

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 12

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS C. HOLLOWAY

Appeal No. 1997-1034
Application No. 08/279,135¹

ON BRIEF

Before THOMAS, BARRETT, and DIXON, **Administrative Patent Judges**.
DIXON, **Administrative Patent Judge**.

DECISION ON APPEAL

This is a decision on appeal from the Examiner's final rejection of claims 1-6 and 15-20, which are all of the claims pending in this application.

We REVERSE.

¹ Application for patent filed Jul. 22, 1994.

BACKGROUND

The appellant's invention relates to a memory circuit having varied levels of doping between the pass gate transistors and the pull-down/up transistors. An understanding of the invention can be derived from a reading of exemplary claim 1, which is reproduced below.

1. A memory circuit, comprising:
 - a flip-flop circuit for storing data having first and second pull down transistors, a gate of each of said pull down transistors having a first predetermined conductivity level; and
 - first and second pass gate transistors coupled to said flip-flop, a gate of each of said pass gate transistors having a second predetermined conductivity level less than said first predetermined level wherein data is read from and written to said flip-flop through said pass gate transistors.

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

Klein et al (Klein)	3,673,471	Jun. 27, 1972
Harari	4,132,904	Jan. 02, 1979
Ichinose et al. (Ichinose)	5,020,029	May 28, 1991
Miyaji	5,070,482	Dec. 03, 1991

Claims 1, 3 and 5 stand rejected under 35 U.S.C. § 103 as being unpatentable over Miyaji and Klein. Claims 1-6, 15-17, 19 and 20 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ichinose and Klein. Claim 4 stands rejected under

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35 U.S.C. § 103 as being unpatentable over Miyaji and Klein in view of Harari. Claims 4 and 18 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ichinose and Klein in view of Harari.

Rather than reiterate the conflicting viewpoints advanced by the Examiner and the appellant regarding the above-noted rejections, we make reference to the Examiner's answer (Paper No. 11, mailed Oct. 25, 1996) for the Examiner's reasoning in support of the rejections, and to the appellant's brief (Paper No. 10, filed May 28, 1996) for the appellant's arguments thereagainst.

OPINION

In reaching our decision in this appeal, we have given careful consideration to the appellant's specification and claims, to the applied prior art references, and to the respective positions articulated by the appellant and the Examiner. As a consequence of our review, we make the determinations which follow.

“To reject claims in an application under section 103, an Examiner must show an un rebutted prima facie case of obviousness. **See In re Deuel**, 51 F.3d 1552, 1557, 34 U.S.P.Q. 2d 1210, 1214 (Fed. Cir. 1995). In the absence of a proper prima facie case of obviousness, an applicant who complies with the other statutory requirements is entitled to a patent. **See In re Oetiker**, 977 F.2d 1443, 1445, 24 U.S.P.Q. 2d 1443,

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1444 (Fed. Cir. 1992). On appeal to the Board, an applicant can overcome a rejection by showing insufficient evidence of prima facie obviousness or by rebutting the prima facie case with evidence of secondary indicia of nonobviousness.” **In re Rouffet**, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1455 (CAFC 1998). Here, we find that appellant has overcome the **prima facie** case of obviousness by showing insufficient evidence by the Examiner of obviousness.

We find that the Examiner has not made a clear showing of a **prima facie** case of obviousness. Furthermore, the Examiner has not clearly addressed the limitations set forth in claims 1 and 15. The Examiner has applied *Miyaji/Ichinose* and *Klein* against the claims and discussed these references with respect to lowering the “threshold voltage” and adjustments by doping to adjust the threshold voltage. But the Examiner has not addressed the language of claims 1 and 15 concerning the “conductivity” of the gate of the pass gate transistors being lower than the first predetermined conductivity of the pull-down transistors.

Appellant argues that the Examiner has not shown that the “additional ion implantation” as taught by *Miyaji* is directed to the gate of the access transistor as recited in claim 1. Rather, appellant maintains that this discussion in *Miyaji* “likely refers to the threshold adjust implant[ation] into a transistor channel region performed prior to gate formation.” (See brief at page 3.) We agree with an appellant that the

Examiner has not clearly shown that the reference teaches that the ion implantation is made to the gate of the transistors as set forth in the language of claim 1. The Examiner's citation to Klein further does not clearly identify that the disclosed teachings are relevant to use in a memory circuit as recited in claim 1.

Moreover, appellant argues that Klein does not suggest "two different doping levels for the same gate type in the same integrated circuit. Consequently, Miyaji and Klein do not suggest the claim 1 requirement to two doping levels of the same type in a single circuit." (See brief at page 3.) While this argument goes beyond the express language of the limitations set forth in claim 1, we agree with the basic premise of appellant's argument concerning the two different conductivities in the same memory circuit. While Klein teaches varying the doping of the gate of the transistor, Klein does not expressly teach or suggest the use of two different doping levels or conductivities on a single integrated circuit. While Miyaji teaches that the access transistor should have a lower threshold voltage in the memory circuit, Miyaji is silent with respect to using two different doping levels or conductivities in the memory. The Examiner has not provided a convincing line of reasoning why a skilled artisan would have been motivated to combine the two teachings beyond stating that the electrodes of Miyaji "need doping in order to perform their function as an electrode, and varying the doping . . . would have been a very convenient manner of creating the threshold differences

which Miyaji needs.” (See answers at page 4.) We find that the mere conclusion in hindsight that the combination would have been “convenient” is not a convincing reason for the combination.

Appellant analyzes the language of claim 1 with respect to threshold voltage and argues that “Miyaji proposes the opposite of the claims.” (See brief at page 4.) We agree with appellant that the combination of the teachings of Miyaji and Klein would not produce the invention as recited in claim 1. Therefore, we will not sustain the rejection of claim 1 over the combination of Miyaji and Klein nor will we sustain the rejection of dependent claims 3 and 5.

Similarly, Ichinose teaches that the pull-up transistors have a higher threshold voltage than the threshold voltage of the access transistors. Therefore, analogous to the discussion above, the combination of Ichinose and Klein would not teach or suggest the invention set forth in claim 1 nor its dependent claims 2-6. Since claim 15 contains the same limitations as claim 1 discussed above, we will not sustain the rejection of claim 15 nor its dependent claims 16, 17, 19 and 20.

The Examiner has not identified any teaching or suggestion in Harari which would remedy the deficiency discussed above in the combination of Miyaji or Ichinose and Klein. Therefore, we will not sustain the rejections of claims 4 and 18.

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CONCLUSION

To summarize, the decision of the Examiner to reject claims 1-6 and 15-20 under 35 U.S.C. § 103 is reversed.

REVERSED

JAMES D. THOMAS)	
Administrative Patent Judge)	
)	
)	
)	
)	BOARD OF PATENT
LEE E. BARRETT)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
JOSEPH L. DIXON)	
Administrative Patent Judge)	

vsh

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