

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. 13

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN C. BYRNE, STEVEN R. KOMPLIN and ASHOK MURTHY

Appeal No. 1998-2159
Application No. 08/539,892

ON BRIEF

Before CALVERT, COHEN, and NASE, Administrative Patent Judges.
NASE, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1 to 4, which are all of the claims pending in this application.

We REVERSE.

BACKGROUND

The appellants' invention relates to a process of bonding a nozzle plate to a surface of a semiconductor chip. A copy of the claims under appeal is set forth in the appendix to the appellants' brief.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Schantz et al. 25, 1995 (Schantz)	5,408,738	Apr.
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Takatsu ¹	JP 57-70612	May 1, 1982
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Claims 1 to 4 stand rejected under 35 U.S.C. § 103 as being unpatentable over Schantz in view of Takatsu.

Rather than reiterate the conflicting viewpoints advanced by the examiner and the appellants regarding the above-noted rejection, we make reference to the final rejection (Paper No. 6, mailed September 5, 1997) and the answer (Paper No. 10,

¹ In determining the teachings of Takatsu, we will rely on the translation of record provided by the USPTO.

mailed April 14, 1998) for the examiner's complete reasoning in support of the rejection, and to the brief (Paper No. 9, filed January 26, 1998) and reply brief (Paper No. 11, filed May 26, 1998) for the appellants' arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellants' specification and claims, to the applied prior art references, and to the respective positions articulated by the appellants and the examiner. Upon evaluation of all the evidence before us, it is our conclusion that the evidence adduced by the examiner is insufficient to establish a prima facie case of obviousness with respect to the claims under appeal. Accordingly, we will not sustain the examiner's rejection of claims 1 to 4 under 35 U.S.C. § 103. Our reasoning for this determination follows.

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). A prima facie case of

obviousness is established by presenting evidence that would have led one of ordinary skill in the art to combine the relevant teachings of the references to arrive at the claimed invention. See In re Fine, 837 F.2d 1071, 1074, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988) and In re Lintner, 458 F.2d 1013, 1016, 173 USPQ 560, 562 (CCPA 1972).

The appellants argue that the applied prior art does not suggest the claimed subject matter. We agree.

All the claims under appeal require the resistors on a semiconductor circuit chip that act to vaporize ink to also be electrically driven in a manner sufficient to bond the chip to a nozzle plate. However, this limitation is not suggested by the applied prior art for the reasons that follow.

Schantz teaches (column 4, line 8, to column 6, line 41) a printhead formed by bonding the back surface of a polymer tape having inkjet orifices to a silicon substrate having resistors and a barrier layer thereon. Schantz also suggests (Figures 10-11; column 7, lines 16-57) that the barrier layer

can be omitted. Schantz does not teach or suggest using his resistors to effect bonding between the polymer tape and the barrier layer or between the polymer tape and the silicon substrate.

Takatsu discloses a method of cementing (i.e., bonding) by melting thermoplastic surfaces together. Takatsu teaches (translation, p. 3) that when cementing objects, the cemented portion must have characteristics (physically and chemically) identical to the materials of the subject to be cemented. Takatsu also teaches (translation, p. 4) that a heating unit is located in contact with or near the thermoplastic surfaces to be cemented together (see the nichrome wires 5 in Figures 1(a), 1(b) and 2(a)).

In our view, the only suggestion for modifying Schantz in the manner proposed by the examiner to meet the above-noted limitation stems from hindsight knowledge derived from the appellants' own disclosure. The use of such hindsight knowledge to support an obviousness rejection under 35 U.S.C. § 103 is, of course, impermissible. See, for example, W. L.

Gore and Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 1553, 220 USPQ 303, 312-13 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984). In our view, the combined teachings² of the applied prior art would not have utilized Schantz's resistors that act to vaporize ink to create the melting heat taught by Takatsu but instead would have provided separate heating units (such as the nichrome wire taught by Takatsu) to effect the melting to bond/cement the portions of Schantz's printhead together. It follows that we cannot sustain the examiner's rejection of claims 1-4.

CONCLUSION

² The test for obviousness is what the combined teachings of the references would have suggested to one of ordinary skill in the art. See In re Young, 927 F.2d 588, 591, 18 USPQ2d 1089, 1091 (Fed. Cir. 1991) and In re Keller, 642 F.2d 413, 425, 208 USPQ 871, 881 (CCPA 1981).

To summarize, the decision of the examiner to reject claims 1 to 4 under 35 U.S.C. § 103 is reversed.

REVERSED

IAN A. CALVERT)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
IRWIN CHARLES COHEN)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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JEFFREY V. NASE)	
Administrative Patent Judge)	

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