

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* BEDROS HANOUNIK

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Appeal 2008-0930  
Application 10/159,203  
Technology Center 2100

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Decided: August 26, 2008

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Before JAMES D. THOMAS, LANCE LEONARD BARRY,  
and HOWARD B. BLANKENSHIP, *Administrative Patent Judges*.

THOMAS, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from the Examiner's final rejection of claims 1 through 25. We have jurisdiction under 35 U.S.C. § 6(b).

As best representative of the disclosed and claimed invention, independent claim 1 is reproduced below:

1. A device, comprising:

a cipher block chaining unit; and

a plurality of encryption cores;

wherein the cipher block chaining unit is to perform an encryption process for each encryption core.

The following references are relied on by the Examiner:

Webber	US 5,539,894	Jul. 23, 1996
Ohmori	US 2002/0015492 A1	Feb. 7, 2002
Greene	US 6,870,929 B1	Mar. 22, 2005 (filing date Dec. 22, 1999)
Butts	US 2002/0162084 A1	Oct. 31, 2002 (filing date Nov. 19, 2001)
Trimberger	US 6,525,560 B1	Feb. 25, 2003 (filing date Dec. 12, 2001)

Claims 16, 22, and 23 stand rejected under 35 U.S.C. § 102(e) as being anticipated by Greene. All remaining claims on appeal stand rejected under 35 U.S.C. § 103. In a first stated rejection under 35 U.S.C. § 103, the Examiner relies upon Greene in view of Ohmori as to claims 1, 4, 5, 8, 9, 12, 14, and 15. In a second stated rejection, to this combination of references the Examiner adds Trimberger as to claims 2 and 3. In a third rejection of claims 6 and 7, the Examiner relies upon Greene in view of Ohmori, further in view of Webber. Next, the Examiner relies upon Greene in view of Ohmori, further in view of Butts, in a fourth stated rejection as to claims 10,

11, and 13. In a fifth stated rejection as to claims 17 through 21, and 24, the Examiner relies upon Greene in view of Butts. Lastly, in a sixth stated rejection of claim 25, the Examiner relies upon Greene in view of Butts, further in view of Trimberger.

Rather than repeat the positions of the Appellant and the Examiner, reference is made to the Brief (no Reply Brief has been filed) for the Appellant's positions, and to the Answer for the Examiner's positions.

#### OPINION

For the reasons set forth by the Examiner in the Answer, as expanded upon here, we sustain each of the rejections of their respective claims under 35 U.S.C. § 102 and § 103.

Appellant's prior art figure 1 illustrates a Cipher Block Chaining (CBC) encryption unit. Figure 3 of the disclosed invention shows plural such CBCs utilized for plural encryption cores. Appellant's apparent contribution to the art is shown in figure 4, where 4 encryption cores are utilized with a single CBC unit 600. Notwithstanding Appellant's arguments beginning at page 5 of the Brief that the applied prior art does not show a single CBC unit, each independent claim on appeal merely recites in some manner "a Cipher Block Chaining unit."

As to the obviousness rejections, we note the following principles:

"To reject claims in an application under section 103, an examiner must show an unrebutted *prima facie* case of obviousness.... On appeal to the Board, an applicant can overcome a rejection [under § 103] by showing insufficient evidence of *prima facie* obviousness or by rebutting the *prima facie* case with evidence of secondary indicia of nonobviousness."

*In re Kahn*, 441 F.3d 977, 985-86 (Fed. Cir. 2006)(quoting *In re Rouffet*, 149 F.3d 1350, 1355 (Fed. Cir. 1998)).

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

The Supreme Court reaffirmed principles based on its precedent that “[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*, 127 S. Ct. at 1739. The operative question in this “functional approach” is thus “whether the improvement is more than the predictable use of prior art elements according to their established functions.” *Id.* at 1740. The Court noted that “[c]ommon sense teaches . . . that familiar items may have obvious uses beyond their primary purposes, and in many cases a person of ordinary skill will be able to fit the teachings of multiple patents together like pieces of a puzzle.” *Id.* at 1742.

The Federal Circuit recently concluded that it would have been obvious to combine (1) a device for actuating a phonograph to play back sounds associated with a letter in a word on a puzzle piece with (2) a processor-driven device capable of playing the sound associated with a first letter of a word in a book. *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1161 (Fed. Cir. 2007). In reaching that conclusion, the Federal Circuit recognized that “[a]n obviousness determination is not the

result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not.” *Id.* at 1161 (citing *KSR*, 127 S. Ct. 1727, 1739 (2007)). The Federal Circuit relied in part on the fact that Leapfrog had presented no evidence that the inclusion of a reader in the combined device was “uniquely challenging or difficult for one of ordinary skill in the art” or “represented an unobvious step over the prior art.” *Id.* (citing *KSR*, 127 S. Ct. at 1740-41).

In the absence of separate arguments with respect to claims subject to the same rejection, those claims stand or fall with the claim for which an argument was made. *See In re Young*, 927 F.2d 588, 590 (Fed. Cir. 1991). *See also* 37 C.F.R. § 41.37(c)(1)(vii)(2004).

Dovetailing with this precedent, we note further that the test for obviousness has been further characterized as not whether the features of a secondary reference may be bodily incorporated into the structure of a primary reference. It is also not that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. *In re Keller*, 642 F.2d 414, 425 (CCPA 1981); *In re Young*, 927 F.2d 588, 591 (Fed. Cir. 1991).

The prior art relied on to prove obviousness must be analogous art. As explained in *Kahn*,

the ‘analogous-art’ test . . . has long been part of the primary Graham analysis articulated by the Supreme Court. *See Dann [v. Johnston,]* 425 U.S. [219,] 227-29 (1976), *Graham*, 383 U.S. at 35. The analogous-art test requires that the Board show that a reference is either in the field of the applicant’s endeavor or is reasonably

pertinent to the problem with which the inventor was concerned in order to rely on that reference as a basis for rejection. *In re Oetiker*, at 1447. References are selected as being reasonably pertinent to the problem based on the judgment of a person having ordinary skill in the art. *Id.* (“[I]t is necessary to consider ‘the reality of the circumstances,’ - in other words, common sense-in deciding in which fields a person of ordinary skill would reasonably be expected to look for a solution to the problem facing the invention.” (quoting *In re Wood*, 599 F.2d 1032 (C.C.P.A. 1979)).

*Kahn*, 441 F.3d at 986-87. See also *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992) (“[a] reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.”).

Appellant does not directly treat the rejection of independent claims 16 and 22 under 35 U.S.C. § 102 other than the comments at page 8 of the Brief relying upon the positions already set forth with respect to independent claim 1, which is the subject of the first stated rejection under 35 U.S.C. § 103 on which the Examiner relies upon Greene in view Ohmori. To the extent Appellant’s positions at page 7 of the Brief urges that the Examiner has failed to set forth any motivation or a convincing line of reasoning of combinability of Greene and Ohmori, and that the Examiner has exercised impermissible hindsight in combining the teachings of them as to independent claim 1, in view of the above noted case law, we observe that the Examiner has properly analyzed the teachings of these references within 35 U.S.C. § 103 in terms of the statement of the rejection of claim 1 at pages 5 and 6 of the Answer and the Examiner’s responsive arguments in the Answer.

It is significant to note that the Examiner's positions with respect to claim 1 have been modified by the reasoning set forth at page 18 where the Examiner states "after further reviewing the reference of Greene [the] Examiner has realized that Greene teaches the claimed limitations." The Examiner's responsive analysis at this page through page 19 directly correlates the features of independent claim 1 that are recited and argued not to be present in this reference are present. Since no Reply Brief has been filed to persuade us otherwise, we agree with the Examiner's view that the combining circuit 530 in Greene's figure 5 is the claimed Cipher Block Chaining unit since it depicts an XOR circuit for each encryption unit 521-1 to 524m, which in turn comprise the claimed plural encryption cores. We agree with the Examiner's additional observation at the bottom of page 19 that figure 5 "clearly shows the Cipher Block Chaining unit is to perform an encryption process for each encryption core and supports multiple encryption." The Examiner relies upon the discussion at least column 10, lines 1 through 18, which includes a statement that indicates a single combining circuit 530 is used having a single XOR circuit as illustrated in figure 5, which features are consistent with the disclosed and claimed invention.

As correctly noted in the paragraphs bridging pages 19 and 20 of the Answer, Appellant's comments with respect to figures 6 through 9 at the bottom of page 6 of the Brief are misplaced. We recognize that the discussion here indicates that Appellant recognizes that the XOR gate 920 in figure 9 performs the CBC portion of the encryption process. The

conclusion is reached that a single CBC unit is supporting a single encryption engine. On the other hand, the admitted prior art of figure 10 of Greene, in addition to the showing in figure 9 also illustrates that a prior art encryption circuit 1000 utilizes a single XOR circuit 1006 as the base for performing the encryption process for a plurality of cipher stages 1002-1 and 10020-2.

It is worthy of note as well that we regard Ohmori as cumulative to the teachings already relied upon in Greene by the Examiner. The discussion at the bottom of column 2 of page 1 of Ohmori and the showing in figure 1 indicate the construction of an encryption apparatus 30 which utilizes a CBC mode in which substantially all of the subsequent embodiments in this lengthy reference illustrate in various figures a single XOR circuit performing an encryption process for each of a plurality of encryption core elements. Thus, Appellant's additional observation at the middle of page 7 of the Brief that Ohmori does not disclose a single CBC unit supporting multiple encryption cores as recited in claim 1 is misplaced.

The remarks at pages 8 and 9 of the Brief address in passing the other stated rejections of the Examiner. These remarks do not contest the proper combinability of the additional respective references relied upon by the Examiner and, in turn, rely for patentability upon the reasoning set forth with respect to independent claim 1 and the reference to Greene alone. The separate rejection of independent claim 24 at the bottom of page 8 of the Brief does not contest the proper combinability of Butts with Greene to reject this claim within 35 U.S.C. § 103 and does not contest the Examiner's relied upon teachings in Butts as to this rejection.

In view of the foregoing, the decision of the Examiner rejecting various claims on appeal under 35 U.S.C. § 102 and 35 U.S.C. § 103 is affirmed since Appellant has not persuaded us of any error in the Examiner's positions.

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

AFFIRMED

BARRY, *Administrative Patent Judge.*

I agree with my colleagues and write separately to amplify their reasoning. In some cases, "a picture is worth a thousand words." I find the instant case to be one of those cases.

"Both anticipation under § 102 and obviousness under § 103 are two-step inquiries. The first step in both analyses is a proper construction of the claims . . . . The second step in the analyses requires a comparison of the properly construed claim to the prior art." *Medichem, S.A. v. Rolabo, S.L.*, 353 F.3d 928, 933 (Fed.Cir. 2003) (internal citations omitted).

#### A. CLAIM CONSTRUCTION

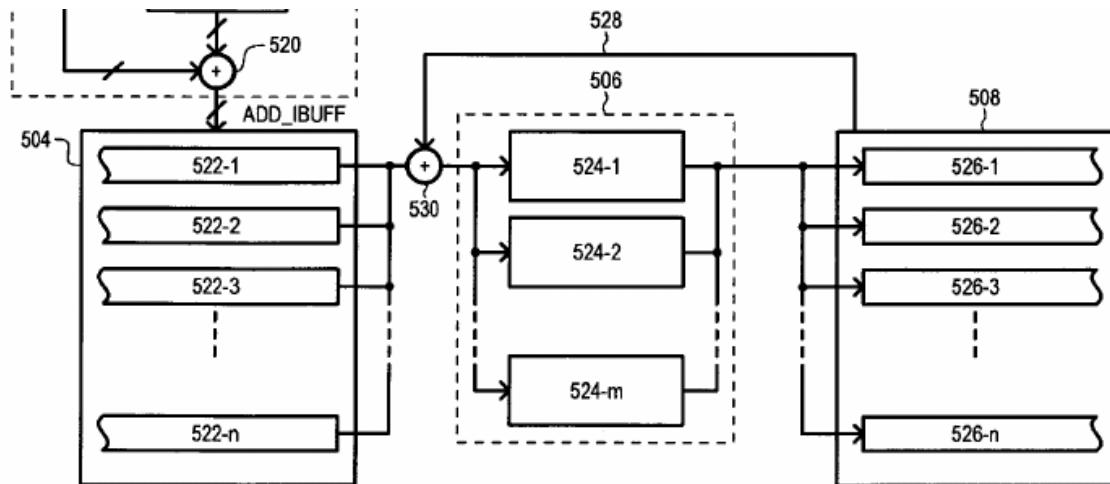
"[D]uring examination proceedings, claims are given their broadest reasonable interpretation consistent with the specification." *In re Hyatt*, 211 F.3d 1367, 1372 (Fed. Cir. 2000).

Here, claim 1 recites in pertinent part the following limitations: "a plurality of encryption cores; wherein the cipher block chaining unit is to perform an encryption process for each encryption core." For its part, the Appellant's Specification (p. 5) explains that the cipher block chaining "unit 600 may, for example, combine a current block of plaintext . . . with a previous block of ciphertext . . . via an XOR operation and provide the result to a target encryption core that is performing an encryption algorithm."

Giving the representative claim the broadest reasonable interpretation consistent with the Specification, the limitations require a single unit to combine plaintext and ciphertext and provide the result to a plurality of encryption cores.

#### B. CLAIM COMPARISON

Figure 5 of Greene in pertinent part follows.



Because the Figure shows that XOR circuit 530 combines unencrypted data blocks from input buffer/working store 504 with encrypted data blocks from output buffer 508 and provides the results to encryption circuits 524-1 to 524-m, I also agree with the Examiner than Greene teaches a single unit that combines plaintext and ciphertext and provides the result to a plurality of encryption cores.

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