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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* MICHAEL K. BROWN, MICHAEL S. BROWN,  
and HERBERT A. LITTLE<sup>1</sup>

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Appeal 2010-007360  
Application 10/835,276  
Technology Center 2400

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Before SCOTT R. BOALICK, BARBARA A. BENOIT, and JAMES B.  
ARPIN, *Administrative Patent Judges*.

ARPIN, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

Appellants appeal under 35 U.S.C. § 134(a) from the Examiner's rejection of claims 1-15 and 17-55. Claim 16 is cancelled. Br. 3.<sup>2</sup> We have jurisdiction under 35 U.S.C. § 6(b). We affirm-in-part.

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<sup>1</sup> Research In Motion Limited is the real party in interest.

<sup>2</sup> Throughout this opinion, we refer to (1) the Supplemental Appeal Brief (Br.) filed October 23, 2009; and (2) the Examiner's Answer (Ans.) mailed January 25, 2010.

INVENTION

Appellants' invention relates to wireless communication systems which employ cryptographic functions requiring random data input in a mobile wireless device and include provisions for securely adding randomness to the mobile wireless device. *See generally* Abstract. Such added randomness may be provided securely during synchronizing sessions with a device user's base computer via secure wired and/or wireless connections. *Id.* The new random data may be obtained by software and/or hardware random number generators accessible to the user's base computer and/or from accessible secure external sources (e.g., a secure website source of random data). *Id.* Claim 1 is illustrative and is reproduced below with disputed limitations emphasized:

1. A wireless communication device including cryptographic functions utilizing random data input, said device comprising:
  - a random data memory having a random number pool comprising first random data stored therein for subsequent device operation;
  - a secure data input port for receiving random data from an external source; and
  - a control processor configured to add second random data, received from said external source, to the random number pool in said random data memory based on storing added new random data therein at least each time said device is connected for synchronization with the external source, wherein the external source comprises a trusted computer base.*

The Examiner relies on the following as evidence of unpatentability:

Utz	US 5,680,131	Oct. 21, 1997
Brown	US 2003/0128843 A1	July 10, 2003

### THE REJECTIONS

The Examiner rejected claims 1-15 and 17-55 under 35 U.S.C. § 103(a) as unpatentable over Brown and Utz. Ans. 3-19.

### OBVIOUSNESS REJECTION OVER BROWN AND UTZ

Regarding representative claim 1, the Examiner finds that Brown teaches or suggests all of the limitations of the wireless communication device of claim 1, except that Brown does not explicitly teach that the device is connected for *synchronization* with the external source. Ans. 3-4, 20-21(citing Advisory Action 3 (mailed May 4, 2009)). The Examiner, however, finds that the missing limitation is supplied by Utz. *Id.* at 4, 20-23. Further, the Examiner finds that the additional limitations of claims 2-7, which depend from claim 1, also are taught or suggested by Brown. *Id.* at 4-6, 24. Moreover, with respect to independent claims 8, 15, 18, 29, 40, and 49-51, the Examiner finds that all of the limitations of each of those claims are taught or suggested by Brown and Utz, as applied to claim 1 (*id.* at 8-9, 11, 14, 16-18, 24), and that the claims depending from these independent claims fall for the same reasons applied to dependent claims 2-7(*id.* at 6-16, 18-19, 24).

Appellants argue that Brown and Utz fail to teach or suggest all of the limitations of the rejected claims. Br. 11. In particular, Appellants argue (1) that Brown and Utz fail to teach or suggest storing added new random data if the two devices, i.e., the wireless communication device and the trusted computer base, “remain powered on” (*id.* at 14-15); and (2) that Brown and Utz fail to teach or suggest “add[ing] second random data . . . to the random number pool . . . at least each time said device is connected for

synchronization with the external source” (*id.* at 12-13, 15). Appellants raise similar arguments with respect to independent claims 8, 15, 18, 29, 40, and 49-51, and Appellants argue that dependent claims 2, 4-7, 9, 11-14, 19-22, 24, 26, 27, 30-33, 35, 37, 38, 41, 42, 44, 46, 47, and 52-55 are distinguishable over Brown and Utz based on the arguments raised with respect to their base claims. *Id.* at 15-48. In addition, Appellants argue separately that the Examiner fails to demonstrate (1) that Brown and Utz teach or suggest the limitations of dependent claim 3, as well as corresponding dependent claims 10, 17, 28, 39, and 48 (*id.* at 15-16, 20, 23,30, 36-37, 42); and (2) that Brown and Utz teach or suggest the limitations of dependent claim 23, as well as corresponding dependent claims 25, 34, 36, 43, and 45 (*id.* at 26-29, 33-35, 39-41).

#### ISSUES

(1) Under § 103, has the Examiner erred in rejecting claim 1 by finding that Brown and Utz, collectively, would have taught or suggested “a control processor configured to add second random data, received from said external source, to the random number pool in said random data memory based on storing added new random data therein *at least each time* said device is *connected for synchronization with the external source*, wherein the external source comprises a trusted computer base”?

(2) Under § 103, has the Examiner erred by finding that Brown and Utz, collectively, would have taught or suggested:

(a) that “said second random data is a combination or permutation of said received new random data,” as recited in claim 3? and

(b) that “said control processor is configured to fetch new random data from a securely maintained and accessible external network site,” as recited in claim 23?

(3) Is the Examiner’s reason to combine the teachings of these references supported by articulated reasoning with some rational underpinning to justify the Examiner’s obviousness conclusion?

#### ANALYSIS

1. *Claims 1, 2, 4-9, 11-15, 18-22, 24, 26, 27, 29-33, 35, 37, 38, 41, 42, 44, 46, 47, and 49-55.*

Based on the record before us, we find no error in the Examiner’s rejection of representative claim 1. Appellants argue that mapping claim 1 on the devices taught or suggested by Brown and Utz results in (i) a combination of Brown’s device 10, e.g., a server (Brown, ¶ [0028]), and Utz’s receiving unit 150, which allegedly corresponds to Appellants’ wireless communication device, and (ii) a combination of Brown’s seed pool generation system 90 and Utz’s transmitting unit 100, which allegedly corresponds to Appellants’ trusted computer base. Br. 14. Appellants further argue that Brown teaches that data for placement into a seed pool may be received from an external source, e.g., seed pool generation system 90, following a total power and memory loss. *Id.* at 13; *see* Brown, ¶¶ [0027], [0033]. Similarly, Appellants argue that Utz teaches that transmitting unit 100 transmits a synchronization code upon power up. *Id.*; *see* Utz, col. 3, ll. 41-55. Consequently, Appellants argue that one of either a total power and memory loss at the combination of Brown’s device 10 and Utz’s receiving unit 150 or the powering up of the combination of Brown’s seed pool generation system 90 and Utz’s transmitting unit 100 must occur in order to for the combined systems to create a new seed pool. *Id.* at 14.

Thus, Appellants argue that “*if the two devices remain powered on*, then no receipt of second random data will occur at the combination server/receiving unit device, as required by claim 1.” *Id.* at 14-15. We disagree.

Initially, we note that Appellants misunderstand the obviousness rejection. “The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference . . . . Rather, the test is what the combined teachings of those references would have suggested to those of ordinary skill in the art.” *In re Keller*, 642 F.2d 413, 425 (CCPA 1981); *see also, In re Sneed*, 710 F.2d 1544, 1550 (Fed. Cir. 1983) (citations omitted) (“[I]t is not necessary that the inventions of the references be physically combinable to render obvious the invention under review.”); *In re Nievelt*, 482 F.2d 965, 968 (CCPA 1973) (“Combining the teachings of references does not involve an ability to combine their specific structures.”). Thus, “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.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007). Therefore, in order to conclude that a combination of references render a claimed invention unpatentable, the Examiner need not find that the physical characteristics of components described in the references may be bodily combined to achieve Appellants’ claimed components.

Appellants’ claim 1 recites that “a control processor . . . stor[es] added new random data therein *at least each time said device is connected for synchronization with the external source* (emphasis added).” The Examiner finds that Brown teaches or suggests that new random data is received from

external device 22 at least *each* time that device 10 is powered up and connected to external device 22 over communication link 24. *Id.* at 4, 22 (citing Brown, ¶¶ [0034], [0047]). Further, the Examiner finds that, although Brown does not explicitly describe connecting a wireless communication device to an external source for synchronization, Utz teaches that a transmitting unit transmits a different, randomized synchronization “*each* time that the transmitting unit is powered up.” *Id.* at 4, 22-23 (quoting Utz, col. 3, ll. 41-48 (emphasis added)). The Examiner also finds that Utz teaches or suggests that the new random data is added, e.g., incremented, during synchronization. *Id.* at 23 (citing Utz, col. 3, ll. 60-67). Thus, the Examiner concludes that a person of ordinary skill in the relevant art would have a reason to combine the teachings of Brown and Utz to achieve the recited limitation of claim 1. *Id.* at 4, 24. We agree.

In response to the Appellants’ argument that Brown and Utz fail to teach or suggest storing added new random data if the two devices (Br. 14-15) and “add[ing] second random data . . . to the random number pool . . . at least each time said device is connected for synchronization with the external source” (Br. 12-13, 15), the Examiner explains that Appellants’ claim 1 does not recite the condition of Appellants’ wireless communication device when connecting for synchronization to the external source. Ans. 20-21. Thus, the Examiner finds that the device may be in any one of three conditions: (1) the device may be in the process of being powered up; (2) the device may be initialized, enter a rest mode, or be installed; and (3) the device may remain powered on. *Id.* at 21. Because Appellants’ claimed invention is not limited to any one of these conditions, the Examiner finds that, if Brown and Utz teach or suggest the claim limitation for any one of

these conditions, the claimed invention is unpatentable. *Id.* at 21-22. We agree that the Appellants' arguments are not consistent with the scope of claim 1.

Independent claims 8 and 15 recite methods for operating wireless communication devices and computer-readable storage media storing computer programs for use with such devices, respectively. Br. 50-52. These claims correspond to representative claim 1 and contain substantially the same disputed limitations as claim 1. *Id.* at 49. Moreover, Appellants raise similar arguments based on the bodily incorporation of components of Utz into Brown. *Id.* at 17-19, 22. We find these arguments equally unpersuasive with respect to these independent claims.

In addition, independent claims 18, 29, and 40 recite base systems, methods for operating base systems, and computer-readable storage media storing computer programs for use with such systems, respectively. *Id.* at 52, 54, 55. Similarly, independent claims 49-51 recite wireless communication systems comprising a base sub-system and a mobile wireless device, methods for operating wireless communication systems, and computer-readable storage media storing computer programs for use with such systems, respectively. *Id.* at 56-59. Each of these independent claims contains substantially the same or similar disputed limitations as claim 1. *Id.* at 49. Moreover, Appellants raise similar arguments based on the bodily incorporation of components of Utz into Brown. *Id.* at 23-25 (claim 18), 30-31 (claim 29), 37-38 (claim 40), and 42-46 (claims 49-51). We find these arguments equally unpersuasive with respect to these independent claims.

For the foregoing reasons, Appellants have not persuaded us of error in the obviousness rejection of: (1) independent claim 1; (2) independent

claims 8, 15, 18, 29, 40, and 49-51; and (3) dependent claims 2, 4-7, 9, 11-14, 19-22, 24, 26, 27, 30-33, 35, 37, 38, 41, 42, 44, 46, 47, and 52-55, which are not separately argued with particularity. Therefore, we sustain the rejection of these claims.

2. *Claims 3, 10, 17, 28, 39, and 48.*

Initially, Appellants argue that the Examiner fails to demonstrate that Brown and Utz teach or suggest all of the limitations of the base claim from which each of these claims respectively depends. Br. 15-16, 20, 23, 30, 36, 42. For the reasons set forth above, we are not persuaded by these arguments.

Nevertheless, claim 3 recites that “said second random data is a combination or permutation of said received new random data.” *Id.* at 49. Appellants argue that, although Brown described repopulating seed pool 50 with random data received from seed pool generation system 90 or with replacement data from seed pool backup system 70 and Utz describes the transmission of pseudo-random synchronization codes, neither Brown nor Utz teaches or suggests that the second random data added to the random number pool, e.g., seed pool 50, is a combination or permutation of the received new data. Br. 15-16. In support of the rejection, the Examiner merely repeats the claim language and cites to Brown’s Figure 1. Ans. 5. Although the Examiner identifies certain elements of Figure 1, the Examiner makes no attempt to explain how these identified elements teach or suggest the additional limitations of claim 3. *Id.*

For this latter reason, Appellants have persuaded us of error in the rejection of dependent claims 3, as well as dependent claims 10, 17, 28, 39, and 48, which contain limitations corresponding to those of claim 3 and

which are rejected based on identical grounds. Therefore, we do not sustain the Examiner's rejection of these claims.

3. *Claims 23, 25, 34, 36, 43, and 45.*

Appellants again argue that the Examiner fails to demonstrate that Brown and Utz teach or suggest all of the limitations of the base claim from which each of these claims respectively depends. Br. 26-29, 33-35, 39-41. For the reasons set forth above, we are not persuaded by these arguments.

Claim 23 recites that “the control processor is configured to fetch new random data from a securely maintained and accessible external network site.” *Id.* at 53. The Examiner finds that Brown teaches or suggests the additional limitations of this claim. Ans. 10 (citing Brown, ¶¶ [0051]-[0052]). As Appellants note, the cited paragraphs of Brown teach that external device 22 fetches random data from seed pool generation system 90 when certain triggering events occur. Br. 27. Nevertheless, Appellants argue that “there is no disclosure of the external device 22 or the seed pool generation system 90 fetching new random data from an external network.” *Id.* Again, we are not persuaded by these arguments.

Referring to Figure 3, Brown describes that, upon the occurrence of a triggering event, seed pool generation system 90 may initialize or restore the population of seed pool 50. Brown, ¶ [0050]. In particular, seed pool generation system 90 may “generate a new seed pool, if needed.” *Id.* Referring to Figure 2, Brown explains that “logic 120 . . . is configured to detect a variety of triggering events that result in data being added to the new seed pool 50.” *Id.* at ¶ [0051]. For example, during a primary power shutdown of main power 116, bit 132 may be reset to indicate that the seed pool 50 is empty or lost. *Id.* at ¶ [0052]. Thus, the Examiner adequately

demonstrates that new random data is fetched from seed pool generation system 90.

Referring again to Figure 2, Brown explains that communication link 24 between device 10 and external device 22 may be “a local area network (LAN), a wide area network (WAN), the Internet, or any other local or remote communication system.” *Id.* at ¶ [0030]; *see also* Ans. 10 (regarding claim 25). Although the Examiner does not identify a similar description of the link between external device 22 and seed pool generation system 90, the Examiner did not err in interpreting that link as broadly as communication link 24.

For the foregoing reasons, Appellants have not persuaded us of error in the rejection of dependent claim 23. Moreover, because the Examiner relied on a similar basis for the rejection of dependent claims 25, 34, 36, 43, and 45 (Ans. 10, 12, 13, 15), we also find no error in the rejection of those claims. Therefore, we sustain the rejection of claims 23, 25, 34, 36, 43, and 45.

#### *4. Reasons for Combining Brown and Utz.*

The Examiner argues that, because the Examiner chose to base the rejections on the teaching, suggestion, or motivation analysis, the obviousness rejection now *must* satisfy the requirements of this particular basis for determining obviousness. Br. 11. We disagree.

In *KSR*, the U.S. Supreme Court set aside any “rigid” application of the teaching, suggestion, motivation (“TSM”) test, advising that: “[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.” 550 U.S. at 420-21. Appellants contend that the Court characterized the TSM test as “a helpful insight.” Br. 11. Nevertheless, the Court explained

that “[h]elpful insights . . . need not become rigid and mandatory formulas; and when it is so applied, the TSM test is incompatible with our precedents.” *Id.* at 419. The Court clarified that while “it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does,” (*id.* at 418-19), “the analysis need not seek out precise teachings [in the prior art] directed to the specific subject matter of the challenged claim” (*id.* at 417-18). In *KSR*, the Court further explained that, “[w]hen 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.” *Id.* at 417.

Appellants do not argue that a person of ordinary skill in the relevant art could not make the combination of teachings proposed by the Examiner. Moreover, we find that the Examiner’s proposed combination of the teachings of Brown and Utz does no more than make predictable variations of known elements to yield no more than one would expect from such an variations. Ans. 22-23. Therefore, consistent with the Supreme Court’s decision in *KSR*, the Examiner has sufficiently articulated a reason to combine the teachings of these references with some rational underpinning to justify the obviousness conclusion.

### CONCLUSION

The Examiner did not err in rejecting claims 1, 2, 4-9, 11-15, 18-27, 29-38, 40-47, and 49-55 under § 103(a). The Examiner, however, erred in rejecting claims 3, 10, 17, 28, 39, and 48 under § 103(a).

### DECISION

Accordingly, we affirm the Examiner's rejections of claims 1, 2, 4-9, 11-15, 18-27, 29-38, 40-47, and 49-55 and reverse the Examiner's rejection of claims 3, 10, 17, 28, 39, and 48.

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-IN-PART

ELD