

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte YASUHIRO TANAKA

Appeal No. 1998-2103
Application No. 08/674,243

HEARD: January 9, 2001

Before THOMAS, GROSS, and BARRY, Administrative Patent Judges.
BARRY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the rejection of claims 4-10 and 16-26. We reverse.

BACKGROUND

The invention at issue in this appeal is a piezoelectric resonator for use in oscillation circuits and filter circuits. In a conventional piezoelectric component, a piezoelectric resonator is held in place by metal terminals in contact with opposite surfaces of the resonator. The resonator includes a

piezoelectric substrate having electrodes formed on its opposing surfaces. The electrodes are normally made from silver. The metal terminals are typically made from a metal plate member, which is coated with silver to improve the electrical contact with the electrodes and lead electrodes.

While silver possesses excellent conducting characteristics, it tends to self-weld. Consequently, self-welding can occur at positions where the silver coated terminals contact the electrodes. If this occurs, the electrodes may be peeled off the substrate when the substrate vibrates, thus causing inferior electrical conduction between the electrodes and the terminals.

The appellant's invention deposits a high fusion point metal on the electrodes over the silver. The high fusion point metal may be deposited either as a layer on the entire surface of the electrode, as a layer on only the portion in contact with the terminal, or as fine particles. Either means of deposition reduces self-welding of the electrode to the terminal.

Claim 4, which is representative for our purposes,
follows:

4. A piezoelectric resonator, comprising:
a piezoelectric substrate;

an electrode including silver provided on a
surface of said piezoelectric substrate, said
electrode having a contact surface adapted to be
contacted by a terminal; and

high fusion point metal provided on said contact
surface of said electrode,

wherein said high fusion point metal comprises
high fusion point fine particles provided on said
contact surface of said electrode.

Besides the appellant's admitted prior art (AAPA), the
reference relied on in rejecting the claims follows:

Corwin et al. (Corwin) 3,317,762 May 2,
1967.

Claims 4-10 and 16-26 stand rejected under 35 U.S.C. § 103(a)
as obvious over AAPA in view of Corwin. Rather than repeat
the arguments of the appellant or examiner in toto, we refer

the reader to the brief and answer for the respective details thereof.

OPINION

In deciding this appeal, we considered the subject matter on appeal and the rejection advanced by the examiner. Furthermore, we duly considered the arguments and evidence of the appellant and examiner. After considering the record, we are persuaded that the examiner erred in rejecting claims 4-10 and 16-26. Accordingly, we reverse.

We begin by noting the following principles from In re Rijckaert, 9 F.3d 1531, 1532, 28 USPQ2d 1955, 1956 (Fed. Cir. 1993).

In rejecting claims under 35 U.S.C. § 103, the examiner bears the initial burden of presenting a prima facie case of obviousness. In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).... "A prima facie case of obviousness is established when the teachings from the prior art itself would appear to have suggested the claimed subject matter to a person of ordinary skill in the art." In re Bell, 991 F.2d 781, 782, 26 USPQ2d 1529, 1531 (Fed. Cir. 1993) (quoting In re Rinehart, 531 F.2d 1048, 1051, 189 USPQ 143, 147 (CCPA 1976)).

With these principles in mind, we consider the examiner's rejection and appellant's argument.

Noting that "[a]mong the reasons Corwin uses the nickel coating are that 'the resultant coating is hard, corrosion resistant, directly solderable---' (Col. 2 lines 70-73)," (Examiner's Answer at 3), the examiner alleges, "for at least these reasons it would have been obvious to one of ordinary skill in the art to provide the 'Prior Art' piezoelectric silver electrodes with a nickel coating." (Id.) The appellant argues, "[w]hile Corwin '762 does disclose that the nickel coating placed over the silver electrode will result in a hard, corrosion resistant, directly solderable, high tensile strength coating, it provides no indication that such a coating should be used to protect the silver electrode. It only teaches that such a coating should be used when necessary to prestress the spherical transducer." (Appeal Br. at 9.)

"Obviousness may not be established using hindsight or in view of the teachings or suggestions of the inventor."

Para-Ordnance Mfg., 73 F.3d at 1087, 37 USPQ2d at 1239 (citing

W.L. Gore & Assocs., Inc., 721 F.2d at 1551, 1553, 220 USPQ at 311, 312-13 (Fed. Cir. 1983)). "It is impermissible to use the claimed invention as an instruction manual or "template" to piece together the teachings of the prior art so that the claimed invention is rendered obvious." In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1784 (Fed. Cir. 1992) (citing In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)). "[T]o establish obviousness based on a combination of the elements disclosed in the prior art, there must be some motivation, suggestion or teaching of the desirability of making the specific combination that was made by the applicant." In re Kotzab, 217 F.3d 1365, 1370, 55 USPQ2d 1313, 1316 (Fed. Cir. 2000) (citing In re Dance, 160 F.3d 1339, 1343, 48 USPQ2d 1635, 1637 (Fed. Cir. 1998) and In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984)).

Here, the examiner fails to identify a sufficient suggestion to combine Corwin with the AAPA. The AAPA reveals "a piezoelectric resonator [that] includes a piezoelectric substrate having a [sic] electrodes formed on its opposing

surfaces. The electrodes are normally made from silver."
(Spec. at 1.) For its part, Corwin teaches an outer coating
15 of conductive material deposited with inherent internal
stress to place a ceramic shell **11** under initial compression.
Col. 2, ll. 60-62. Although the reference further teaches
that "the resultant coating is hard, corrosion resistant,
directly solderable, and has a high tensile strength," id. at
ll. 70-72, there is no evidence that the AAPA's electrodes
lack or would benefit from buttressing these qualities.

Because there is no evidence that the Corwin's outer
coating would have been desirable on AAPA's electrodes, we are
not persuaded that teachings from the prior art would have
suggested the combination. Therefore, we reverse the
rejection of claims 4-10 and 16-26 as obvious over AAPA in
view of Corwin.

CONCLUSION

In summary, the rejection of claims 4-10 and 16-26 stand rejected under 35 U.S.C. § 103(a) as obvious over AAPA in view of Corwin is reversed.

REVERSED

JAMES D. THOMAS)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
ANITA PELLMAN GROSS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
LANCE LEONARD BARRY)	
Administrative Patent Judge)	

LLB/gjh
OSTROLENK, FABER, GERB, and SOFFEN
1180 AVENUE OF THE AMERICAS
NEW YORK, NY 10036-8403

BARRY

APPEAL NO. 1998-2103 - JUDGE

APPLICATION NO. 08/674,243

APJ BARRY - 2 copies

APJ THOMAS

APJ GROSS

DECISION: **REVERSED**

Prepared By: APJ BARRY

DRAFT SUBMITTED: 9 Jan 01

FINAL TYPED: Jan. 11, 2001
GJH

Team 3:

I have typed almost all of this opinion.

Please provide insertions where needed including the mailing address.

Please check spelling, cites, and quotes.

Do NOT change matters of form or style.