashi)	4,800,686	Jan. 31,

Claims 3 and 5 through 8 stand rejected under 35 U.S.C.

§ 103 as being unpatentable over DeFries in view of Hirabayashi.<sup>4</sup> Reference is made to the final office action mailed October 3, 1995 for complete details of this rejection.

With regard to claim 5, the only limitation argued as a distinction over the applied references is the step of "moving the cutting tool relative to an edge of the formed hole, said moving of the cutting tool [being] dependent on a radial extent of any physical defects in the composite material caused by making the formed hole, . . ."<sup>5</sup> In support of patentability of this claim, appellants concede that DeFries teaches the concept of drilling and grinding a hole in a composite material" (main brief, page 4), but contends that this reference lacks a disclosure of "moving the cutting tool in a parallel motion relative to an edge of the formed hole" (emphasis added; brief, page 4).

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<sup>4</sup> As a result of the amendment filed after the examiner's answer, the new ground of rejection of claim 3 under 35 U.S.C. § 112, second paragraph, has been withdrawn (see the examiner's letter mailed October 20, 1997). Accordingly, the only issue before us is the propriety of the examiner's rejection under § 103.

<sup>5</sup> See the argument set forth on page 4 of the main brief.

Appellants' argument as quoted supra is not persuasive inasmuch as claim 5 is not limited to a tool movement that is "parallel" in any respect, much less movement of the tool in a direction "parallel" to the laminae of the composite material. In this regard, it is well established patent law that features not claimed may not be relied upon to support patentability. See In re Self, 671 F.2d 1344, 1350-51, 231 USPQ 1, 5 (CCPA 1982) and In re Richards, 187 F.2d 643, 645, 89 USPQ 64, 66 (CCPA 1951).

Rather than requiring the direction of tool movement to be parallel (e.g., in a direction extending radially of the formed hole and hence in a plane parallel to the laminae of the composite material), claim 5 merely recites that the tool is moved "relative to the edge of the formed hole" and that such movement is "dependent on a radial extent of any physical defects in the composite material . . ." When this claim language is given its broadest reasonable interpretation (See In re Zletz, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)) without reading limitations from the specification

into the claim (See Sjolund v. Musland, 847 F.2d 1573, 1581-82, 6 USPQ2d 2020, 2027 (Fed. Cir. 1988)), it is broad enough to read on the axial movement of DeFries' combination tool.

DeFries' combination tool comprises a drill portion 10 and an axially adjacent frustoconical grinding portion 20 for machining a transverse opening in a laminated fiber-reinforced composite material. The drill portion 10 is located at the distal end of DeFries' tool so that upon rotation and axial movement of combination tool, the drill portion 10 first penetrates the composite material to form an initial hole (corresponding to appellants' claimed formed hole) through the composite material as shown in Figure 2 of DeFries' patent drawings.

According to the examiner's findings on page 2 of the final office action mentioned supra, the hole formed by DeFries' drill portion is "perpendicular to the longitudinal direction of the fibers [in the laminated composite material]" and causes delamination, as well as splintering, at the periphery of the hole similar to the damage caused by forming

the initial hole in appellants' method. Reference is made to column 1, lines 21-23, and the paragraph bridging columns 6 and 7 of the DeFries specification.

As the axial movement of DeFries' tool continues, the frustoconical portion engages and grinds the periphery of the drilled hole to enlarge the hole and to completely eliminate the delamination damage produced by forming the initial hole as disclosed in column 7, lines 4-9, of DeFries' specification and shown in Figure 4 of DeFries' patent drawings. Appellants have not contested any of the foregoing findings. The recitation in claim 5 of moving the cutting tool relative to the edge of the formed hole is broad enough to read on the axial movement of DeFries' combination tool as described supra. Accordingly, the claimed tool-moving step does not distinguish from DeFries, making it unnecessary to rely on Hirabayashi for a suggestion of this feature. In any case, Hirabayashi suggests the concept of widening an initial hole in a sheet material by moving a cutting tool relative to the edge of the hole for the purpose of eliminating damage

produced by the formation of the initial hole. See column 3, lines 16-21, of the Hirabayashi specification.

For the foregoing reasons, we will sustain the examiner's § 103 rejection of claim 5. We will also sustain the § 103 rejection of dependent claims 3, 6 and 8 since these dependent claims have not been argued separately of claim 5 and, instead, are stated on page 2 of the main brief to stand or fall with claim 5. See 37 CFR § 1.192(c)(7) as amended effective April 21, 1995. See also In re Young, 927 F.2d 588, 590, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Wood, 582 F.2d 638, 642, 199 USPQ 137, 140 (CCPA 1978).

However, we cannot sustain the § 103 rejection of dependent claim 7. We find no teaching or suggestion in Hirabayashi that the parallel movement of the cutting tool to chamfer the top and bottom corner edges of the hole drilled through the glass plate will result in the removal of substantially all of the damage caused by initially forming the hole as required by the combined subject matter of claims 5 and 7.

Under the provisions of 37 CFR 1.196(b), the following new grounds of rejection are entered against claims 3 and 5 through 8:

1. Claims 3 and 5 through 8 are rejected under the first paragraph of 35 U.S.C. § 112 as being based on a specification which, as filed, does not satisfy the description requirement in that paragraph.

2. Claims 3 and 5 through 8 are rejected under the second paragraph of 35 U.S.C. § 112 as being indefinite and hence failing to particularly point out and distinctly claim the subject matter which appellants regard as their invention.

With regard to the new ground of rejection of claims 3 and 5 through 8 under § 112 first paragraph our first difficulty with the claim language centers on the recitation in claim 5 that the cutting tool has "a diameter which is one of equal to and smaller than a diameter of the formed hole." We interpret this limitation to mean that the diameter of the cutting tool is either equal to or smaller than a diameter of the formed

hole. There is no descriptive support in the original specification, the original claims or the original drawings for the recitation that the diameter of the cutting tool is "equal to . . . a diameter of the formed hole."

With further regard to the new ground of rejection of claims 3 and 5 through 8, under § 112, first paragraph our next difficulty with the claim language centers on the recitation in claim 5 that the transverse opening has "at least one of a size and geometry which is substantially different from a size and geometry of the formed hole." We interpret the grouping "at least one of a size and geometry" (i.e., configuration) to mean a size and/or geometry. Given this interpretation, claim 5 may be viewed as reciting that the transverse opening has "a size . . . which is substantially different from a size and geometry of the formed hole" (emphasis added). There is no descriptive support in the original specification, the original claims or the original drawings for the recitation that a size of the transverse opening is different from a geometry of the formed hole, whatever that may mean.

As a result, the disclosure in appellants' application as originally filed does not reasonably convey to the artisan that appellants had possession at that time of the subject matter now claimed. The disclosure as originally filed, therefore, does not satisfy the description requirement in the first paragraph of

§ 112. See In re Kaslow, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983).

With regard to the new ground of rejection of claims 3 and 5 through 8 under the second paragraph of § 112, our difficulty with the claim language again focuses on the recitation in claim 5 that the transverse opening has "at least one of a size and geometry which is substantially different from a size and geometry of the formed hole." Given the foregoing interpretation of this limitation, it is unclear how a size of an opening alone can be construed as being different from a geometry of a hole.

The decision of the examiner to reject claims 3, 5, 6 and 8 under § 103 is affirmed, and the decision of the examiner to

reject claim 7 under § 103 is reversed. In addition, new grounds of rejection have been introduced against claims 3 and 5 through 8 under 37 CFR § 1.196(b). In addition to affirming the examiner's rejection of one or more claims, this decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b)(amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides, "A new ground of rejection shall not be considered final for purposes of judicial review."

Regarding any affirmed rejection, 37 CFR § 1.197(b) provides:

(b) Appellant may file a single request for rehearing within two months from the date of the original decision . . . .

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of

rejection to avoid termination of proceedings (37 CFR

§ 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

Should the appellant elect to prosecute further before the Primary Examiner pursuant to 37 CFR § 1.196(b)(1), in order to preserve the right to seek review under 35 U.S.C. §§ 141 or 145 with respect to the affirmed rejection, the effective date of the affirmance is deferred until conclusion of the prosecution before the examiner unless, as a mere incident to the limited prosecution, the affirmed rejection is overcome.

If the appellant elects prosecution before the examiner and this does not result in allowance of the application, abandonment or a second appeal, this case should be returned to the Board of Patent Appeals and Interferences for final action on the affirmed rejection, including any timely request for rehearing thereof.

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

AFFIRMED-IN-PART /1.196(b)

HARRISON E. McCANDLISH	)	
Senior Administrative Patent Judge	)	
)	)	
	)	
	)	
	)	BOARD OF PATENT
JAMES M. MEISTER	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
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	)	
NEAL E. ABRAMS	)	
Administrative Patent Judge	)	

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APPENDIX

5. A method of machining a transverse opening in a fiber-reinforced composite material, said method comprising the steps of:

forming hole in a composite material, said composite material being of laminated construction with each lamina having a plurality of fibers oriented in a respective longitudinal direction, said forming step resulting in delamination and splintering of said formed hole about a radial periphery thereof;

positioning a rotatable cutting tool in the formed hole, said cutting tool having a wear-resistant outer working surface and a diameter which is one of equal to and smaller than a diameter of the formed hole, said cutting tool defining an axis of rotation

positioning the composite material whereby said axis of rotation is disposed substantially perpendicular to each said respective longitudinal direction; and

machining the transverse opening in the composite material by rotating the cutting tool about the axis of rotation and moving the cutting tool relative to an edge of the formed hole, said moving of the cutting tool dependent on a radial extent of any physical defects in the composite material caused from making the formed hole, whereby substantially all of said Physical defects caused from making the formed hole are removed from the composite material, the transverse opening having at least one of a size and geometry which is substantially different from a size and geometry of the formed hole.

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