

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte SAMI DICK, BERNARD GENIES, LAHCEN OUGARANE
and PATRICK RECOURT

Appeal No. 96-3652
Application No. 08/348,820¹

ON BRIEF

Before PAK, WALTZ and KRATZ, Administrative Patent Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed November 28, 1994. According to appellants, this application is a continuation of Application No. 08/190,241 filed February 1, 1994, now abandoned; which is a continuation of Application No. 07/913,008 filed July 14, 1992, now abandoned.

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This is a decision on appeal from the examiner's final rejection of claims 30 through 37, which are all of the claims pending in this application.

BACKGROUND

The appellants' invention relates to a method for forming a silica-based layer on a glass article. An understanding of the invention can be derived from a reading of exemplary claim 30 which has been reproduced below.

30. A method of forming a silica-based alkali barrier layer on a surface of a glass article comprising the steps of:

providing an at least ternary gaseous mixture comprising a major portion of a neutral gas, a gaseous precursor of silicon and oxygen;

heating at least the surface of the glass article to a temperature not less than 300°C;

positioning the heated surface of the glass article at a distance less than 15 mm from a nozzle having a projection slit; and

projecting the gaseous mixture through the nozzle onto the heated surface transversely to the surface at atmospheric pressure to form the barrier layer while causing relative movement between the article and the nozzle in a direction transverse to the slit.

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

Yamazaki et al. (Yamazaki)	4,105,810	Aug. 08,
1978		
Mizuhashi et al. (Mizuhashi)	4,485,146	Nov.
27, 1984		

Claims 30-37 stand rejected under 35 U.S.C. § 103 as being unpatentable over Mizuhashi in view of Yamazaki.

OPINION

We have carefully reviewed the specification, the claims, and the respective positions presented by appellants in their brief and the examiner in the answer thereto. In so doing, we find ourselves in agreement with appellants' basic contention that the applied prior art fails to establish the prima facie obviousness of the claimed subject matter. Accordingly, we will not sustain the examiner's rejection for the reasons as follows.

In rejecting the claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. See In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993). A prima facie case of

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obviousness is established by presenting evidence that the reference teachings would appear to be sufficient for one of ordinary skill in the relevant art having the references before him to make the proposed combination or other modification. See In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972). Furthermore, the conclusion that the claimed subject matter is prima facie obvious must be supported by evidence, such as shown by some objective teaching in the prior art or by knowledge generally available to one of ordinary skill in the art that would have led that individual to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988).

The appealed claims call for a method for forming a silica-based barrier layer that includes the step of projecting a ternary gaseous mixture comprising a major portion of a neutral gas, a gaseous precursor of silicon and oxygen through a nozzle projection slit at atmospheric pressure transversely onto a heated glass surface located less than 15 mm away while causing relative movement between the

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article and nozzle in a direction transverse to the slit to form a barrier layer on the glass article.

Mizubishi is relied upon by the examiner for disclosing a method of forming a silicon oxide barrier layer via a chemical vapor deposition (CVD) process that involves hydrogen gas incorporation therein via "contacting hydrogen gas with the gas of a silicon compound capable of forming silicon oxide..." (answer, page 3).

According to the examiner, claim 1 (the sole independent claim on appeal) "differs from Mizubishi in reciting that the process is carried out at atmospheric pressure and that the precursors are applied by the use of a projection nozzle" (answer, page 4). To remedy the deemed deficiencies of Mizubishi that are asserted by the examiner, the examiner relies on the teachings of Yamazaki with respect to using a projection nozzle in forming a boro-silicate coating via a CVD method, maintaining a 5 to 40 mm distance between such a nozzle and a substrate and maintaining movement between the nozzle and substrate. The examiner states that "it would have been obvious to one of ordinary skill to use the apparatus of Yamazaki et al. to apply the coating of Mizubishi et al. with

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the expectation of obtaining similar results" (answer, page 4).

However, we note that the examiner does not address or explain where the claimed ternary gas mixture including a major portion of a neutral gas can be found in Mizuhashi or why it would have been obvious to use such a ternary mixture in Mizuhashi from the combined reference teachings. Moreover, without pointing to any teaching of the references for support, the examiner asserts that optimizing the pressure of the CVD method of Mizuhashi would have been obvious to one of ordinary skill in the art through routine experimentation (answer, page 3). In addition, the examiner has not pointed to where the references furnish a suggestion or motivation for using the CVD apparatus disclosed by Yamazaki for use in depositing a zinc borosilicate film as the apparatus for depositing the silica-based barrier layer of Mizuhashi on a substrate in the manner recited in the appealed claims. In this regard, we note that Yamazaki teaches away from use of a silicon oxide film (column 1, lines 55-60) and suggests that the injection nozzle structure is designed for use when diborane and silane are used as raw materials in forming the

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layer so as to suppress undesirable secondary reactions accompanying their use (column 2, line 51 through column 3, line 4). The examiner must identify a particularized suggestion, reason or motivation to combine references or make the proposed modification. See In re Rouffet, 149 F.3d 1350, 1359, 47 USPQ2d 1453, 1459 (Fed. Cir. 1998).

While we recognize that Yamazaki (column 5, line 59 through column 6, line 19) does suggest some advantages of the use of a particular nozzle arrangement in forming a zinc borosilicate glass film, there is no suggestion from the collective applied prior art teachings that those same advantages would accrue if the nozzle arrangement of Yamazaki were used in the formation of the silica-based alkali barrier layer of Mizuhashi. Moreover, we agree with appellants (brief, pages 5 and 6) that Yamazaki teaches away from using a nozzle that emits gas in a direction transverse to the substrate.

In this regard, it is our view that even if the teachings of Mizuhashi and Yamazaki were combinable, they would not have rendered the claimed method prima facie obvious to one of ordinary skill in the art.

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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 rejection appears to be premised on impermissible hindsight reasoning. Accordingly, 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.

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CONCLUSION

To summarize, the decision of the examiner to reject claims 30-37 under 35 U.S.C. § 103 as being unpatentable over Mizuhashi in view of Yamazaki is reversed.

REVERSED

CHUNG K. PAK)	
Administrative Patent Judge)	
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)	
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)	BOARD OF PATENT
THOMAS A. WALTZ)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
PETER F. KRATZ)	
Administrative Patent Judge)	

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