

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte DAVID FISHER and  
ALAN L. RUTHERFORD

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Appeal No. 2004-1881  
Application No. 09/623,681

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HEARD: December 9, 2004

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Before FRANKFORT, STAAB, and McQUADE, Administrative Patent Judges.  
STAAB, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 1-6 and 8-12, all the claims currently pending in the application.

Appellants' invention pertains to a method of assembling structures, particularly those structures having an outer layer or skin secured to or supported by a sub-structure. The method may be

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used to assemble an outer layer or skin of an aircraft to a skeletal framework. A further understanding of the invention may be derived from a reading of claim 1, the sole independent claim on appeal, which reads as follows (with emphasis added):

1. A method of assembling a structure comprising at least the steps of:

providing a sub-structure,

positioning shim material on at least part of the sub-structure, *said shim material comprising one of a film and sheet of preformed shim material,*

curing the shim material disposed on the sub-structure,

machining the cured shim material to a desired thickness, and

assembling an outer layer with the sub-structure such that the machined shim material lies substantially between the outer layer and the sub-structure.

As evidence of obviousness, the examiner relied upon the following reference:

Thomas et al. (Thomas)                      3,609,116                      Sep. 28, 1971

In addition, the examiner also relies on appellants' admitted prior art (AAPA) as set forth on pages 1-2 of the specification of the present application.

Claims 1-6 and 8-12 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over AAPA in view of Thomas.

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Reference is made to appellants' main and reply briefs and to the second final rejection and examiner's answer for the respective positions of appellants and the examiner regarding the merits of this rejection.

Discussion

The portion of appellants' specification relied upon by the examiner as AAPA is set forth on page 3 of the second final rejection and on page 3 of the answer and need not be reproduced here. There appears to be no dispute that AAPA sets forth a method of assembling a structure comprising all the steps recited in claim 1, in the order set forth in the claim, with the exception that the shim material recited in the positioning step does not involve positioning a shim material comprising one of a film and sheet of *preformed* shim material. Instead, the positioning step of AAPA involves positioning a shim material comprising "a filled, two component liquid adhesive material, with aluminum added to it" (specification, page 2, lines 2-3). To account for this deficiency, the examiner turns to Thomas.

Thomas is directed to a moldable shim material for dimensional and aerodynamic surface control of an aerospace structure. With reference of Figure 1 and column 2, lines 45-59, Thomas discloses a method of assembling a structure that comprises the steps of

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providing a sub-structure **104**, **110**, assembling an outer layer **102** to the sub-structure, injecting shim material **120**, in liquid form, into the void area between the sub-structure and the outer layer by means of a caulking gun **124**, and curing the thus deposited shim material. It also appears that the cured shim material may then optionally be machined (column 7, lines 41-43).

As an alternative to the above, Thomas discloses that the shim material may be pressed or calendered into preformed strips and applied to the sub-structure in strip form prior to mating of the parts (column 7, lines 36-38). Thus, when the method of Thomas is practiced using shim material comprising preformed strips, the Thomas method would appear to comprise the steps of providing a sub-structure, positioning the preformed shim material on the sub-structure, assembling an outer layer to the sub-structure, curing the shim material, and optionally machining the cured shim material.

In rejecting the appealed claims, the examiner notes the teaching of Thomas of the shim material provided as a preformed strip of material and concludes:

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have substituted the shim material of Thomas, preformed into strips and applied in strip form prior to mating of the parts, for the shim material of AAPA, to facilitate

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handling thereof and to simplify location of the shim material to the sub-structure. [Answer, paragraph spanning pages 4-5.]

Implicit in the examiner's position is that the method of AAPA modified in the manner set forth above would result in the subject matter of appealed claim 1.

While we recognize that the method of AAPA discloses the claimed method with the exception of the use of a preformed shim material, and that Thomas discloses a method of assembly that utilizes shim material applied either in a fluid state (column 2, lines 45-59) or as a preform (column 7, lines 36-38), we are unable to agree with the examiner that the combined teachings of AAPA and Thomas would have suggested modifying AAPA's method in a way that would have resulted in the method of claim 1. In this regard, it appears to us that the examiner has not considered the teachings of Thomas in its entirety, but instead has chosen to consider only those teachings of Thomas that support the examiner's determination of obviousness. More particularly, we view Thomas as teaching that when a preformed shim material is to be used in the assembly of components, the outer layer should be assembled to the sub-structure and pre-applied shim material *before* the shim material is cured. Thus, assuming for the sake of argument that one of ordinary skill in the art would have been motivated by the

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teachings of Thomas to modify the method of AAPA (appellants argue that motivation for the proposed modification does not exist), it seems to us that a fair reading of what Thomas would have suggested to the ordinarily skilled artisan is that if a preformed shim material is to be employed in the method of AAPA, the outer layer should be assembled to the sub-structure prior to curing the shim material. This, of course, would not result in the method of claim 1.

Where prior art references require a selective combination to render obvious a claimed invention, there must be some reason for the combination other than hindsight gleaned from appellants' own disclosure, *Interconnect Planning Corp. v. Feil*, 774 F.2d 1132, 1143, 227 USPQ 543, 551 (Fed. Cir. 1985). In the fact situation before us, we are unable to agree with the examiner's position to the effect that one of ordinary skill in the art would have been motivated by the combined teachings of the applied prior art references to utilize the preformed shim material in the method of AAPA while at the same time ignoring Thomas' order of steps in order to arrive at the method of claim 1.

In light of the foregoing, we shall not sustain the standing rejection of the appealed claims as being unpatentable over AAPA in view of Thomas.

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The decision of the examiner is reversed.

REVERSED

CHARLES E. FRANKFORT	)	
Administrative Patent Judge	)	
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	)	
	)	BOARD OF PATENT
LAWRENCE J. STAAB	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
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	)	
JOHN P. McQUADE	)	
Administrative Patent Judge	)	

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