

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. 20

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte MARTIN KUSTERMANN

Appeal No. 2001-0394
Application No. 09/012,508

ON BRIEF

Before WILLIAM F. SMITH, PAK, and POTEATE, ***Administrative Patent Judges.***

POTEATE, ***Administrative Patent Judge.***

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134 from the examiner's refusal to allow claims 1-3, 9, 11, 12 and 17, which are all of the claims pending in the application.

Claims 1, 9 and 17 are representative of the subject matter on appeal and are reproduced below:

1. An apparatus for one of direct and indirect application of a coating medium onto a traveling fiber material web having a first side, a second side and a direction of travel, said apparatus comprising:

at least one rotatable backing roll having a direction of rotation, said at least one rotatable backing roll being configured to be wrapped in part by the web, to support the first side of the web, and to define, along with the first side of the web, a cuneiformly tapering entrance gore and an exit gore;

at least one applicator opposing said at least one backing roll, said at least one applicator configured for at least one of applying the coating medium onto the second side of the web and treating the second side of the web; and

at least one first air boundary layer stripper disposed before said at least one applicator relative to said direction of rotation of said at least one rotatable backing roll, said at least one first air boundary layer stripper being configured to remove an air boundary layer entrained by at least one of said at least one backing roll and the first side of the web, said at least one first air boundary layer stripper being disposed between said at least one rotatable backing roll and the first side of the web in said entrance gore.

9. A method for one of direct and indirect application of a coating medium onto a traveling fiber material web having a first side and a second side, said method comprising the steps of:

supporting the first side of the web with at least one rotatable backing roll such that the web wraps partly around said at least one rotatable backing roll, said at least one rotatable backing roll and the first side of the web defining a cuneiformly tapering entrance gore and an exit gore;

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coating the second side of the web at a coating point with the coating medium by using at least one applicator opposing said at least one rotatable backing roll and configured for at least one of applying the coating medium onto the second side of the web and treating the second side of the web the second side of the web [sic], said coating point opposing said at least one backing roll; and

removing a first air boundary layer entrained by at least one of said at least one rotatable backing roll and the first side of the web, said removing step being performed at at [sic] least one removal point by at least one first air boundary stripper disposed and directed between said at least one rotatable backing roll and the first side of the web within said entrance gore, before said coating point.

17. The method of claim 9, comprising the further step of eliminating a second air boundary layer entrained by the second side of the web, said eliminating step occurring at an eliminating point disposed before said coating point relative to said direction of rotation of said at least one rotatable backing roll.

The references relied upon by the examiner are:

Heinzmann	4,893,741	Jan. 16, 1990
Beisswanger	5,370,735	Dec. 6, 1994

GROUND OF REJECTION

Claims 1-3, 8, 9, 11, 12 and 17 stand rejected under 35 U.S.C. § 103 as obvious over Beisswanger in view of Heinzmann.

We reverse.

BACKGROUND

The invention relates to a method and apparatus for application of a coating onto a traveling material web. Appeal Brief, Paper No. 15, received March 3, 2000, page 2, Summary of Invention. The invention is applicable to direct application methods wherein the coating material is applied by an applicator directly onto the surface of a traveling material web which is backed by a revolving counter surface such as a backing roll. Specification, page 1, lines 17-21. The invention is also applicable to an indirect application of a coating wherein the coating is first applied onto a substrate surface such as the surface of a backing roll configured as an applicator roll and then transferred from the applicator roll to the material web in a nip through which the material web passes. *Id.*, page 1, line 21 - page 2, line 2. According to appellant, a drawback of conventional coating apparatuses is that an air boundary layer may be entrained by both the material web and the backing roll causing the material web to form a bubble at the point of application. *Id.*, page 4, lines 5-11. The bubble results in coating defects or wrinkles, and, thus, impairs the coating quality. *Id.*, lines 11-13. According to appellant, the

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invention overcomes the aforementioned drawback of the prior art devices through the use of air boundary layer strippers configured to remove air entrained by the backing roll and material web and between the opposite side of the material web and the applicator roll. See Appeal brief, pages 2-3, Summary of Invention.

DISCUSSION

The initial burden of presenting a ***prima facie*** case of obviousness rests on the examiner. ***In re Oetiker***, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Where an obviousness determination is based on the combination of prior art references, there must be some "teaching, suggestion or incentive supporting the combination." ***In re Geiger***, 815 F.2d 686, 688, 2 USPQ2d 1276, 1278 (Fed. Cir. 1987). "[P]articular findings must be made as to the reason the skilled artisan, with no knowledge of the claimed invention, would have selected the[] components for combination in the manner claimed." ***In re Kotzab***, 217 F.3d 1365, 1371, 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). For the reasons discussed below, the examiner has failed to establish

why one of ordinary skill in the art, absent knowledge of the claimed invention, would have been motivated to combine the teachings of Beisswanger and Heinzmann to achieve the claimed invention and, therefore, has failed to establish a **prima facie** case of obviousness.

The examiner found that Beisswanger teaches the claimed invention "except the boundary layer stripper disposed between the web and the backing roll in the entrance gore between the backing roll and the web and the features of the stripper." Examiner's Answer, Paper No. 17, mailed May 23, 2000, page 5. The examiner notes that Heinzmann teaches an air guide box for stabilizing a paper web, the guide box being located in the entrance gore between the roll and the web. **Id.** "Heinzmann teaches that the guide boxes can be used in the paper making technology and in other technology where the webs are subjected to a similar handling." **Id.**, page 9. According to the Examiner,

[i]t would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Beisswanger to use the air guide box system of Heinzmann with an expectation of improved web handling, since Beisswanger teaches a coating system that involves supplying a web that wraps around a backing roll and Heinzmann teaches that the stability of webs that wrap around

backing rolls can be improved through the use of an air guide box system.

Id., page 6.

Based on our review of the reference teachings, we do not agree with the examiner that one of ordinary skill in the art would have been motivated to modify Beisswanger in view of Heinzmann to achieve the claimed invention.

Beisswanger relates to a roll coating machine. The primary goal of Beisswanger's invention is to avoid air inclusion in the wedge-shaped inlet zone between the coating roll and mating roll so that a uniform coating may be achieved. **See** Beisswanger, column 1, lines 26-54. Beisswanger achieves this goal through the use of an air doctor 25 for removing air entrained by the opposite side of a material web and an applicator roll. In fact, Beisswanger states that his invention provides a "hermetically sealed" system in the inlet zone. **See id.**, column 2, lines 15-20. There is absolutely no indication in Beisswanger that stabilization of the running web would be of concern in a roll coating operation.

As pointed out by appellant, Heinzmann's invention, though useful in paper-making processes, is primarily designed

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for use in the drying section of a paper machine where the paper web does not travel between opposing rolls. See Appeal Brief, page 8, second paragraph. Although Heinzmann notes that air guide boxes are suitable for use in conjunction with various paper making equipment, none of the listed devices includes two opposing rolls. **See** Heinzmann, column 1, lines 9-18. Thus, Heinzmann is necessarily concerned with stabilizing the paper web. Heinzmann's air guide box system is designed to *control the flow conditions* in the air gap (**see id.**, lines 32-37 and lines 57-65) but is not designed for *removal of entrained air* so as to create a hermetic seal as required by Beisswanger.

We find no support in the teachings of the prior art for the examiner's conclusion that it would have been obvious to have modified Beisswanger to include an air guide box system as taught by Heinzmann for the purpose of improving web handling. Therefore, we conclude that the examiner's rejection can only be based upon improper hindsight reasoning. **See W.L. Gore & Assocs. v. Garlock, Inc.**, 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), **cert. denied**, 469 U.S. 851 (1984) ("To imbue one of ordinary skill in the art with knowledge of the invention in

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suit, when no prior art reference or references of record convey or suggest that knowledge, is to fall victim to the insidious effect of a hindsight syndrome wherein that which only the inventor taught is used against its teacher.”)

REVERSED

WILLIAM F. SMITH)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
CHUNG K. PAK)	APPEALS
Administrative Patent Judge)	AND
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