

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte DELBERT RAYMOND CECCHI, CHARLES C. HANSEN,
and CURTIS WALTER PREUSS

Appeal No. 2005-0827
Application No. 09/903,239

ON BRIEF

Before KRASS, BLANKENSHIP, and MACDONALD, Administrative Patent Judges.
BLANKENSHIP, 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 1-10, which are all the claims in the application.

We reverse.

BACKGROUND

The invention is directed to a differential amplifier circuit that reduces the speed-limiting effects of capacitance by employing passive (rather than active) elements for biasing. Claim 1 is reproduced below.¹

1. A differential amplifier for providing common-mode rejection while providing differential-mode amplification, comprising:
 - a. an active differential amplification element electrically coupled to a first input signal, a second input signal and an output signal, the active differential amplification element also electrically coupled to a first voltage and a different second voltage; and
 - b. a passive bias element electrically coupled to the active differential amplification element, the passive bias element capable of biasing the active differential amplification element so that the active differential amplification element operates in a saturation mode, thereby generating the output signal so that the output signal corresponds to a voltage difference between the first input signal and the second input signal.

The examiner relies on the following references:

Sasaki	5,039,873	Aug. 13, 1991
Zhang	6,313,696 B1	Nov. 6, 2001 (filed Dec. 8, 1999)

Claims 1-10 stand rejected under 35 U.S.C. § 103 as being unpatentable over Zhang and Sasaki.

We refer to the Final Rejection (mailed Mar. 5, 2004) and the Examiner's Answer (mailed Oct. 5, 2004) for a statement of the examiner's position and to the Brief (filed

¹ We note that the claim Appendix in appellants' principal brief contains two versions of claim 3.

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Jul. 29, 2004) and the Reply Brief (filed Dec. 3, 2004) for appellants' position with respect to the claims which stand rejected.

OPINION

We cannot sustain the rejection applied against claims 1 through 10, essentially for the reasons expressed by appellants in the briefs.

The rejection relies on Sasaki for the teaching that when a transistor is on, it is "functionally equivalent" to a resistor. Sasaki describes, in column 1, a prior art microwave switch containing FET's that are modeled as capacitors when off and as resistors when on. The objective teaching of Sasaki, however, shows no more than that the operation of FET's in the circuit of the prior art microwave switch (Fig. 4(a)) is equivalent to the respective passive devices. The teaching is not in the context of, for example, a general electronics text that might tend to show that the artisan would have recognized the alleged equivalence as it relates to the instant claimed subject matter.

Even assuming that functional equivalence is shown by Sasaki, the rejection appears to recognize that a showing of equivalence is not sufficient to demonstrate a suggestion in the prior art for replacing certain transistors of Zhang with resistors, such that the requirements of (broadest) claim 1 are met. The rejection relies on an additional reference² (Stockstad, U.S. 6,429,685) for showing that a resistor is

² Cf. *In re Hoch*, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970) ("Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be

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“inherently” linear, and concludes that the use of a “passive resistor” will “improve overall linearity of the amplifier.”

However, the rejection provides no evidence in support of the view that replacing transistors in Zhang with “inherently linear” devices will improve operation of the amplifier as asserted. Cf. In re Zurko, 258 F.3d 1379, 1386, 59 USPQ2d 1693, 1697 (Fed. Cir. 2001) (in a determination of unpatentability “the Board must point to some concrete evidence in the record in support of...[the]...findings”). Moreover, the rejection appears to rest on two conflicting views, neither of which are supported by the applied references; i.e., a resistor is equivalent to, but at the same time preferred over, a transistor.

We thus are in ultimate agreement with appellants. The instant rejection can only be based on a hindsight reconstruction of the invention. The mere fact that the prior art could be modified to result in the claimed invention would not have made the modification obvious unless the prior art suggested the desirability of the modification. See, e.g., In re Laskowski, 871 F.2d 115, 117, 10 USPQ2d 1397, 1398 (Fed. Cir. 1989). Prior art references in combination do not make an invention obvious unless something in the prior art would suggest the advantage to be derived from combining their teachings. In re Sernaker, 702 F.2d 989, 995-96, 217 USPQ 1, 6-7 (Fed. Cir. 1983).

no excuse for not positively including the reference in the statement of rejection.”).

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CONCLUSION

The rejection of claims 1-10 under 35 U.S.C. § 103 is reversed.

REVERSED

ERROL A. KRASS
Administrative Patent Judge

HOWARD B. BLANKENSHIP
Administrative Patent Judge

ALLEN R. MACDONALD
Administrative Patent Judge

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