

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte GARY M. JOHNSON

Appeal 2008-2513
Application 11/210,290
Technology Center 2800

Decided: August 5, 2008

Before KENNETH W. HAIRSTON, ROBERT E. NAPPI,
and SCOTT R. BOALICK, *Administrative Patent Judges*.

NAPPI, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 6(b) of the final rejection of claims 11, 16 through 18, 23, 24, 45, and 49¹.

We affirm the Examiner's rejections of these claims.

¹ The Examiner withdrew the rejections of claims 12 through 15, 19 through 22, 46 through 48, 50 and 51. See pages 2 and 3 of the Answer. Claims 1 through 10, and 25 through 44 have been cancelled.

INVENTION

The invention is directed towards a device to perform switching of capacitance in a Delayed Locked Loop (DLL). See page 5 of Appellant's Specification. Claim 11 is representative of the invention and reproduced below:

11. A delay lock loop to provide an output signal based upon a phase difference between a reference signal and a feedback signal, comprising:
- a coarse delay unit to provide said coarse delay upon at least one of said reference signal and a data output signal;
 - a fine delay unit for switching an activation of a capacitive delay to provide a fine tuned delay upon at least one of said reference signal and said data output signal;
 - a phase detector to detect said phase difference; and
 - a feedback delay unit to provide a delay upon said output signal to generate said feedback signal.

REFERENCES

Taniguchi	US 6,242,954 B1	Jun. 5, 2001
Bhullar	US 6,683,982 B2	Jan. 27, 2004 (filed Oct. 3, 2001)

REJECTION AT ISSUE

Claims 11, 16 through 18, 23, 24, 45, and 49 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Bhullar in view of Taniguchi. The Examiner's rejection is on pages 3 and 4 of the Answer.

Throughout the opinion, we make reference to the Brief (received February 2, 2007), Reply Brief (received September 4, 2007) and the Answer (mailed July 2, 2007) for the respective details thereof.

ISSUES

Appellant argues on pages 8 and 12 of the Brief that the Examiner's rejection of claims 11, 16 through 18, 23, 24, 45, and 49 is in error. Appellant asserts that the Examiner has not established that one skilled in the art would be motivated to combine Bhullar and Taniguchi. App. Br. 9, 10. Appellant asserts that the Appellant's Specification teaches away from systems such as Bhullar's and that the Examiner's rejection relies upon hindsight reasoning. App. Br. 10, 11. Further, Appellant asserts that even if the references were properly combined the combination does not teach switching an activation of a capacitive delay as claimed. App. Br. 10.

Thus, Appellant's contentions with respect to the rejection of claims 11, 16 through 18, 23, 24, 45, and 49 present us with two issues; whether the Examiner erred in combining Bhullar and Taniguchi and whether the Examiner erred in finding that the combination of the references teach switching an activation of a capacitive delay as claimed.

PRINCIPLES OF LAW

On the issue of obviousness, the Supreme Court has recently stated that "the obviousness analysis cannot be confined by a formalistic conception of the words teaching, suggestion, and motivation." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741 (2007). Further, the Court stated "[t]he combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results." *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1739 (2007).

When a work is available in one field of endeavor, design incentives and other market forces can prompt variations of it, either in the same field or a different one. If a person of

ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill. . . . [A] court must ask whether the improvement is more than the predictable use of prior art elements according to their established functions.

Id. at 1740. “One of the ways in which a patent’s subject matter can be proved obvious is by noting that there existed at the time of the invention a known problem for which there was an obvious solution encompassed by the patent’s claims.” *Id.* at 1742.

FINDINGS OF FACT

1. Bhullar teaches a switched delay compensation for a Delay Locked Loop (DLL). Abstract.
2. Bhullar teaches that the DLL adjusts delay in steps. There are coarse delay adjustment elements and fine delay adjustment elements. The selection of individual elements allow the delay of the loop to be adjusted. Col. 1, ll. 24-36, col. 3, ll. 18-25.
3. The individual coarse delay elements consist of a resistor-capacitor and an inverter which are selected by a multiplexer. The fine delay elements include binary capacitors which are selectable by an decoder. Bhullar, col. 4, ll. 34-42, and figure 2.

4. Bhullar discusses the selection of delay elements as switching but does not describe the circuit or mechanism which actually inserts the delay element into the delay loop. Rather, Bhullar states that such details are “well understood by persons skilled in the art.” Col. 4, ll. 63-67.
5. Taniguchi teaches a hierarchal DLL circuit which includes coarse and fine delay adjustments. Abstract.
6. Taniguchi teaches that the fine delay circuit element capacitors are inserted into the delay loop by transistors (switches TR1-32). Fig 9, col. 10, ll. 9-19.

ANALYSIS

Initially, we note that Appellant’s Brief identifies each independent claim rejected, on page 12 of the Brief. However, these statements associated with each claim merely recite the limitations of the claim and state that they are not taught. Such statements are not separate arguments under 37 C.F.R. § 41.37 (c)(1)(vii). As such Appellant has grouped all of the rejected claims together.

Appellant’s arguments have not persuaded us that the Examiner erred in combining Bhullar and Taniguchi. We find that both references teach a delay lock loop circuit which has fine delay elements that include capacitors. Facts 3, 6. We find that both references teach that the elements are selected to create the desired delay. Facts 2, 5. Bhullar teaches that the method of connecting the elements to the delay loop (activating the delay element) is within the level of ordinary skill in the art. Fact 4. Taniguchi teaches that one method of connecting the fine elements into the circuit involves the use

of transistors which switch the elements into the delay loop. Fact 6. Thus, Taniguchi teaches that it was within the level of ordinary skill in the art to use transistors to switch capacitive elements into a delay loop. We consider the use of transistors as switches to connect the fine delay elements (capacitors) into the circuit to represent nothing more than using a known circuit for its known purpose.

Appellant's assertion, on page 10 of the Brief, that Appellant's Specification teaches away from systems such as Bhullar's which use multiplexers, has not persuaded us of error in the Examiner's rejection. Initially, we note that Appellant has not identified any teaching in Bhullar which allegedly teaches away from the modification. Further, we note that Bhullar does not teach using multiplexers to select the fine delay loop elements, rather, Bhullar teaches using a decoder which provides an indication of which delay elements should be connected. Fact 3. Similarly, Appellant's argument that the Examiner's combination is based upon hindsight reasoning is not persuasive of error. As discussed *supra*, we consider the combination to represent nothing more than using a known circuit element for its known purpose. Thus, Appellant has not persuaded us that the Examiner erred in combining the references.

Appellant's arguments have not persuaded us that the Examiner erred in determining that the combination of the references teaches switching an activation of a capacitive delay as claimed. Claim 11, recites "a fine delay unit for switching an activation of capacitive delay to provide a fine tuned delay." Thus, the scope of claim 11 includes that the fine delay unit performs the function of switching and activating capacitive delay. The Examiner has found that Bhullar teaches a fine delay unit which makes use

of capacitors. Ans. 3. Further, the Examiner finds that Bhullar does not disclose switches which activate the capacitive elements, but does find that Taniguchi teaches that capacitive fine delay elements are actuated by switches. Ans. 3, 4. We concur with the Examiner's findings, as we find that they are supported by ample evidence of record. Facts 3 through 6. As discussed *supra*, we consider using the switches discussed by Taniguchi in Bhullar's DLL to be obvious. Appellant's argument, on pages 9 and 10 of the Brief, that "*Taniguchi* merely discloses connecting a capacitor, wherein claim 11 of the present invention calls for switching an activation of the capacitive delay" appears to draw a distinction between connecting a capacitor and activating a capacitor.² However, in the context of the Taniguchi's circuit we see no such distinction. Appellant's Specification, on page 15, discusses the step activating as a step by which additional capacitance is added to the loop. In Taniguchi's device, by connecting the capacitor, the capacitor is put into the delay circuit and as such activated, similarly disconnecting the capacitor would de-activate it. Thus, Appellant has not convinced us that the Examiner erred in finding that the combination of the references teaches "a fine delay unit for switching an activation of capacitive delay to provide a fine tuned delay."

For the aforementioned reasons, Appellant has not shown that the Examiner erred in rejecting claim 11. Thus, we sustain the Examiner's rejection of claims 11, 16 through 18, 23, 24, 45, and 49 under 35 U.S.C. § 103(a) as being unpatentable over Bhullar in view of Taniguchi.

² Appellant presents a similar argument on pages 3 and 4 of the Reply Brief.

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ORDER

The decision of the Examiner is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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