

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TAKAYUKI YAMADA, MUTSUYA TAKAHASHI
and MASAKI NAGATA

Appeal No. 2005-0586
Application No. 09/791,634

HEARD: June 8, 2005

Before KIMLIN, OWENS and JEFFREY T. SMITH, Administrative Patent Judges.

KIMLIN, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 39-70.

Claim 39 is illustrative:

39. A micro-structure, comprising a plurality of laminated thin films having two-dimensionally patterned form, wherein surfaces of each thin film are cleaned by removing impurities on the film surface, and the cleaned surfaces of opposite thin films are directly contacted and bonded together without a contaminated layer on the surface of the thin films.

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The examiner relies upon the following references as evidence of obviousness:

Feygin	4,752,352	Jun. 21, 1988
Burns	5,514,232	May 7, 1996

Appellants' claimed invention is directed to a micro-structure comprising a plurality of laminated thin films which surfaces are cleaned and directly contacted and bonded together. Most claims on appeal recite that the surface of the thin films is without a contaminated layer. Appellants explain that "the thin films may be bonded with an adhesive" (page 5 of principal brief, second paragraph). According to appellants, "[b]onding the surfaces of the thin films together without a contaminated layer allows for improved dimensional precision and improved resolution in the lamination direction" (page 5 of principal brief, third paragraph).

Appealed claims 39-70 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Feygin in view of Burns.

Appellants provide nine separate groups of claims at page 8 of the principal brief.

We have thoroughly reviewed each of appellants' arguments for patentability. However, we are in complete agreement with

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the examiner that the claimed subject matter would have been obvious to one of ordinary skill in the art within the meaning of § 103 in view of the applied prior art. Accordingly, we will sustain the examiner's rejection for essentially those reasons expressed in the Answer, and we add the following primarily for emphasis.

There is no dispute that Feygin and Burns, like appellants, disclose structures comprising a plurality of laminated films. It is appellants' contention that the films of Feygin are not directly contacted and bonded together, and that the films of both references are not without a contaminated layer.

As for the direct contact between the bonded films, we agree with the examiner that Feygin expressly discloses that each lamination may consist of a single piece of metal (see column 14, lines 54-56). Also, we concur with the examiner that Feygin's disclosure of laminations comprising a bimaterial of steel clad with copper or metal covered with adhesive meets the claim requirement for direct contact since appellants acknowledge that "the thin films may be bonded with an adhesive" (page 5 of principal brief, second paragraph). Hence, it is fair to interpret the appealed claims as including an adhesive layer which brings the thin films in direct contact.

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Concerning the claimed cleaned surfaces without a contaminated layer thereon, we find no error in the examiner's reasoning that "it would have been obvious to one having ordinary skill in the art at the time the invention was made to clean the surfaces of the individually contoured laminations of Feygin, as taught by Burns, because clean lamination surfaces allow for a stronger cohesion strength between laminations" (page 7 of Answer, last sentence). Although appellants submit that "Feygin and Burns fail to provide any disclosure or suggestion with regard to obtaining a stronger cohesion strength based on cleaned surfaces" (page 3 of Reply Brief, last paragraph), Burns evidences the notoriously well-known concept of cleaning surfaces before bonding (column 13, lines 62-63). Also, as alluded to by the examiner, the appealed claims are drafted in product-by-process format, and appellants have proffered no objective evidence which establishes that micro structures within the scope of the appealed claims are patentably distinct from the micro structures of Feygin that would be prepared by one of ordinary skill in the art. Furthermore, the appealed claims do not require that the surfaces of the films be subjected to the FAB treatment disclosed in the present specification. In addition,

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the claim language "without a contaminated layer" has not been defined in appellants' specification in such a way that it distinguishes over surfaces that would be bonded by one of ordinary skill in the art.

Appellants state in their Reply Brief that the Examiner's Answer did not respond to the arguments pertaining to claims 42, 49, 60 and 62. However, appellants' attention is directed to page 5 of the Answer, first paragraph.

As a final point, we note that appellants base no argument upon objective evidence of nonobviousness, such as unexpected results, which would serve to rebut the prima facie case of obviousness established by the examiner.

In conclusion, based on the foregoing and the reasons well-stated by the examiner, the examiner's decision rejecting the appealed claims is affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (effective Sep. 13, 2004; 69 Fed. Reg. 49960 (Aug. 12, 2004); 1286 Off. Gaz. Pat. Office 21 (Sep. 7, 2004)).

AFFIRMED

EDWARD C. KIMLIN)	
Administrative Patent Judge)	
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TERRY J. OWENS)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
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