

CORRECTED: JANUARY 15, 2004

United States Court of Appeals for the Federal Circuit

03-1121
(Serial No. 08/568,904)

IN RE LAVAUGHN F. WATTS, JR.

Ronald O. Neerings, Texas Instruments Incorporated, of Dallas, Texas, argued for appellant LaVaughn F. Watts, Jr. Of counsel on the brief was Jay M. Cantor, Baker Botts L.L.P., of Washington, DC.

Joseph G. Piccolo, Associate Solicitor, Office of the Solicitor, of Arlington, Virginia, argued for appellee Jon Dudas, Acting Director, Patent and Trademark Office. With him on the brief were John M. Whealan, Solicitor, and Thomas W. Krause, Associate Solicitor.

Appealed from: United States Patent and Trademark Office, Board of Patent Appeals and Interferences.

United States Court of Appeals for the Federal Circuit

03-1121
(Serial No. 08/568,904)

IN RE LAVAUGHN F. WATTS, JR.

DECIDED: January 15, 2004

Before MICHEL, RADER and DYK, Circuit Judges.

DYK, Circuit Judge.

Appellant LaVaughn F. Watts, Jr. (“Watts”) appeals from the decision of the United States Board of Patent Appeals and Interferences (“the Board”) affirming the rejection of claims 2, 3, 5, 6, 9, 17-21, 23, 30, 31, 34-39, 41-43, 45-47, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73 of United States Patent Application No. 08/568,904 (the “904 application”) under 35 U.S.C. § 103. Ex Parte Watts, No. 2000-0434 (Bd. Pat. App. & Int. Aug. 30, 2002). Because the appellant failed to raise the argument he now asserts regarding the teachings of United States Patent No. 5,493,684 (“Gephardt”) before the Board, we decline to address this argument on appeal.

Addressing the merits of the appellant’s remaining arguments, we conclude that the Board properly sustained the examiner’s rejection of claims 2, 3, 5, 6, 9, 17-20, 30, 31, 34-39, 41-43, 45-47, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73. We further hold that the appellant has not shown harmful error in the Board’s failure to explicitly rely on Gephardt in connection with the rejection of claims 21 and 23. Consequently, we affirm.

BACKGROUND

The major issues in this appeal are the scope of the Gephardt patent and the Board's determination that claims 2, 3, 5, 6, 9, 30, 31, 34-39, 41-43, 45-47, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73 are obvious based upon the combination of United States Patent No. 5,590,061 ("Hollowell"), United States Patent No. 5,502,838 ("Kikinis") and Gephardt. We summarize the portion of the factual background that is pertinent to this issue, as well as that pertinent to the Board's rejection of claims 21 and 23.

The '904 application is directed to a real-time thermal management system for computers. This system monitors central processing unit ("CPU") temperature and activity levels to determine whether it is appropriate for the computer to rest by blocking some or all clock signals to portions of the CPU. Stopping clock signals to a portion of the CPU slows down the operation of that portion of the CPU, resulting in lower energy consumption and less heat production. Thus, the claimed system operates by selectively slowing down portions of the CPU when the computer reaches a certain reference temperature level. Claims 2, 3, 5, 6, 9, 21, 23, 30, 31, 34-39, 41-43, 45-47, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73 contain the additional limitation of not stopping clock signals when the system is performing critical operations. Claim 5 is representative:

5. An apparatus, comprising:
 - a provision for user input;
 - a provision for output;
 - a central processing unit (CPU) coupled to said user input and output;
 - a monitor for monitoring temperature within said apparatus; and
 - a clock manager adapted to receive a control signal from said monitor, said clock manager selectively stopping clock signals from being sent to said central processing unit (CPU) when said monitored temperature rises to a level at and above a selected reference temperature level and said CPU is not processing critical I/O.

(App. at 328 (emphasis added).) Like claim 5, independent claims 6 and 9 are also directed to a thermal-management apparatus that does not slow clock speed when certain

“critical I/O” is being processed. Claims 2, 3, 30, 31, 34-39, 41-43, 45-47, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73 depend from claims 5, 6 and 9. Claim 21 is similar and contains means plus function language:

21. An apparatus, comprising:
 - a central processing unit (CPU);
 - means for sampling a temperature level within said apparatus; and
 - means for automatically adjusting the processing speed of said central processing unit (CPU) by modifying the clock signal utilized by the central processing unit (CPU) to maintain said temperature level within said apparatus below a selected reference temperature level when said CPU is not processing critical I/O.

(App. at 330 (emphasis added).) Claim 23 depends from claim 21.

In the Final Office Action dated October 8, 1998, the examiner rejected claims 2, 3, 5, 6, 9, 30, 31, 34-39, 41-43, 45-57, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73 as obvious over Hollowell in view of Kikinis and Gephardt. The examiner explained that Hollowell is directed to a thermal management system for a computer that turns off a portion of the system in response to temperature. While Hollowell is not directed to reducing clock speed by stopping clock signals, Kikinis discloses a system for controlling temperature buildup in an integrated circuit (“IC”) that selectively stops clock signals to control temperature. According to the examiner, it would have been obvious to manage temperature levels in a computer as taught by Hollowell using the method of selectively stopping clock signals disclosed in Kikinis. The examiner, therefore, found that the only limitation missing from the combination of Hollowell and Kikinis was stopping clock signals “to the CPU only when the CPU is not processing critical I/O.” (App. at 205.)

The examiner found that Gephardt discloses the critical I/O limitation of the claimed invention. The final office action stated that “Gephardt teaches [that] the clock signals [are to] be raised if certain system activities are detected and . . . lowered if certain other activities are detected.” (App. at 206.) Consequently, “[i]t would have been obvious to one

having ordinary skill in the art at the time the invention was made to stop the clock only when the CPU is processing non-critical I/O as taught by Gephardt, to prevent losing any vital information or processing that may occur during an I/O operation.” Id.

The examiner further rejected claims 17-21 and 23 as obvious over Hollowell in view of Kikinis and United States Patent No. 5,422,806 (“Chen”). Claims 17-20 require a means for predicting temperature and controlling clock signals based on predicted temperature, and the examiner found this limitation disclosed in Chen. The examiner did not expressly address whether this combination disclosed the critical I/O limitation of claims 21 and 23, nor did he rely on Gephardt as teaching the critical I/O limitation of these claims.

Watts appealed these rejections to the Board. While Watts agreed with the examiner’s analysis of Hollowell and Kikinis, he urged that Gephardt does not teach the critical I/O limitation because it failed to disclose a means for detecting critical I/O activities. (App. at 223.) Watts also urged that the primary activities referenced in Gephardt were not the same as the claimed critical I/O activities, and that Gephardt “fails to mention ‘critical activity’ at all in any context.” Id. Finally, the appellant argued that while “Gephardt teaches that clock speed is decreased in response to reduced levels of activity – thus lower clock speed for lower level of activity – and higher levels of speed for higher levels of activity,” Gephardt did not teach slowing clock speed as a function of both CPU activity and temperature. Id. at 223-34. Thus, according to the appellant,

“[i]t would not have been obvious . . . to combine Gephardt with Kikinis and Hollowell and modify the resulting device so that the resulting temperature reduction mechanism will selectively stop (or reduce) the clock signal to the CPU only when the monitored temperature is at or above a selected reference and said CPU is not processing critical I/O.”

Id. at 224. Watts also contested the examiner’s rejection of claims 21 and 23 as obvious over Hollowell in view of Kikinis and Chen, arguing that the cited combination failed to teach or suggest the critical I/O limitation.

The Board sustained the examiner's rejection of claims 2, 3, 5, 6, 9, 17-20, 21, 23, 30, 31, 34-39, 41-43, 45-57, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73 under section 103. Watts, slip op. at 11. The Board found that both Hollowell and Kikinis relate to temperature control in a computer and "it would have been obvious . . . to replace the power control of Hollowell with the frequency control of Kikinis to maintain the temperature . . . within the desirable operating range." Id. at 7-8. The Board also found the "[t]he primary activities of Gephardt clearly correspond to the critical activity of the claimed invention." Id. at 8. Further, the Board determined that "Gephardt teaches that a computer should not be shut down while these primary (critical) I/O activities are taking place." Id. Thus, the Board concluded that Gephardt disclosed the critical I/O limitation of claims 2, 3, 5, 6, 9, 30, 31, 34-39, 41-43, 45-57, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73, and that it would have been obvious to modify the Hollowell-Kikinis combination to take into account, in addition to temperature, whether critical I/O is being processed when stopping clock signals to slow CPU speed. Id. The Board also sustained the examiner's rejection of claims 17-21 and 23 as obvious over Hollowell in view of Kikinis and Chen, but it did not explicitly address the appellant's argument that the cited combination failed to teach the critical I/O limitation of claims 21 and 23.

We have jurisdiction pursuant to 28 U.S.C. § 1295(a)(4)(A).

DISCUSSION

Obviousness "is a legal conclusion based on underlying findings of fact." In re Thrift, 298 F.3d 1357, 1363 (Fed. Cir. 2002) (quoting In re Kotzab, 217 F.3d 1365, 1369 (Fed. Cir. 2000)). We review these underlying factual findings for substantial evidence and the Board's ultimate determination of obviousness without deference. Id.

This case raises a question concerning the scope of our review of decisions of the Board of Patent Appeals and Interferences because the appellant seeks to challenge the Board's decision on grounds not argued before the Board.

The primary challenge here concerns the Board's findings regarding the scope of the Gephardt patent, which the Board relied on to sustain the examiner's rejection of claims 2, 3, 5, 6, 9, 30, 31, 34-39, 41-43, 45-57, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73 as obvious. In the final office action, the examiner cited Gephardt for the proposition that it would have been obvious for one of skill in the art to create a thermal-management system that "monitors CPU activity and dependent upon the type of activity, controls the frequencies of the CPU clock signal and system clock signal." (App. at 205-06.) The examiner expressly found that "Gephardt teaches the clock signals [to] be raised if certain system activities [primary activities] are detected and to be lowered if certain other activities [secondary activities] are detected." *Id.* at 206. The Board agreed with the examiner's assessment, finding that "Gephardt teaches that a computer should not be shut down while . . . primary (critical) I/O activities are taking place." *Watts*, slip op. at 8.

On appeal, the appellant continues to argue that Gephardt does not suggest that its primary activities are indeed "critical I/O activities" as recited in the claims. The appellant also continues to urge that it would not be obvious to combine Gephardt with Hollowell and Kikinis because Gephardt "is concerned with power management only from a perspective of conserving energy – NOT temperature problems." (Br. for Appellant at 30.) We reject these arguments. The Board's finding that "[t]he primary activities of Gephardt clearly correspond to the critical activity of the claimed invention," *Watts*, slip op. at 8, and its

finding of a motivation to combine Gephardt with Hollowell and Kikinis, id. at 6, are supported by substantial evidence.¹

The appellant further argues that even assuming primary activity can be equated with critical I/O and there is a motivation to combine, the Board has misconstrued the scope of the Gephardt patent in another respect. Watts urges that “Gephardt makes it very clear that both ‘primary’ and ‘secondary’ activities are processed at full clock speed” and that the only difference between these types of activities is the amount of time the system takes to return to a slowed-clock state after the respective activity is over. (Br. for Appellant at 46.) Thus, according to the appellant, Gephardt does not teach or suggest a thermal-management apparatus that is capable of stopping clock signals while non-critical information is being processed, but not while critical I/O is being processed.

The problem is that the appellant failed to make this argument before either the Board or the examiner. At oral argument we asked the appellant to identify any portion of the record where the argument had previously been raised. The appellant pointed to the following excerpt from his appeal brief to the Board:

Gephardt teaches that clock speed is decreased in response to reduced levels of activity – thus lower clock speed for lower level of activity – and higher levels of speed for higher levels of activity. In contrast, the present invention stops (or reduces) clock speed ‘when said clock speed rises to a level at and above a selected reference temperature level and said CPU is not processing critical I/O.’ It would not have been obvious to one having ordinary skill in the art at the time the invention was made to combine Gephardt with Kikinis and Hollowell and modify the resulting device so that the resulting temperature reduction mechanism will selectively stop (or reduce) the clock signal to the CPU only when the monitored temperature is at or above a selected reference and said CPU is not processing critical I/O.

¹ We also reject appellant’s arguments that there was no reasonable expectation of success and no motivation to combine Hollowell and Kikinis. We hold that substantial evidence supports the Board’s finding that one of skill in the art would have sufficient motivation to combine these references.

(App. at 223-24 (emphasis added).) In this passage the appellant argued that it would not be obvious to combine Gephardt with Hollowell and Kikinis because Gephardt does not teach stopping clock signals as a function of temperature (an argument that we hold in the preceding paragraphs was properly rejected by the Board). But, far from reflecting the appellant's argument to this court that Gephardt does not teach to vary clock speed depending on the nature of the activity being processed, this passage seems to contradict Watts' present argument that Gephardt teaches the processing of all activities at full speed. This is so because in this passage the appellant appears to argue that Gephardt teaches to alter clock speed based on the level of activity detected. Now, by contrast, Watts argues that the invention of Gephardt is incapable of slowing clock speed based upon detected activity. The appellant has failed to show that this later interpretation of Gephardt was ever presented to the Board.

II

The Board is an expert body that plays an important role in reviewing the rejection of patent applications. In a proceeding before the Board the applicant is given full "opportunity to bring forth the facts thought necessary to support his or her position." In re Gartside, 203 F.3d 1305, 1314 (Fed. Cir. 2000). On appeal to this court, "we have before us a comprehensive record that contains the arguments and evidence presented by the parties" and our review of the Board's decision is confined to the "four corners" of that record. Id. Just as it is important that the PTO in general be barred from raising new arguments on appeal to justify or support a decision of the Board,² it is important that the applicant

² See Thrift, 298 F.3d at 1367; In re Lee, 277 F.3d 1338, 1345 (Fed. Cir. 2002) ("Review of an administrative decision must be made on the grounds relied on by the agency.") (quoting Burlington Truck Lines, Inc. v. United States, 371 U.S. 156, 168 (1962)). This is not to say that a somewhat cryptic decision by the Board may not be affirmed where the record that was before the Board reflects substantial evidence to support its decision. See In re Hutson, 308 F.3d 1267, 1280-81 (Fed. Cir. 2002) (affirming a "cryptic" finding of

challenging a decision not be permitted to raise arguments on appeal that were not presented to the Board.

We have frequently declined to hear arguments that the applicant failed to present to the Board. See, e.g., In re Berger, 279 F.3d 975, 984 (Fed. Cir. 2002) (declining to consider the merits of indefiniteness rejections not contested before the Board); In re Schreiber, 128 F.3d 1473, 1479 (Fed. Cir. 1997) (declining to consider whether prior art cited in an obviousness rejection was non-analogous art when that argument was not raised before the Board). In Berman v. Housey, 291 F.3d 1345 (Fed. Cir. 2002), the Board had rejected claim 64 of Berman's application, finding that it covered the "same or substantially the same subject matter" as claims in Housey's patents; that Housey's claims had issued more than a year before claim 64 was added; and that claim 64 was therefore barred by 35 U.S.C. § 135(b) from being the "same or substantially the same" as Housey's issued claims. Id. at 1349; see 35 U.S.C. § 135(b) (2000). Before the Board, Berman sought to avoid the bar under section 135(b) by arguing that claim 64 related back to the date of one of his original claims, which was not barred by the one-year time limit of section 135(b). Berman, 291 F.3d at 1348-49. The Board rejected this argument, and Berman did not continue to argue it on appeal. Id. at 1355. Instead, before this court, he argued for the first time that claim 64 was not directed to "the same or substantially the same subject matter" as Housey's claims. Id. We held that this particular argument had been waived because it was not raised before the Board and Berman failed to demonstrate "that special circumstances exist . . . that militate against a finding of waiver." Id. This is the same rule we follow in appeals from district courts and other agencies. See, e.g., Forshey v. Principi, 284 F.3d 1335, 1355 (Fed. Cir. 2002) (en banc) (explaining that generally

obviousness when "the Board's path may reasonably be discerned" and is supported by the record) (quoting Colorado Interstate Gas Co. v. Fed. Power Comm'n, 324 U.S. 581,

appellate courts should not hear issues not considered below); Sage Prods., Inc. v. Devon Indus., Inc., 126 F.3d 1420, 1426 (Fed. Cir. 1997) (stating that barring a few exceptions, the failure to raise an argument at the trial level constitutes a waiver of that argument on appeal).³

Here we decline to consider the appellant's new argument regarding the scope of the Gephardt patent raised for the first time on appeal. Because the appellant failed to argue his current interpretation of the prior art below, we do not have the benefit of the Board's informed judgment on this issue for our review. Moreover, Watts has shown no reason why we should excuse his failure to raise this argument before the Board. See Forshey, 284 F.3d at 1355 (listing circumstances in which failure to raise an argument below may be excused). Consequently, we hold that the appellant has waived his argument that Gephardt fails to disclose the critical I/O limitation because it teaches to process all activities at full clock speed.

III

Claims 21 and 23 were rejected as obvious over Hollowell in view of Kikinis and Chen. Like the claims rejected over the combination of Hollowell, Kikinis, and Gephardt, claims 21 and 23 contain the limitation of stopping clock signals only when critical I/O is not being processed. The solicitor for the PTO does not contest the appellant's assertion that Chen fails to teach or suggest the critical I/O limitation. However, the solicitor argues that

595 (1945)).

³ Our application of the doctrine of waiver under these circumstances is similar to the approach we have taken in the context of claim construction. While "[t]he doctrine [of waiver] has not been invoked . . . to prevent a party from clarifying or defending the original scope of its claim construction, or from supporting its existing claim construction position with new citations to the specification," we have often barred parties from changing the scope of their claim construction position on appeal. Interactive Gift Express, Inc. v. Compuserve Inc., 256 F.3d 1323, 1346 (Fed. Cir. 2001) (emphases added); see also, e.g., Key Pharms. v. Hercon Labs. Corp., 161 F.3d 709, 715 (Fed. Cir. 1998); Sage, 126 F.3d at 1426.

Watts failed to sufficiently argue claims 21 and 23 to the Board under 37 C.F.R. § 1.192(c)(7)⁴ and that Watts' explanation as to why these claims were separately patentable was vague and conclusory. Consequently, argues the solicitor, the Board was free to group these claims with others that were properly rejected as obvious in view of Hollowell, Kikinis and Chen. We disagree with the solicitor's arguments under section 1.192(c)(7) and hold that the appellant sufficiently argued claims 21 and 23 separately from claims 17-20. Therefore, we conclude that the Board erred in upholding the rejection of claims 21 and 23 as obvious over Hollowell in view of Kikinis and Chen.

The question now is whether under these circumstances a remand to the Board is required. In appeals from the Board, as in all other appeals, we must consider whether an error by the Board was harmful error. Section 2111 of the Judicial Code directs us to disregard "errors or defects [in the decision on appeal] which do not affect the substantial rights of the parties." 28 U.S.C. § 2111 (2000). The purpose of this rule is to avoid wasteful proceedings on remand where there is no reason to believe a different result would have been obtained had the error not occurred. We have previously made clear that the harmless error rule applies to appeals from the Board just as it does in cases originating from district courts. See In re McDaniel, 293 F.3d 1379, 1385-86 (Fed. Cir. 2002); Gechter

⁴ Section 1.192(c)(7) provides as follows:

(7) Grouping of claims. For each ground of rejection which appellant contests and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable.

v. Davidson, 116 F.3d 1454, 1457 (Fed. Cir. 1997). Thus, to prevail the appellant must not only show the existence of error, but also show that the error was in fact harmful because it affected the decision below. See Munoz v. Strahm Farms, Inc., 69 F.3d 501, 504 (Fed. Cir. 1995) (“The correction of an error must yield a different result in order for that error to have been harmful and thus prejudice a substantial right of a party.”); see also Palmer v. Hoffman, 318 U.S. 109, 116 (1943) (“He who seeks to have a judgment set aside because of an erroneous ruling carries the burden of showing that prejudice resulted.”).

Here the appellant argues that affirmance is improper because Gephardt was not relied upon by the Board in rejecting claims 21 and 23. According to the appellant we cannot affirm the Board’s decision because a new ground for rejection (i.e., Hollowell, Kikinis and Gephardt) cannot be substituted on appeal for the ground relied upon by the Board (i.e., Hollowell, Kikinis and Chen), see, e.g., Thrift, 298 F.3d at 1367; In re Zurko, 258 F.3d 1379, 1385 (Fed. Cir. 2001); In re Margolis, 785 F.2d 1029, 1032 (Fed. Cir. 1986); In re Corth, 478 F.2d 1248, 1253 (C.C.P.A. 1973); see also Sec. & Exch. Comm’n v. Chenery Corp., 332 U.S. 194, 196 (1946) (explaining that substituting a new ground to affirm the Board’s decision “would propel the court into the domain which Congress has set aside exclusively for the administrative agency”).

While the appellant is correct that in general the Board’s decision must be affirmed, if at all, on the reasons stated therein, see Chenery, 332 U.S. at 196, this principle does not obviate the need to consider the issue of harmless error or mechanically compel reversal “when a mistake of the administrative body is one that clearly had no bearing on the procedure used or the substance of the decision reached,” Mass. Trs. of E. Gas & Fuel Ass’ns v. United States, 377 U.S. 235, 248 (1964); see Fleshman v. West, 138 F.3d 1429, 1433 (Fed. Cir. 1998) ([T]he [Chenery] doctrine does not require a remand to the agency if

it is clear that ‘the agency would have reached the same ultimate result’ had it considered the new ground.”) (quoting Ward v. Merit Sys. Protection Bd., 981 F.2d 521, 528 (Fed. Cir. 1992); see also Kurzon v. United States Postal Serv., 539 F.2d 788, 796 (1st Cir. 1976); Braniff Airways, Inc. v. Civil Aeronautics Bd., 379 F.2d 453, 466 (D.C. Cir. 1967). In each of our cases refusing to consider new prior art rejections on appeal there was reason to believe that the “procedure used or the substance of the decision reached,” Mass. Trs., 377 U.S. at 248, by the Board might have been different upon remand. See, e.g., Thrift, 298 F.3d at 1367 (refusing to affirm based on new grounds that the Board clearly did not consider in finding the claim at issue obvious); Zurko, 258 F.3d at 1385 (refusing to affirm the obviousness rejection based on a new combination of references); Margolis, 785 F.2d at 1032 (refusing to consider new anticipation and obviousness arguments based on references that were before the examiner but not considered or relied upon by the Board); Corth, 478 F.2d at 1253 (refusing to consider obviousness arguments based on new references not relied upon or discussed in the Board’s decision). That is not the case here.

In the present case the appellant has made no effort to show that the critical I/O limitation of claims 21 and 23 renders them patentable if the other claims were properly rejected. The Board was correct in finding that Gephardt teaches the critical I/O limitation for purposes of claims 2, 3, 5, 6, 9, 30, 31, 34-39, 41-43, 45-57, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73. Watts does not contest the merits of the solicitor’s argument that “claim 21 is in every respect as broad or broader than claim 5.” (Br. for Appellee at 38-39.) To the contrary the appellant appears to assume that the Board actually intended to rely on Gephardt in combination with Hollowell and Kikinis to reject claims 21 and 23 and makes exactly the same arguments regarding Gephardt for claims 21 and 23 as he does for claims

2, 3, 5, 6, 9, 30, 31, 34-39, 41-43, 45-57, 49-51, 53-55, 57-59, 61-63, 65-67 and 71-73.⁵

Further, the appellant has identified no new argument or evidence that he seeks to present to the Board in connection with claims 21 and 23 on remand. Under these circumstances the appellant has failed to show that the Board's failure to explicitly rely on Gephardt in connection with claims 21 and 23 was harmful, and a remand is not required.⁶

CONCLUSION

The decision of the Board is

AFFIRMED

COSTS

No costs.

⁵ In regard to claim 21, the appellant argues that:

The Chen reference is not relevant to Claim 21 and was erroneously relied upon by the Board (in combination with Hollowell and Kikinis) to obviate Claim 21. The Board (and Examiner) determined that Hollowell and Kikinis teach all of the elements, except thermal control by reducing or slowing a clock signal to a CPU ONLY when the CPU is not processing critical I/O. The Board (and Examiner) relies upon Gephardt for this teaching. The Board, however, improperly determined that Gephardt cannot shut down the computer while primary (critical) I/O activities are taking place, but CAN shut down the computer while secondary (non-critical) I/O activities are taking place. Such determination by the Board is clearly erroneous since Gephardt teaches that it processes BOTH "primary activities" and "secondary activities" at maximum clock frequency.

(Br. for Appellant at 25.) The appellant makes no additional arguments as to dependent claim 23.

⁶ The appellant also contests the Board's finding that claims 17-21 and 23 are rendered obvious by Hollowell in view of Kikinis and Chen on the ground that this combination does not teach a system that both predicts temperature in the CPU, as required by claims 17-20, and samples actual temperature readings. Although the appellant admits that "Chen discloses estimation of temperature based upon models of actual temperature change" in the CPU, Watts argues that there would have been no motivation to combine and that the Board did not in fact find that it would be obvious to create a system that both measures and predicts temperature. (Br. for Appellant at 53.) We find no error in the Board's decision rejecting this argument.