

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(2) is not binding precedent of the Board.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. 35

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ROBERT P. FAIRBANKS

Appeal No. 1997-2840
Application 08/265,971

ON BRIEF

Before WINTERS, GARRIS, and KRATZ, Administrative Patent
Judges.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the refusal of the
examiner to allow claim 5 as amended subsequent to the final
rejection. This is the sole claim pending in the above
identified application.

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The subject matter on appeal relates to a method for joining a plurality of layers of non-fully cured composite material which comprises generating a plurality of spaced apart holes through superimposed layers of a preform by penetrating a thin pointed tool into and through the preform using ultrasonic energy applied into the tool and then fastening together the layers through the holes using fiber members.¹ A copy of the appealed claim, taken from the appellant's brief, is appended to this decision.

The following references are relied upon by the examiner as evidence of obviousness:

Lackman et al. (Lackman)	4,331,495	May 25, 1982
Makabe et al. (Makabe)	4,671,149	Jun. 9, 1987
Greszczuk	4,696,711	Sep. 29, 1987
Nelson et al. (Nelson)	4,971,641	Nov. 20, 1990
Ikeda et al. (Japanese '724)	3-222724	Oct. 1, 1991

¹It is the implicit and correct position of the appellant and the examiner that the appealed claim should be interpreted consistent with the subject specification as defining a method in which the above noted generating and fastening steps are separate from and sequential to one another.

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The appealed claim is rejected under 35 U.S.C. § 103 as being unpatentable over Japanese '724 in view of Nelson, Greszczuk, Makabe and Lackman.

We refer to the brief and reply brief and to the answer for a complete exposition of the opposing viewpoints expressed by the appellant and by the examiner concerning the above noted rejection.

OPINION

For the reasons set forth below, we cannot sustain this rejection.

The pivotal determination for this appeal is whether the appellant has succeeded in antedating the Japanese '724 reference via the affidavit under 37 CFR § 1.131 filed January 26, 1996. Further and more specifically, this determination rests upon whether the aforementioned affidavit is adequate to establish that the here claimed invention had been reduced to practice prior to the October 1, 1991 publication date of the Japanese reference.

In this latter regard, the appellant and the examiner have differing viewpoints as to the character of the subject

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matter described in the "INVENTION DISCLOSURE" attachment of the affidavit. The appellant, of course, regards this subject matter as corresponding to the method defined by appealed claim 5 wherein the generating and fastening steps are separately and sequentially performed. On the other hand, the examiner considers the subject matter of the "INVENTION DISCLOSURE" to constitute a method in which these steps are performed simultaneously rather than separately and sequentially.

Having carefully assessed the respective positions advanced by the appellant and the examiner concerning this matter, we reach the determination that the appellant's interpretation of the "INVENTION DISCLOSURE" is well supported and therefore persuasive for essentially the reasons set forth in the brief and reply brief. Moreover, we agree with the appellant that the portions of this "INVENTION DISCLOSURE" which the examiner regards as supporting his position are, for the most part, merely statements of a possible use (i.e., the simultaneous practice of the generating/hole-making and fastening/sewing functions) that ultimately proved to be not possible.

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Concerning this last mentioned point, we additionally agree with the appellant's argument that the examiner's above noted position is not compatible with the disclosure in the subject specification (see the last full paragraph on specification page 4) concerning the ineffectiveness of simultaneous hole-making and sewing in combination with the section of the "INVENTION DISCLOSURE" wherein a supervisor stated "[t]he technique has been demonstrated to work". As convincingly argued by the appellant, the supervisor's statement and thus the "INVENTION DISCLOSURE" as a whole could not be directed to a method of simultaneous hole-making and sewing as urged by the examiner in light of the specification disclosure that such a method or technique, in fact, does not work.

In light of the foregoing, we conclude that the section 1.131 affidavit of record is effective in antedating the Japanese '724 reference thereby overcoming the examiner's section 103 rejection based upon this reference.

The decision of the examiner is reversed.

REVERSED

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	Sherman D. Winters)	
	Administrative Patent Judge)	
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	Bradley R. Garris)	BOARD OF
PATENT)	
	Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
	Peter F. Kratz)	
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APPENDIX

5. A method for joining a plurality of layers of non-fully cured composite material, including layers comprising a polymeric matrix having a curing temperature range and having a plurality of reinforcing fibers disposed therein, the layers being superimposed to define a single airfoil shape, the method comprising the steps of:

debulking the airfoil shape by first providing a vacuum about the shape to remove entrapped gas from and between the layers and then pressurizing and heating the shape to precure the polymeric matrix and to inhibit relaxation of the composite material during subsequent processing, thereby to provide a preliminary, debulked, precured, airfoil preform having a near net shape configuration of a final article;

generating a plurality of spaced apart holes, each defined by a hole wall, through the superimposed layers of the preliminary airfoil preform by penetrating a thin pointed tool into and through the preform using ultrasonic energy applied into the tool such that motion of the tool is limited to vibration in a direction substantially normal to the surface of the preform, the ultrasonic energy being applied at a rate which causes the polymeric matrix to at least soften as a result of heat generated from damping of the ultrasonic energy locally in the polymeric matrix adjacent the tool, whereby upon withdrawal of the tool from the hole and cooling of the polymeric matrix at the hole wall, the hole wall is provided with a smooth surface, and whereby the reinforcing fibers and the integrity of the superimposed layers are substantially unaffected;

fastening together the layers of the composite material through the holes, using fiber members, to provide a debulked airfoil preform, and then

curing the airfoil preform in the curing temperature range to provide a cured, reinforced airfoil, the fiber members being bonded to the airfoil at the hole walls.