

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DONALD SETON FARQUHAR, GERARD PAUL KOHUT
and ANDREW MICHAEL SEMAN

Appeal No. 2000-0422
Application 08/864,044

ON BRIEF

Before RUGGIERO, LALL and BLANKENSHIP, Administrative Patent Judges.

LALL, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1 and 5, the only pending claims for consideration in the application.

The disclosed invention is adequately described by the following claim.

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1. An electrical device comprising:

a metal substrate having a micro roughened surface;

a layer of electrically conductive thermoset adhesive of a thickness of at least about 0.5 mils and no greater than about 2 mils bonded to said micro roughened surface of said metal substrate; and

a component having a conductive ground plane coating and a surface topography associated therewith up to 4 mils height variation bonded to said adhesive to form an essentially void free and thin bondline relative to said surface topography.

The Examiner relies on the following references:

Iliou et al. (Iliou)	4,616,413	Oct. 14, 1986
Kukanskis (Kukanskis)	5,037,482	Aug. 6, 1991

Claims 1 and 5 stand rejected¹ under 35 U.S.C. § 103(a) as being unpatentable over Iliou in view of Kukanskis.

Rather than repeat the arguments of Appellants and the Examiner, we make reference to the brief (paper no. 11), reply brief (paper no. 14) and the Examiner's answer (paper no. 13) for the respective details thereof.

OPINION

We have considered the rejections advanced by the Examiner and the supporting arguments. We have, likewise, reviewed the Appellants' arguments set forth in the briefs.

¹ The drawing of the Appellants' disclosure does not seem to satisfy the requirement of 37 CFR 1.83(a).

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We reverse.

We first consider independent claim 1 for our analysis. In response to the rejection of claim 1 (answer at pages 3 and 4) under 35 U.S.C. § 103(a), Appellants discuss Iliou and Kukanskis at pages 8 through 11 of the brief and conclude (id. at page 11) that "there is no suggestion in either Iliou et al. or Kukanskis et al. for combining these two teachings. They are two entirely different arts, one is the art of bonding a metal backer to a ground plane of a component with a thin film of conductive adhesive and the other the art of applying a photoresist to an underlying substrate and forming electrical circuitry by photoresist and subtractive etching techniques". The Examiner responds (answer at page 5) that "[m]ore specifically, col. 1, lines 35-35 (sic) and 42-49 thereof, Kukanskis clearly discloses bonding one metal plate to another or bonding a plurality of components together"

In rejecting 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); In re Oetiker, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992)), which is established when the teachings of the prior art itself would appear to have

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suggested the claimed subject matter to one of ordinary skill in the art (see In re Bell, 991 F.2d 781, 783, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993)).

In the present case, we have reviewed the portion of Kukanskis that the examiner has referred to. We find that Kukanskis is primarily devoted to improving the characteristics of a copper surface for better adhesion of the subsequent coatings applied thereto. Kukanskis does mention, as the Examiner suggests, that a plurality of the copper plates with the coatings are subsequently pressed together to create laminates for printed circuits, however, we agree with Appellants that Kukanskis is directed to the art of applying a photoresist to an underlying substrate and forming electrical circuitry by photoresist and selective etching techniques. We find that Kukanskis is not directed to the bonding of a substrate having printed circuits to a rigid conductor substrate using a bonding adhesive film in between the two as recited in Appellants' claim 1. Therefore, we conclude that there is no suggestion in the prior art to combine the references as suggested by the Examiner. Our conclusion is consistent with the guidelines of the Federal circuit which state that "[the] mere fact that the prior art may be modified in the manner suggested by the Examiner

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does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F.2d 1260, 1266 n.14, 23 USPQ2d 1780, 1783-84 n.14 (Fed. Cir. 1992), citing In re Gordon, 773 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). "Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor." Para-Ordnance Mfg. v. SGS Importers Int'l, 73 F.3d 1087, 37 USPQ2d at 1239 (Fed. Cir. 1995), citing W.L. Gore & Assocs., v. Garlock, Inc., 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13 (Fed. Cir. 1983).

Appellants further argue (brief at page 12) that "even if the references are combined they do not teach applicants invention as defined in claim 1. There is nothing to suggest a topography on the ground plane of up to 4 mils with a thickness of the adhesive only 0.5 to 2.0 mils. There is no suggestion that this would work, let alone improve electrical characteristics." The Examiner responds (answer at page 6) that "it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233." We are not persuaded by the Examiner's arguments. Optimizations can be a matter of routine

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experimentation for an artisan in appropriate circumstances, however, in the present case, neither of the two references, singly or in combination, would lead an artisan in the direction of formulating a process of routine experimentation to obtain the recited thicknesses in an effort to optimize the bonding of the printed circuit board to a base substrate as recited in the claim, because the applied prior art does not demonstrate a desirability for such an endeavor.

Therefore, we do not sustain the obviousness rejection of claim 1 and its dependant claim 5 over Iliou and Kukanskis.

Accordingly, the decision of the Examiner rejecting claims 1 and 5 under 35 U.S.C. § 103 is reversed.

REVERSED

JOSEPH F. RUGGIERO)	
Administrative Patent Judge)	
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PARSHOTAM S. LALL)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
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HOWARD B. BLANKENSHIP)	
Administrative Patent Judge)	

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