

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 15

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte STEVEN M. FLORIO, JEFFREY P. BURRESS,
CARL J. COLANGELO, EDWARD C. COUBLE,
and MARK J. KAPECKAS

Appeal No. 1998-1616
Application No. 08/570,633

ON BRIEF

Before STAAB, MCQUADE, and LAZARUS, Administrative Patent Judges.

STAAB, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 1-4 and 6-23, all the claims currently pending in the application.

Appellants' invention pertains to a process for

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depositing metal on a planar substrate having openings passing through the full thickness of the substrate. A further understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced in the appendix to appellants' main brief.

The references relied upon by the examiner as evidence of obviousness are:

Altenpohl et al. (Altenpohl)	2,912,369	Nov.
10, 1959		
Burke, Jr. (Burke)	3,892,698	Jul. 1,
1975		
Minten et al. (Minten)	4,619,741	Oct. 28,
1986		
Thorn et al. (Thorn)	5,476,580	Dec. 19,
1995		

(filed May 3, 1994)

Claims 1-4, 6, 7, 10, 11 and 13-20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Minten in view of Altenpohl.

Claims 8, 9, 12 and 21-23 stand rejected under 35 U.S.C. § 103 as being unpatentable over Minten in view of Altenpohl, and further in view of Thorn and Burke.

Reference is made to appellants' main and reply briefs (Paper Nos. 11 and 13) and to the examiner's answer (Paper No. 12) for the respective positions of appellants and the

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examiner regarding the merits of these rejections.

Considering first the rejection of independent claim 1, this claim sets forth, in part, the step of

compacting and partially drying the coating of the carbonaceous particles while removing entrapped water, air bubbles and particles from within the openings passing through the substrate by passing the substrate between a pair of opposed resilient circular rollers spaced apart from each other so as to deform as the substrate passes between the rollers and to remove said entrapped water, air bubbles and particles from within the openings by suction.

Claim 14, the only other independent claim on appeal, contains similar language.

There appears to be no dispute that Minten, the examiner's primary reference, discloses the subject matter of claim 1 except for the above noted step. Instead, Minten discloses that carbonaceous particles on the surface of the substrate and entrapped water, air bubbles and particles within the openings of the substrate should be removed by compressed air (column 9, line 68 through column 10, line 6). The essence of the examiner's rejection is that it would have been obvious to provide this step in Minten in view of the teachings of Altenpohl. Specifically, the examiner posits:

Altenpohl is relied upon to show the use of rollers

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to remove particles from etched aluminum foil. At col. 1, lines 45-60 Altenpohl states:
"[a]dvantageously one uses rotating rolls of foamed latex. Besides rubbing, the foamed latex has also a sucking effect which contributes to the thorough removing of the loose particles." It would have been obvious to one of ordinary skill in the art to incorporate the Altenpohl rollers into the Minten process because Minten already has means for removing particles and liquid from the substrate surface and Altenpohl says that using the foamed rollers for sucking up particles is better than blowing compressed air against a surface to achieve the same result. "Removing the loose particles is also possible by spraying water or blowing a gas against the surface of the foil with a high pressure. But the use of foamed latex wipers is more efficacious" (col. 1, line[s] 64-67). The conceptual and technical simplicity of adding the rollers, together with the explicit motivation to do so present in Altenpohl, leads to an inescapable conclusion of obviousness. [Answer, page 5.]

Appellants argue, first, that Altenpohl constitutes nonanalogous art, not being either from appellants' field of endeavor or pertinent to the problem with which appellants are concerned. In the view we take of this case, it is unnecessary to decide this question, and for the sake of argument, we will assume that Altenpohl is analogous art, and proceed to resolve the question of obviousness based on that assumption.

Altenpohl provides foamed latex rolls 6, 7 for the purpose of mechanically removing loose particles broken off

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from the surface of the foil substrate (column 1, lines 20-59). On the other hand, Minten blows compressed air against the surface of the dispersion immersed board to unplug any holes of the board that may still retain plugs of dispersion and to remove excess liquid carbon-black containing dispersion from the face of the board (column 10, lines 1-6). Thus, the purpose for which Altenpohl's foamed latex rolls are provided differs from the purpose for which Minten blows compressed air against the substrate surface. In addition, it does not appear to us that there is any teaching in Altenpohl that would have suggested to one of ordinary skill in the art that Altenpohl's foam latex rolls would be of any particular use in removing water, air bubbles, and/or particles entrapped within the wiring board holes of Minten, notwithstanding Altenpohl's statement at column 1, lines 54-59, that the foamed latex rolls exhibit a "sucking effect" in removing loose particles from the surface of the foil. In this regard, it is not apparent that Altenpohl's sucking of loose particles from the surface of the foil would be effective in removing material from the holes of Minten's board, since material in the holes would generally lie substantially below the surface. Further,

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because Minten already blows compressed air against the substrate surface to unplug the holes of the board and to remove excess liquid dispersion from the face of the board, it would not have been obvious to add another means (e.g., Altenpohl's foamed rolls) thereto for accomplishing essentially the same purpose, as the examiner seems to suggest in explaining the rejection. Based on these observations, and our own careful analysis of the teachings of Minten and Altenpohl, we conclude that the modification of Minten proposed by the examiner is based on the use of impermissible hindsight knowledge gleaned from appellants' disclosure rather than on the reference teachings

alone. This is improper. *See, for example, In re Fritch*, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992).

Moreover, we do not agree with the examiner that Altenpohl's rolls 6, 7, as illustrated in the drawing figure thereof, would be viewed by one of ordinary skill in the art as being "opposed" rolls, as urged by the examiner, when that term is read in light of appellants' specification. In this regard, it does not suffice that the offset rolls 6, 7 of

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Altenpohl merely engage opposite sides of the foil.

Accordingly, even if Altenpohl's rolls were provided in Minten as proposed by the examiner, the subject matter of independent claims 1 and 14 would not result.

In light of the above, we will not sustain the examiner's rejection of claims 1 and 14, or claims 2-4, 6, 7, 10, 11, 13 and 15-20 that depend therefrom, as being unpatentable over Minten in view of Altenpohl.

As to the rejection of claims 8, 9, 12 and 21-23 as being unpatentable over Minten in view of Altenpohl, and further in view of Thorn and Burke, the additional references applied in this rejection do not render obvious what we have found to be lacking in Minten and/or Altenpohl. Therefore, this rejection also will not be sustained.

The decision of the examiner is reversed.

REVERSED

Lawrence J. Staab)
Administrative Patent Judge)
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