

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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 ZAHID AHSANULLAH,
MICHAEL LONGWELL and JAMES R. FEDDELER

Appeal No. 2003-0882
Application No. 09/911,198

ON BRIEF

Before HAIRSTON, RUGGIERO, and LEVY, Administrative Patent Judges.
LEVY, 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 1-11 and 17-20, which are all of the claims pending in this application.

BACKGROUND

Appellants' invention relates to controlling signal states and leakage current during a sleep mode¹. An understanding of

¹With respect to the Summary of the Invention on pages 2-10 of the brief, we observe that the summary is essentially a reprint of the detailed description of the invention. 37 CFR 1.192(c)(5) states that the summary

those arguments actually made by appellants have been considered in this decision. Arguments which appellants could have made but chose not to make in the brief have not been considered. See 37 CFR 1.192(a).

OPINION

In reaching our decision in this appeal, we have carefully considered the subject matter on appeal, the rejection advanced by the examiner, and the evidence of anticipation relied upon by the examiner as support for the rejection. We have, likewise, reviewed and taken into consideration, in reaching our decision, appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejection and arguments in rebuttal set forth in the examiner's answer.

Upon consideration of the record before us, we reverse essentially for the reasons set forth by appellants in the reply brief. We turn first to independent claim 1.

A rejection for anticipation under section 102 requires that the four corners of a single prior art document describe every element of the claimed invention, either expressly or inherently, such that a person of ordinary skill in the art could practice the invention without undue experimentation. See Atlas Powder

Co. V. Ireco Inc., 190 F.3d 1342, 1347, 51 USPQ2d 1943, 1947 (Fed. Cir. 1999); In re Paulsen, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994).

The examiner's position (answer, page 4) is that Jung clearly discloses a circuit (Fig. 2) where a latch (Q_5 - Q_8) communicates the input signal to the output terminal when the circuit is not in sleep mode (Q_{10} HIGH), and then in response to the circuit being in sleep mode (Q_{10} LOW), furnishes another signal to the output terminal indicative of a programmed value. The examiner equates a HIGH relative voltage applied to EN (source terminal of NMOS Q_{10}) to the non-sleep mode, and a LOW relative voltage to the claimed sleep function (id.). Thus, the examiner asserts that when the EN signal is LOW, Jung is acting in a sleep mode because a change in the value DATA at the input terminal creates no corresponding change at the output terminal as in the claimed invention (answer, pages 7 and 8). Due to the latch structure of Jung, the value at the output terminal, prior to a diametric change on the EN terminal from a HIGH to LOW, is retained (id.).

Appellants rebut examiner's contention that a signal could be furnished to the output terminal of Jung when Q_{10} is disabled, where the path to ground for all circuitry is removed (brief,

page 11). Appellants assert that it is impossible to furnish a programmed value to the output terminal of Jung while Q_{10} is disabled (id.). Appellants do not rebut any specific teaching of Jung, but rather disagree with examiner's interpretation of the reference (brief, page 12). Additionally, appellants (reply brief, page 2) do not dispute examiner's assertion of well-known facts that "an inverter can be implemented using a PMOS transistor and an NMOS transistor," and that "two inverters connected in a loop constitutes a latch." Appellants assert, however, that the examiner has failed to consider other basic complementary metal oxide semiconductor (CMOS) principles when utilizing Jung (id.). In Appellants' Appendix B, appellants rely on an excerpt from a textbook FUNDAMENTALS OF MOS DIGITAL INTEGRATED CIRCUITS, Figure 3.26, that discloses a basic CMOS inverter circuit having a path to ground for transistor function (reply brief, page 3).

From the disclosure of the textbook, appellants conclude that the pulldown transistor Q_{10} with the input "EN" enables *and disables* the ability of Q_5 - Q_8 to form inverters and thus form a latch [emphasis added by appellants] (id.). In contradiction to the examiner's assertion, appellants assert that Q_5 - Q_8 float when

the EN signal is grounded (the alleged sleep mode) (reply brief, page 4).

A review of Jung reveals that the reference relates to a sense amplifier which "senses and amplifies a voltage level of data stored in memory cells within a semiconductor memory device" (col 1, lines 8-10). Figure 2 incorporates an input, output, and latch structure (Q_5 - Q_8) (col 3, lines 14-15). Reviewing Fig. 3A-3C, when the signal at the EN terminal is grounded (5ns), the signal at the Output terminal (N_{III}) attains a voltage level between Gnd and Vcc. Upon EN going HIGH (~8ns), output quickly approaches Vcc and remains constant until EN goes LOW [assumed sleep mode] (~28ns) causing Output to return to a value located between Gnd and Vcc.

The examiner characterizes a sleep mode as an integral element of the claimed invention present in Jung. There is, however, no correlation to this interpretation found in the reference because even if assuming, arguendo, that data could be "programmed" into the latch circuit (Q_5 - Q_8), when the argued sleep mode was activated (Q_{10} LOW), the claim language would not be met by Jung because, as asserted by appellants (reply brief, page 4) no current flows between the source and drain of the transistor Q_{10} when Q_{10} is LOW. For current to flow, there must

be a voltage potential across the source and drain of the transistor. By modulating the EN terminal to LOW, NMOS transistor Q₁₀ will prevent current flow between node N₃₀ and Gnd. As a result, during the sleep mode, when EN goes LOW, Q₅-Q₈ will be disabled, by the lack of current flowing between the source and drain of transistor Q₁₀. Because there is no path to ground for Q₅-Q₈ when EN goes LOW, without a path to ground, the NMOS and PMOS transistors Q₅-Q₈, will not, in this mode, form an inverter circuit, according to the textbook supplied by appellants, and therefore will not form a circuit that furnishes a signal to an output terminal indicative of a value that is programmed into a latch, as required by claim 1. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." In re Robertson, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted). From all of the above, we find that the examiner has failed to establish inherency in Jung with respect to the claim

language disputed by appellants. Because the examiner has failed to establish that Q₅-Q₈ function as an inverter when Q₁₀ goes LOW, we therefore find that the examiner has failed to establish a prima facie case of anticipation of independent claim 1.

Accordingly, the rejection of claim 1 and claims 2-5 dependent therefrom, is reversed.

We turn next to the rejection of claims 6-11 and 17-20 under 35 U.S.C. § 102(b) as being anticipated by Jung. Both independent claims 6 and 17 contain language similar to the language found in independent claim 1. Accordingly, the rejection of claims 6-11 and 17-20 under 35 U.S.C. § 102(b) is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-11 and 17-20 under 35 U.S.C. § 102(b) is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
JOSEPH F. RUGGIERO)	APPEALS
Administrative Patent Judge)	AND
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