

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte ULRICH PATZ and GERD ICKES

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Appeal No. 2000-1010  
Application No. 08/951,402

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ON BRIEF

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Before KIMLIN, LIEBERMAN and KRATZ, Administrative Patent Judges.  
KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 6-13, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to a vacuum treating apparatus including a plurality of treatment stations and airlocks. An inner cylinder inside a vacuum chamber wall holds substrates for rotation through the stations. The airlocks are diametrically opposed to one another and each is associated with a transport conveyor. The treatment stations extend radially outwardly from the vacuum chamber wall. The apparatus is constructed such that

more than one substrate can be simultaneously treated in the apparatus. A further understanding of the invention can be derived from a reading of exemplary claim 6, which is reproduced below.

6. A vacuum treatment apparatus for simultaneously depositing thin layers on at least two three-dimensional substrates, said apparatus comprising:

a vacuum chamber having a generally circular cylindrical vacuum chamber wall;

an inner cylinder inside said vacuum chamber wall, said inner cylinder supporting substrate chambers for rotation relative to said vacuum chamber wall;

said vacuum chamber wall having openings therein with which the substrate chambers can be aligned and through which a three-dimensional substrate in the substrate chamber can be accessed;

the vacuum chamber supporting treatment stations and airlock stations tangential to and extending radially outwardly from the vacuum chamber wall, said stations each being associated with a respective opening in said vacuum chamber wall and being configured to communicate with the substrate chamber when aligned therewith;

said airlock stations being arranged diametrically opposite each other on the vacuum chamber wall;

substrate transport conveyors each operatively associated with a respective airlock station, said conveyors each alternating between transferring a three-dimensional substrate to the associated airlock station and transferring a three-dimensional substrate in the associated airlock station away therefrom, said transferring being performed dependent on turns of the inner cylinder;

said inner cylinder, when rotated a first turn, moving the substrate chamber communicating with the airlock stations to positions aligned with the openings communicating with the treatment stations, so that at least two three-dimensional substrate in said substrate chambers are simultaneously acted upon by treatment agents at the treatment stations, and, when said inner cylinder is rotated a further turn, said three-dimensional substrates and

substrate chambers are moved to positions communicating with said airlock stations.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Takahashi et al. (Takahashi)	4,643,629	Feb. 17, 1989
Anderle et al. (Anderle)	4,886,592	Dec. 12, 1989
Ikeda	5,183,547	Feb. 02, 1993
Schwartz et al. (Schwartz)	5,518,599	May 21, 1996
Patz et al. (Patz)	5,698,039	Dec. 16, 1997 (filed Jan. 17, 1996)
LeBlanc, III et al. (LeBlanc, III)	5,709,785	Jan. 20, 1998 (filed Jun. 04, 1996)

Claims 6-8, 10 and 13 stand rejected under 35 U.S.C. § 103 as being unpatentable over Patz in view of Schwartz and Takahashi. In a separate § 103 rejection of claim 9, the examiner additionally relies on Anderle and in a separate § 103 rejection of claims 11 and 12, the examiner adds Ikeda and LeBlanc, III.

We refer to appellants' briefs and the answer for a complete exposition of the opposing viewpoints of appellants and the examiner concerning the rejections before us.

#### OPINION

Upon careful consideration of the opposing arguments presented on appeal, we concur with appellants that the examiner

has not established a prima facie case of obviousness of the claimed subject matter. Accordingly, we will not sustain the examiner's rejections.

The examiner explicitly acknowledges that Patz does not disclose the claimed diametrically opposed vacuum locks and associated conveyors (answer, page 5) for the barrier discharge device disclosed therein. According to the examiner (answer, page 7),

it would have been obvious to one of ordinary skill in the art at the time the invention was made to have utilized a vacuum treatment apparatus for treating three dimensional objects with a plurality of processing stations as taught by Patz et al., to have utilized an additional load lock diametrically opposed to a first load lock station and to have utilized cross-flow metallization scheme as taught by Schwartz et al. and to have utilized a conveyor to move substrates as taught by Takahashi et al. because it is desired to provide an in-line system with efficient metallization in which indexing problems are reduced to a minimum and where unloading and loading is performed on substrates.

We cannot subscribe to the examiner's position since the examiner has not clearly explained how the teachings of Patz, Schwartz and Takahashi are being combined so as to arrive at the claimed invention. Concerning this matter and with regard to the proposed modification of the apparatus of Patz, the examiner has not sufficiently explained how the barrier discharge device of

Patz is to be structurally modified so as to result in an apparatus that includes the cleaning and coating stations A-D as disclosed by Patz yet also include diametrically opposed airlocks and associated conveyors as required by the appealed claims. The explanation of motivation offered in the answer by the examiner is not persuasive since the nature of the proposed structural modification of the device of Patz is not made clear by the examiner. Additionally, the examiner has not pointed to any disclosure in Patz which suggests that "an in-line system with efficient metalizing in which indexing problems are reduced to a minimum" (answer, page 6) would be recognized by one of ordinary skill in the art as a concern for the cleaning and coating apparatus of Patz. The examiner simply has not adequately explained why one of ordinary skill in the art would turn to the disparate disclosures and concerns of Schwartz and Takahashi to modify the apparatus of Patz. We note that the examiner has not explained how the additional references applied to claims 9, 11 and 12 cure the above-noted deficiencies.

Rejections based on § 103 must rest on a factual basis with these facts being interpreted without hindsight reconstruction of the invention from the prior art. See In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 177 (CCPA 1967), cert. denied, 389 U.S.

1057 (1968). Our reviewing court has repeatedly cautioned against employing hindsight by using the appellants' disclosure as a blueprint to reconstruct the claimed invention from the isolated teachings of the prior art. See, e.g., Grain Processing Corp. v. American Maize-Products Co., 840 F.2d 902, 907, 5 USPQ2d 1788, 1792 (Fed. Cir. 1988).

From our perspective, the examiner's rejections appear to be premised on impermissible hindsight reasoning. On the record of this appeal, it is our view that the examiner has not carried the burden of establishing a prima facie case of obviousness with respect to the subject matter defined by the appealed claims.

Accordingly, we reverse the stated rejections.

CONCLUSION

The decision of the examiner to reject claims 6-13 under  
35 U.S.C. § 103 as stated in the answer is reversed.

REVERSED

EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	
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	)	
	)	
	)	BOARD OF PATENT
PAUL LIEBERMAN	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
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PETER F. KRATZ	)	
Administrative Patent Judge	)	

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APPEAL NO. - JUDGE KRATZ  
APPLICATION NO.

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DECISION: **ED**

Prepared By:

**DRAFT TYPED:** 16 Sep 03

**FINAL TYPED:**