

The opinion in support of the decision being entered today was not written for publication in a law journal and is not binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte TOSHIYA AKAMATSU, KAZUAKI KARASAWA,
TERU NAKANISHI and KOZO SHIMIZU

Appeal No. 2002-0899
Application No. 09/609,652

HEARD: MARCH 11, 2003

Before RUGGIERO, DIXON and BLANKENSHIP, Administrative Patent Judges.

RUGGIERO, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on the appeal from the final rejection of claims 25 and 31. Claims 1-24, 28, 32, 34, and 37 have been canceled. Claims 26, 27, 29, 30, 33, 35, and 36 have been allowed. An amendment filed August 31, 2001, which canceled claim 37, was approved for entry by the Examiner.

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The claimed invention relates to an integrated electronic device having first and second electrodes formed, respectively, on first and second substrates. An electronic connection connecting the first and second electrodes is formed that consists of first, second, and third solder regions arranged in series between the electrodes. The first and second electrodes are made of different materials that, respectively, are repellant and adhesive to molten solder.

Claim 25 is illustrative of the invention and reads as follows:

25. An integrated electronic device comprising:

a first substrate having a first electrode formed on a first surface of the first substrate;

a second substrate having a second electrode formed on a first surface of the second substrate, the second substrate opposing to the first substrate so that the second electrode is aligned to the first electrode; and

an electronic connection connecting the first electrode with the second electrode, the electronic connection consisting of first, second, and third solder regions arranged in series between the first and second electrodes such that the first region is electrically connected with the first electrode and the second region while the third region is electrically connected with the second electrode and the second region, wherein the first and second electrodes are made of different materials from each other.

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The Examiner relies on the following prior art:

Wilcox et al. (Wilcox)	5,038,996	Aug. 13, 1991
Kim	5,186,381	Feb. 16, 1993

Claims 25 and 31 stand finally rejected under 35 U.S.C. § 103(a) as being unpatentable over the combination of Wilcox and Kim.

Rather than reiterate the arguments of Appellants and the Examiner, reference is made to the Brief¹ and Answer for their respective details.

OPINION

We have carefully considered the subject matter on appeal, the rejection advanced by the Examiner and the evidence of obviousness relied upon by the Examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, Appellants' arguments set forth in the Brief along with the Examiner's rationale in support of the rejection and arguments in rebuttal set forth in the Examiner's Answer.

¹ The Appeal Brief was filed December 31, 2001 in response to the Examiner's Answer dated February 22, 2002. Although Appellants filed a Reply Brief on April 23, 2002, there is no indication from the record before us that the Examiner considered the Reply Brief. In an effort, however, to expedite the decision on this appeal, we decline to remand the application for the Examiner to consider the entry of the Reply Brief. The nature of the decision rendered by us in this appeal obviates the need for any such consideration of the Reply Brief by the Examiner.

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It is our view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the obviousness of the invention as set forth in claims 25 and 31. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the Examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the Examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657, 664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v.

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Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the Examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

With respect to independent claim 25, the Examiner, as the basis for the obviousness rejection, proposes to modify the integrated electronic device disclosure of Wilcox. As recognized by the Examiner, Wilcox discloses first and second electrodes 10 constructed of the same material ("such as copper," Wilcox, column 3, line 31) and, therefore, lacks a teaching of an electronic device in which the first and second electrodes are made of different materials as claimed. To address this deficiency, the Examiner turns to Kim which, at column 1, lines 20-35, discloses a prior art bonding process in which elements are bonded to an aluminum electrode. According to the Examiner (Answer, page 4) the skilled artisan would have been motivated and found it obvious to substitute Kim's aluminum electrode for the first electrode of Wilcox "... because it would provide a chip electrode." The Examiner further asserts (id.) that "... it has been held that the selection of a known material based on its suitability for its intended use is prima facie obvious."

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Appellants' arguments in response to the obviousness rejection focus on the contention that a prima facie case of obviousness has not been established since there is no suggestion or motivation in the disclosures of the Wilcox and Kim references for the Examiner's proposed combination. In particular, Appellants assert (Brief, page 4) that no motivation exists for substituting the aluminum electrode of Kim for only one of the copper electrodes of Wilcox.

Upon careful review of the applied prior art in light of the arguments of record, we are in agreement with Appellants' stated position in the Brief. The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification. In re Fritch, 972 F. 2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992).

Initially, we find puzzling the Examiner's proposed rationale for combining Wilcox with Kim, i.e., to provide a chip electrode, since Wilcox already has a chip electrode in place. Further, we do not dispute the Examiner's assertion that case law supports the position that the mere selection of a known material based on its suitability for its intended purpose is prima facie obvious. Following this principle the skilled artisan would

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perhaps be motivated to replace the two copper electrodes of Wilcox with the aluminum electrode of Kim. However, we find no reason whatsoever, and the Examiner has provided none, for one of ordinary skill to replace only one of the copper electrodes of Wilcox with an aluminum one, and thereby arrive at the claimed requirement of "... the first and second electrodes are made of different materials from each other."

Given the above deficiencies in the disclosures of the applied prior art, it is our view that any suggestion to modify Wilcox with Kim to arrive at Appellant's claimed invention could not come from any teaching in the Wilcox and Kim references but, rather, only from Appellants' own disclosure. In order for us to sustain the Examiner's rejection under 35 U.S.C. § 103, we would need to resort to impermissible speculation or unfounded assumptions or rationales to supply deficiencies in the factual basis of the rejection before us. In re Warner, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967), cert. denied, 389 U.S. 1057 (1968), rehearing denied, 390 U.S. 1000 (1968).

In view of the above discussion, it is our view that, since all of the limitations of the appealed claims are not taught or suggested by the applied prior art Wilcox and Kim references, the Examiner has not established a prima facie case of obviousness.

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Accordingly, the 35 U.S.C. § 103(a) rejection of independent claim 25 and its dependent claim 31 is not sustained.

In conclusion, we have not sustained the Examiner's 35 U.S.C. § 103(a) rejection of either of the claims on appeal. Therefore, the decision of the Examiner rejecting claims 25 and 31 is reversed.

REVERSED

JOSEPH F. RUGGIERO)
Administrative Patent Judge))
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JOSEPH L. DIXON) BOARD OF PATENT
Administrative Patent Judge) APPEALS AND
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HOWARD B. BLANKENSHIP)
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