

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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.27

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHING-YUH TSAY

Appeal No. 1997-0179
Application 08/251,054¹

ON BRIEF

Before KRASS, BARRETT and FRAHM, Administrative Patent Judges.

FRAHM, Administrative Patent Judge.

DECISION ON APPEAL

Appellant has appealed to the Board from the examiner's final rejection of claims 1 to 8, which constitute all of the pending claims in the application before us on appeal.

BACKGROUND

The subject matter on appeal is directed to the field of integrated circuits, and in particular, to a

¹ Application for patent filed May 31, 1994.

DRAM memory device (see Figures 4 and 5 of the specification) for providing on chip power supply control by producing a burn-in reference voltage (V_{REFBI}) (see specification, page 1). As indicated in the specification (page 3), a burn-in operation is performed on each memory device during a test process of the chips. As stated by appellant, "[b]urn-in is intended to stress the devices, both by voltage and by temperature so that weak devices are removed from the population which is shipped to the user of the devices" (specification, page 3).

In general, appellant's invention recited in independent claims 1 and 5 on appeal provides a memory device (Figures 4 and 5) having input (nodes 342 and 350), feedback (transistor 301), and mirroring (transistors 306-318) circuits which work in concert together to better provide a burn-in reference voltage (V_{REFBI}). More specifically, appellant's claimed invention produces a burn-in voltage by mirroring a feedback voltage to produce a mirrored voltage having a magnitude approximately the same as the feedback voltage, wherein the mirrored voltage is measured in relation of an external reference voltage (V_{EXT}) (see last paragraph of each of independent claims 1 and 5 on appeal). By providing the burn-in reference voltage with respect to an external reference voltage (V_{EXT}), a burn-in reference voltage (V_{REFBI}) is provided which "is both stable with respect to temperature and process" (specification, page 7, Summary of the Invention). As further discussed, infra, we find that the applied reference to Fischer fails to teach or suggest at least this salient feature as it is recited in the claims on appeal.

Representative claim 1 is reproduced below:

1. A memory device for producing a burn-in reference voltage, comprising:

an input circuit for receiving an internal reference voltage and an external reference voltage;

a feedback circuit coupled to said input circuit to produce a feedback voltage having deviations from said internal reference voltage, said feedback circuit being responsive to said deviations of said feedback voltage to adjust said feedback voltage toward said internal reference voltage as said feedback voltage is measured with respect to said internal reference voltage;

a mirroring circuit coupled to said feedback circuit and said input circuit to produce said burn-in reference voltage by receiving said feedback voltage and mirroring said feedback voltage to produce a mirrored voltage having a magnitude approximately the same as said feedback voltage, said mirrored voltage being measured with respect to said external reference voltage.

The following reference is relied on by the examiner:

Fischer

5,300,837

Apr. 5, 1994
(filed Sept. 17, 1992)

Claims 1 to 8 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention (see Answer, page 3).

The rejection of claims 1 to 8 under 35 U.S.C. § 102(b) as being anticipated by Rybicki has been withdrawn.²

² The Answer states that the rejection of claims 1 to 8 as being anticipated by Rybicki "has been withdrawn by the examiner" (Answer, page 2).

Claims 1 to 8 stand rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Fischer alone.

Rather than repeat the positions of appellant and the examiner, reference is made to the Briefs and the Answers for the respective details thereof.³

OPINION

For the reasons generally set forth by appellant in the Briefs, and for the reasons which follow, we will reverse the rejection of claims 1 to 8 under 35 U.S.C. §§ 103 and 112. As a consequence of our review, we are in agreement with appellants that the claims on appeal meet the requirements of 35 U.S.C. § 112, second paragraph, and that the claims are nonobvious under 35 U.S.C. § 103 over Fischer (see Brief, pages 5 to 6; Reply Brief, pages 3 to 4; and Supplemental Reply Brief, page 2).

In reaching our conclusion on the issues raised in this appeal, we have carefully considered appellant's specification and claims, the applied patent, and the respective viewpoints of appellant and the examiner. We find that claims 1 to 8 adequately point out and particularly claim the subject matter of the invention in as much as separate input, feedback, and mirroring circuits are defined in

³ We note that the after final amendment dated October 13, 1995, has been entered as per the Advisory Action of October 23, 1995.

Our review of the file wrapper in this case indicates that the Reply Brief of July 19, 1996, was entered and considered by the examiner as indicated by the Supplemental Answer of August 7, 1996. And, the Supplemental Reply Brief of October 15, 1996, has been entered and considered by the examiner as evidenced by the letter from the examiner dated November 19, 1996.

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independent claims 1 and 5 on appeal. It is our view that the prior art reference to Fischer 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 1 to 8. We also find that any conclusion of obviousness of the invention recited in the claims on appeal would necessarily have involved the improper use of hindsight. Accordingly, we will reverse the decision of the examiner rejecting claims 1 to 8 under 35 U.S.C. § 112, second paragraph, and we will reverse the decision of the examiner rejecting claims 1 to 8 under 35 U.S.C. § 103 over Fischer.

Rejection of Claims 1 to 8 Under 35 U.S.C. § 112, Second Paragraph

With respect to 35 U.S.C. § 112, second paragraph, it is to be noted that to comply with the requirements of the cited paragraph, a claim must set out and circumscribe a particular area with a reasonable degree of precision and particularity when read in light of the disclosure and the teachings of the prior art as it would be by the artisan. Note In re Johnson, 558 F.2d 1008, 1015, 194 USPQ 187, 194 (CCPA 1977) and In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971). Breadth of a claim is not to be equated with indefiniteness. If the scope of the subject matter embraced by the claim is clear, then the claims comply with 35 U.S.C. § 112, second paragraph. See MPEP § 2173.04. In this case, we find that although the claims on appeal are very broad they are reasonably precise in light of the disclosure and the prior art.

Appellant argues that all of the claims on appeal are definite and properly point out and

distinctly claim the subject matter regarded as the invention. The examiner's rejection under § 112, second paragraph, is based on the premise that two circuits (e.g., the input circuit and the feedback circuit) comprise at least one common element (e.g., transistor 212), and the mirroring circuit is recited as being connected to "separate" feedback and input circuits (Answer, page 4). Our review of claims 1 and 5 on appeal reveals that the term "separate" is not used to describe the connection of the input and feedback circuits with the mirroring circuit. Appellant argues (Reply Brief, page 3) that because node 342 acts as an input circuit to receive the internal reference voltage (V_{INT}), element 212 is not claimed twice and therefore the examiner's rejection under 35 U.S.C. § 112, second paragraph, is in error. We agree with appellants. Accordingly, we will not sustain the rejection of claims 1 to 8 under 35 U.S.C. § 112, second paragraph.

Rejection of Claims 1 to 8 Under 35 U.S.C. § 103 Over Fischer Alone

Appellant argues that Fischer fails to teach or suggest the recited feature of a mirrored voltage (at 86') which is approximately the same as the feedback voltage with respect to an external reference voltage (Brief, pages 5 to 6). We agree, and we find that the feature recited in claims 1 to 8 on appeal, of "mirroring said feedback voltage to produce a mirrored voltage . . . approximately the same as said feedback voltage, said mirrored voltage being measured with respect to said external reference voltage" (independent claims 1 and 5), is neither taught nor would have been suggested by the prior art to Fischer.

The examiner asserts that it would have been obvious to choose a resistance value that would provide the desired output from the mirrored current (Answer, pages 5 to 6), and that it would have been obvious to set the resistance value of the load to any value necessary to achieve a desired voltage (such as the feedback voltage) (Answer, page 6). In response, appellant states that choosing the type of load needed in order to achieve appellant's claimed invention would require the use of hindsight (Reply Brief, page 4). The examiner disagrees on the basis that no hindsight is necessary to realize that the output of Fischer will be coupled to some type of load (i.e., resistive, capacitive, inductive) (Supplemental Answer, page 1), and that "it would have been obvious for one skilled in the art to utilize a resistive load with the Fischer reference" (Supplemental Answer, pages 1 to 2). However, the examiner fails to adequately explain why it would have been obvious to choose the specific voltage set forth by appellant in the claims on appeal.

We agree with appellant that "the instant specification does not use a desired voltage but a very specific voltage" (Reply Brief, page 4), and that just because any resistive load may be chosen in Fischer does not mean that the specific load and voltage defined in appellant's specification would have been obvious. We agree with appellant's argument that hindsight would be required in order to pick a resistive load value as needed to provide proper voltage (Reply Brief, page 4).⁴ We also agree with

⁴ It must be recognized that any judgement on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See In re McLaughlin, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

appellant's argument that the examiner "has not provided any reason why one type of load is chosen over another type of load" (Supplemental Reply Brief, page 2)(emphasis in original).

We therefore agree with appellant that the reasoning of the obviousness rejection (see Answer, pages 5 and 6) took into account knowledge gleaned only from applicant's disclosure. Specifically, one would have to look to applicant's disclosure for direction to generate a burn-in reference voltage with respect to an external reference voltage (Supplemental Reply Brief, page 2). Only appellant's claims teach this important feature. Indeed, appellant's recited feature of providing burn-in reference voltage with respect to an external reference voltage (V_{EXT}) provides the benefit of a burn-in reference voltage (V_{REFBI}) which "is both stable with respect to temperature and process" (specification, page 7, Summary of the Invention; see Supplemental Reply Brief, page 2). To modify Fischer to achieve appellant's claimed invention would involve the application of knowledge and motivation not clearly present in the prior art. See In re Sheckler, 438 F.2d 999, 1001, 168 USPQ 716, 717 (CCPA 1971). We conclude that there would have been no motivation to modify Fischer to achieve the subject matter of independent claims 1 and 5 on appeal.

In view of the foregoing, the decisions of the examiner rejecting claims 1 to 8 under 35 U.S.C. § 103 are reversed.

CONCLUSION

The decision of the examiner rejecting claims 1 to 8 under 35 U.S.C. § 112, second paragraph, is reversed.

The decision of the examiner rejecting claims 1 to 8 under 35 U.S.C. § 103 is reversed.

REVERSED

ERROL A. KRASS)	
Administrative Patent Judge)	
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)	
)	BOARD OF PATENT
LEE E. BARRETT)	
Administrative Patent Judge)	APPEALS AND
)	
)	INTERFERENCES
)	
ERIC FRAHM)	
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