

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 34

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte CHARLES R. HOFFMAN

Appeal No. 1997-1505
Application No. 08/580,778

ON BRIEF

Before JERRY SMITH, BARRY, and LEVY, Administrative Patent Judges.

LEVY, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's final rejection of claims 1-7 and 9-13, which are all of the claims¹ pending in this application.

¹ The brief does not include a correct copy of claims 9 and 11, which were amended on August 16, 1996. A correct copy of claims 9 and 11 are attached to this decision.

Appeal No. 1997-1505
Application No. 08/580,778

BACKGROUND

The appellant's invention relates to a reference voltage generator. An understanding of the invention can be derived from a reading of exemplary claim 5, which is reproduced as follows:

5. A reference voltage generator comprising:

a phase lock loop;

a frequency adjustment means coupled to the phase lock loop; said frequency adjustment means operable for adjusting loop frequency until a desired reference voltage is generated at a selected node of said phase lock loop; and

a circuit arrangement, operatively coupled to the frequency adjustment means, for locking the loop frequency at a value whereat the desired reference voltage has been obtained.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are²:

Grandfield	4,862,015	Aug. 29, 1989
Wahler et al. (Wahler)	5,170,297	Dec. 8, 1992
Itri	5,256,980	Oct. 26,
1993		
Blöckl	5,187,384	Feb. 16, 1993

² The rejection of claims 1, 3, 4 and 9 under 35 U.S.C. § 103 over Wahler in view of Grandfield, Itri and Hamstra has been withdrawn by the examiner (answer, page 2).

Claims³ 1-4, 7, 10, 12 and 13 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite.

Claims 5 and 6 stand rejected under 35 U.S.C. § 103 as unpatentable over Wahler in view of Grandfield.

Claim 7 stands rejected under 35 U.S.C. § 103 as unpatentable over Wahler in view of Grandfield and Itri.

Claims 1-4 and 9 stand rejected under 35 U.S.C. § 103 as unpatentable over Wahler in view of Grandfield, Itri and Blöckl.

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. 31, mailed October 17, 1996) for the examiner's complete reasoning in support of the rejections, and to the appellant's brief (Paper No. 29, filed August 16, 1996) for the appellant's arguments thereagainst. Only those arguments actually made by the appellants have been considered in this

³ The examiner (answer, page 2) states that the rejection of claims 9 and 11, under 35 U.S.C. § 112, second paragraph, has been withdrawn as indicated in the paper mailed on October 11, 1996. As to claim 11, the examiner's position is unclear. The August 16, 1996 (Paper No. 27) amendments to claim 11 do not overcome the reasons relied upon by the examiner for the examiner's conclusion of indefiniteness of claim 10, from which claim 11 depends.

decision. Arguments which the appellants could have made but chose not to make in the briefs 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 rejections advanced by the examiner, and the evidence of indefiniteness and obviousness relied upon by the examiner as support for the rejections. We have, likewise, reviewed and taken into consideration, in reaching our decision, the appellants' arguments set forth in the briefs along with the examiner's rationale in support of the rejections and arguments in rebuttal set forth in the examiner's answer.

We begin with the rejection of claims 1-4, 7, 10, 12, and 13 under 35 U.S.C. § 112, second paragraph, as being indefinite. We will not support the examiner's position. The purpose of the second paragraph of Section 112 is to basically insure, with a reasonable degree of particularity, an adequate notification of the metes and bounds of what is being claimed. See In re Hammack, 427 F.2d 1378, 1382, 166 USPQ 204, 208 (CCPA 1970).

From our review of the application, we have no difficulty reading the claims on the specification and drawings. With regard to claim 1, the examiner asserts that there is no support for the language "until a frequency is set." The examiner takes the position (answer, page 3) that "blowing of the fuses (setting the frequency) is done prior to the circuit being used, not while the circuit is being used." (emphasis original.) We find that the language "frequency is set" refers to the frequency at which the reference voltage is established, and are in agreement with appellant that blowing the fuses (Figure 2a) does not set the frequency. Rather, locking of the frequency occurs when the laser fuses are blown.

With regard to claim 7, the examiner asserts (answer, page 4) that the claim is indefinite because the "digital control logic means" is part of the claimed "circuit arrangement" and not the "frequency adjustment means." The examiner refers to page 6, lines 6, 7, 19 and 20 in support of his position.

We find that the specification (page 6) discloses that the digital control logic means 30 locks the frequency of the system. Figure 2a shows polysilicon laser fuses (dashed lines) and resistors R1-R4. Claim 5, from which claim 7 depends, recites that the circuit arrangement for locking the loop frequency is operatively coupled to the frequency adjustment means. It is clear from claim 5 that appellant is claiming the circuit arrangement for locking the loop frequency as a separate element from the frequency adjustment means. We find this to be understandable in light of appellant's specification and drawing. As shown in figure 1, the divide by M circuit 26 and divide by N circuit 28 are connected to the digital control logic means 30, which is part of the frequency adjustment means. We therefore find that the digital control logic means, for supplying signals to the divide by M and divide by N circuitry, is part of the frequency adjustment means, and not part of the "circuit arrangement" as advanced by the examiner. Accordingly, the rejection of claim 7 under 35 U.S.C. § 112, second paragraph, is reversed.

Turning next to claim 10, we find the issue to be similar to the issue discussed with respect to claim 7. We therefore reverse the rejection of claim 10 for the same reasons as we reversed the rejection of claim 7 under 35 U.S.C. § 112, second paragraph.

We now turn to claim 12. The examiner asserts (answer, page 4) that the claim language regarding the opening of laser fuses based on a count of the ripple counter makes it appear that the opening of fuses is an ongoing process. In the examiner's opinion, this renders the claim indefinite, because opening of fuses is a one-time occurrence. We note that claim 12 recites that "selected ones of said laser fuses are opened when a count of the ripple counter is at the value where the desired reference voltage is attained. We are in agreement with the appellants (brief, page 8) that the use of the qualifying term "when" in the claim precisely defines when the fuses are opened, in a manner consistent with the specification. Accordingly, the rejection of claim 12 under 35 U.S.C. § 112, second paragraph is reversed.

Turning now to claim 13, the examiner asserts (answer,

page 4) that the language "second circuit arrangement for locking to [sic: the] data" is indefinite. According to the examiner, the specification only refers to locking the frequency, not the data. The appellant asserts that the data is locked when a specific count provides the required reference voltage, and fuses are blown which lock the data. We find (specification, page 7) that the data nodes for the fuses cut, will lock the data to a logic state of 1, and the data nodes for the fuses that are not cut will be held at a logic state of 0. Appellant incorrectly states (brief, page 10) that if the count is 9, the fuses connecting nodes B and C are blown. According to the specification (page 7), the opposite will happen. At a count of 9, the fuses for data nodes A and D will be blown, not the fuses for data nodes B and C.

Nevertheless, it is clear that the data are locked to a fixed value, at least for the data nodes where the fuses have been blown, which also locks the frequency of the phase lock loop. Additionally, we are not in agreement with the examiner's assertions (answer, page 4) that the method steps of lines 18-23 of claim 13 "have nothing to do with . . . the

normal operation of the recited circuit structure" (emphasis original) and would be "more appropriate for a method of programming a divider circuit, not a method for generating a fixed voltage."

The appellants have the right to determine how their claims should be drafted in order to particularly point out and distinctly claim that which they regard as their invention.

Acceptability of the claim language depends on whether one of ordinary skill in the art would understand what is claimed in light of the specification. Seattle box Co., v. Industrial Crating & Packing Inc., 731 F.2d 818, 826, 221 USPQ 568, 574 (Fed. Cir. 1984). The examiner has not set forth any specific language of the method steps, of lines 18-23, that the examiner is relying upon to support the examiner's conclusion of indefiniteness. We find the language of claim 13 to be consistent with the appellants specification and drawings, and therefore definite. Accordingly, the rejection of claim 13 under 35 U.S.C. § 112, second paragraph, is reversed.

Turning next to the rejection of claims 1-7 and 9 under 35 U.S.C. § 103 we note at the outset that the examiner has cited five additional references (answer, page 3) as "[n]ew Prior Art for purposes of evidence." These five additional references have not been applied against the claims in the rejections advanced by the examiner, and have been relied upon by the examiner in the answer (pages 13 and 15) in response to appellant's arguments. We note the following principle.

"Where a reference is relied on to support a rejection, whether or not in a 'minor capacity,' there would appear to be no excuse for not positively including the reference in the statement of rejection." In re Hoch, 428 F.2d 1341, 1342 n.3, 166 USPQ 406, 407 n.3 (CCPA 1970). Here, although the examiner cites Kajimoto; Hughes; Haug; Hashimoto, and Ravas (answer, page 3), the examiner fails to positively include these references in the statement of the rejections (answer, pages 5 and 6). The record does not reflect any comment by appellant as to these references. Accordingly, we will not consider these references in deciding this appeal.

Claims 5 and 6 stand rejected under 35 U.S.C. § 103 as unpatentable over Wahler in view of Grandfield. It is our

view, after consideration of the record before us, that the evidence relied upon and the level of skill in the particular art would not have suggested to one of ordinary skill in the art the invention set forth in claims 5 and 6. Accordingly, we reverse.

In rejecting claims under 35 U.S.C. § 103, it is incumbent upon the examiner to establish a factual basis to support the legal conclusion of obviousness. See In re Fine, 837 F.2d 1071, 1073, 5 USPQ2d 1596, 1598 (Fed. Cir. 1988). In so doing, the examiner is expected to make the factual determinations set forth in Graham v. John Deere Co., 383 U.S. 1, 17, 148 USPQ 459, 467 (1966), and to provide a reason why one having ordinary skill in the pertinent art would have been led to modify the prior art or to combine prior art references to arrive at the claimed invention. Such reason must stem from some teaching, suggestion or implication in the prior art as a whole or knowledge generally available to one having ordinary skill in the art. Uniroyal, Inc. v. Rudkin-Wiley Corp., 837 F.2d 1044, 1051, 5 USPQ2d 1434, 1438 (Fed. Cir.), cert. denied, 488 U.S. 825 (1988); Ashland Oil, Inc. v. Delta Resins & Refractories, Inc., 776 F.2d 281, 293, 227 USPQ 657,

664 (Fed. Cir. 1985), cert. denied, 475 U.S. 1017 (1986); ACS Hosp. Sys., Inc. v. Montefiore Hosp., 732 F.2d 1572, 1577, 221 USPQ 929, 933 (Fed. Cir. 1984). These showings by the examiner are an essential part of complying with the burden of presenting a prima facie case of obviousness. Note In re Oetiker, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). If that burden is met, the burden then shifts to the applicant to overcome the prima facie case with argument and/or evidence. Obviousness is then determined on the basis of the evidence as a whole. See id.; In re Hedges, 783 F.2d 1038, 1039, 228 USPQ 685, 686 (Fed. Cir. 1986); In re Piasecki, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984); and In re Rinehart, 531 F.2d 1048, 1052, 189 USPQ 143, 147 (CCPA 1976).

The appellant asserts (brief, page 15) that the examiner has improperly reconstructed the prior art, asserting that "[t]he combination is improper because there are no teachings or suggestions in either of the the prior art references which would lead one to make the combination." The appellant additionally asserts (id.) that even if Wahler were combined

with Grandfield, the resultant combination would not render the claims obvious because the claims require "a frequency adjustment means for adjusting loop frequency until a desired reference voltage is obtained; and circuit arrangement for locking the loop frequency."

The examiner acknowledges (answer, page 5) that Wahler does "not specifically disclose using the circuit to provide the reference voltage." To overcome this deficiency in Wahler, the examiner relies on Grandfield. The examiner takes the position (id.), that "it is well known in the art that due to the feedback regulating capabilities of the PLL, the voltage controlling [sic:] the VCO will necessarily be a regulated voltage. This well known aspect is clearly disclosed in the circuit to Grandfield." In the opinion of the examiner (id.)

While the reference to Grandfield discloses generating a current, it is notoriously well known that generation of constant current and generation of constant voltage are strongly dependent upon one another and that conversion between the two arrangements only minimal [sic:] modification (e.g., addition of a resistance). Therefore, it would have been obvious for one skilled in the art to use the PLL circuit disclosed to Wahler et al. to provide a reference voltage for the reasons disclosed to Grandfield of obtaining a highly regulated voltage.

We find that Grandfield discloses (col. 1 lines 56-66) that

A phase lock loop is provided which is responsive to the reference frequency signal and to an operating frequency signal to provide a current reference signal at the output of the loop. The current reference signal is provided to a current to frequency converter which generates the operating frequency signal. A current mirror, also coupled to the phase lock loop output provides an output current essentially equal to the current reference signal which is suitable for providing the injector current for I²L devices.

It is clear from the above that Grandfield is directed to a current reference device and does not disclose or suggest a reference voltage generator. In our view, Grandfield therefore would not have suggested to one of ordinary skill in the art to have provided the current averaging data separator of Wahler with a reference voltage generator including adjustment of the loop frequency until a desired reference voltage is generated.

The examiner asserts (answer, page 5) that Wahler discloses "means for locking (means, not shown, providing $\pm N$)." (answer, page 9) and that the "fixed signal $\pm N$ provided to divider 16" of Wahler "can reasonably be considered 'locking' such as recited in the present claims." We find

that Wahler (col. 3, lines 54-61) describes the $\div N$ programming fraction as follows

The output of VCO 20 is applied as one input of programmable divider 16, which also receives the programming fraction N and a reset signal from a zero phase start up circuit 24. Programmable divider 16 divides the output of VCO 20 by the factor N in order to provide the phase comparator in detector 14 with a VCO signal at the proper frequency for a given data rate, which is typically, for MFM encoding, at 250 kHz"

From the teachings of Wahler, we find that the examiner has failed to establish that the "means, not shown, providing $\div N$ " of Wahler, would meet the claim language of a reference voltage generator including frequency adjustment means operable for adjusting loop frequency until a desired reference voltage is generated and a circuit arrangement for locking the loop frequency at a value whereat the desired reference voltage has been attained as required by independent claim 5. As stated by the court in In re Hiniker Co., 150 F.3d 1362, 1369, 47 USPQ2d 1523, 1529 (Fed. Cir. 1998) "[t]he name of the game is the claim." Claims will be given their broadest reasonable interpretation consistent with the

specification, and limitations appearing in the specification are not to be read into the claims. In re Etter, 756 F.2d 852, 858, 225 USPQ 1, 5 (Fed. cir. 1985).

Claim 5 recites, inter alia, "A reference voltage generator

. . . said frequency adjustment means operable for adjusting loop frequency until a desired reference voltage is generated.

. . and a circuit arrangement, operatively coupled to the frequency

adjustment means, for locking the loop frequency at a value whereat the desired reference voltage has been attained."

We find no teaching in Wahler and Grandfield of a reference voltage generator which includes adjusting the loop frequency until a desired reference voltage is generated, and locking the loop frequency at a value where the desired reference voltage has been attained.

Accordingly, we conclude that the examiner has failed to establish a prima facie case of obviousness. The rejection of claims 5 and 6 under 35 U.S.C. § 103 is therefore reversed.

We now turn to the rejection of claim 7 under 35 U.S.C. § 103 as unpatentable over Wahler in view of Grandfield and Itri. We find that Itri does not overcome the deficiencies of Wahler and Grandfield. Accordingly, the rejection of claim 7 under 35 U.S.C. § 103 is reversed.

Turning next to the rejection of claims 1-4 and 9 under 35 U.S.C. § 103 as unpatentable over Wahler in view of Grandfield, Itri and Blöckl, we find that Blöckl does not overcome the deficiencies of Wahler, Grandfield and Itri. Therefore, the rejection of claims 1-4 and 9 under 35 U.S.C. § 103 is reversed.

CONCLUSION

To summarize, the decision of the examiner to reject claims 1-4, 7, 10, 12 and 13 under 35 U.S.C. § 112, second paragraph, is reversed. The decision of the examiner to reject claims 1-7 and 9 under 35 U.S.C. § 103 is reversed.

REVERSED

JERRY SMITH)	
Administrative Patent Judge)	
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)	
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)	BOARD OF PATENT
LANCE LEONARD BARRY)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
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STUART S. LEVY)	
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APJ LEVY

APJ JERRY SMITH

APJ BARRY

DECISION: **REVERSED**

Prepared By:

DRAFT TYPED: 06 DEC 00

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