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APPELLEE'S BRIEF

Appeal No. 2011-1195
(Serial No. 11/161,741)

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

IN RE JIE XIAO

Appeal from the United States Patent and Trademark Office,
Board of Patent Appeals and Interferences.

**BRIEF FOR APPELLEE - DIRECTOR OF THE
UNITED STATES PATENT AND TRADEMARK OFFICE**

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Representative claim:

1. A briefcase comprising a combination lock, wherein the combination lock comprises:

a group of at least three tumbler rings, each tumbler ring operable to rotate and to settle at one of multiple predetermined positions and having multiple position-labels thereon each corresponding to one of the multiple predetermined positions, and

wherein each tumbler ring has thereon *only one wild-card position-label and multiple alphabetical-letter position-labels* each being a single English alphabetical-letter, and *the wild-card position-label is different from any one of the twenty-six English alphabetical-letters* and is configured for representing any one of the twenty-six English alphabetical-letters.

A3; A158 (formatting and emphasis added).

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STATEMENT OF RELATED CASES

The Director is not aware of any other appeal from the Board of Patent Appeals and Interferences (Board) for the United States Patent and Trademark Office (USPTO) in connection with this case that has previously been before this court. The Director is also unaware of any other case pending in this or any other court that will directly affect, or be directly affected, by the Court's decision in this appeal.

I. STATEMENT OF THE ISSUE

Xiao claims a combination lock with tumbler rings. Each tumbler ring has multiple alphabetical-letter position-labels and one non-alphabetical “wild-card” position-label that can represent any alphabetical letter. The prior art teaches a combination lock with tumbler rings having multiple alphabetical-letter position-labels. The prior art also teaches the use of non-alphabetical letters as position labels on combination locks.

The issue on appeal is whether the Board’s conclusion that the claimed invention would have been obvious is supported by substantial evidence and in accordance with law.

II. STATEMENT OF THE CASE

Appellant Jie Xiao filed the instant application entitled “Briefcase Having Combination Lock” on August 15, 2005. A12-37. The Examiner rejected pending claims 1, 2, and 4-18 for obviousness under 35 U.S.C. § 103. A132-140. The Board affirmed, A1-9, and this appeal followed.

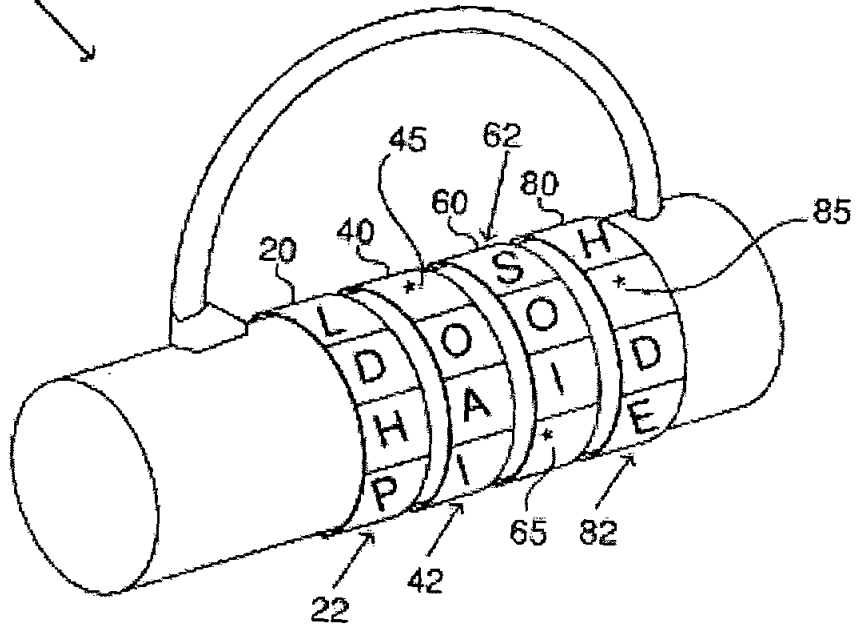
III. STATEMENT OF THE FACTS

A. **The Claimed Invention: Combination Lock with Alphabetical-Letter Position-Labels and One Wild-Card Position-Label**

Xiao’s claimed invention is directed to a combination lock. A14.

According to the specification, a combination lock using letter labels rather than

100



DOOR

FIG. 1A

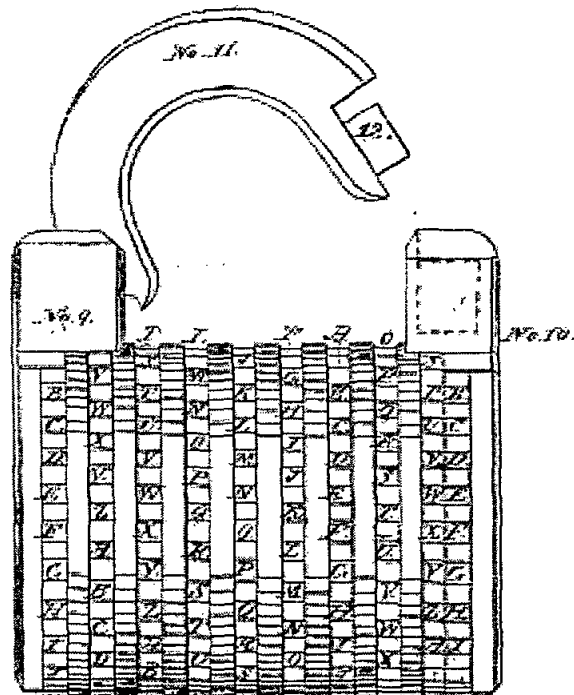
numbers is advantageous because it allows a user to select a word as the “password” or code for opening the lock rather than a string of numbers. *Id.*

Each tumbler ring in Xiao’s claimed combination lock has multiple alphabetical-letter position-labels and one “wild-card” position-label such as a star, a dollar sign, or a blank that can represent any alphabetical letter. A19-20. For example, Figure 1A (A30, reproduced on facing page) shows a combination lock with four tumbler rings, each having several alphabetical-letter position-labels and a “*” wild-card position-label. *See* A19. With this configuration, the code that opens the lock can include a combination of letters and wild cards, such as “D-O-O-*.” A21. As shown in Figure 1A, the user may remember this code as “DOOR,” with the “*” taking the place of the “R.” *See id.*; A30. Because the “*” can represent any alphabetical letter, *see* A21, the user might instead remember the code as “DOOM,” with the “*” taking the place of the “M.”

Claim 1 is representative of the claims on appeal.¹ It recites:

1. A briefcase comprising a combination lock, wherein the combination lock comprises:

¹ The Board treated independent claim 1 as representative. *See* A3; *see also* 37 C.F.R. § 41.37(c)(1)(vii); *In re Dance*, 160 F.3d 1339, 1340 n.2 (Fed. Cir. 1998).



No. 11. No. 12. No. 9. No. 10. P. I. M. Z. O.

a group of at least three tumbler rings, each tumbler ring operable to rotate and to settle at one of multiple predetermined positions and having multiple position-labels thereon each corresponding to one of the multiple predetermined positions, and

wherein each tumbler ring has thereon *only one wild-card position-label and multiple alphabetical-letter position-labels* each being a single English alphabetical-letter, and *the wild-card position-label is different from any one of the twenty-six English alphabetical-letters* and is configured for representing any one of the twenty-six English alphabetical-letters.

A3; A158 (formatting and emphasis added).

B. The Prior Art

1. Gray: Combination Lock Having Revolving Rings with Letters

Gray² discloses a combination lock having eight revolving rings and two end plates. A209 (figure reproduced on facing page); A210 (ll.35-40). Each revolving ring has twenty-six letters and twenty-six blank spaces between the letters, resulting in fifty-two divisions that may form part of the arrangement that opens the lock. A210 (ll.40-55). Each end plate has twenty-two letters and twenty-two blank spaces that may form part of the arrangement that opens the lock. A210 (ll.55-69). Gray further discloses that the divisions may be “designated by letters, figures, or blank spaces.” *Id.* (ll.93-94).

² U.S. Patent No. 2,261 (issued Sept. 18, 1841). A209-210.

2. Fiegener: Combination Lock with Position Indicia

Fiegener³ teaches that position indicia on a combination lock may be “letters, numbers, ciphers, symbols, colors, patterns, textures, any combination thereof, or any marking or indicator that is distinguishable from another marking or indicator.” A253 (¶ 0041). Fiegener also teaches that locks that can be opened by a particular combination or code known to the user were well-known in the art. A251 (¶¶ 0003-0004).

3. Remington: Briefcase with a Combination Lock

Remington⁴ discloses a briefcase having a combination lock. A212 (Fig. 1); A218 (col.4, ll.27-30).

4. Basche: Method for Selecting Letters for a Combination Lock

Basche⁵ discloses an algorithm for selecting letters for a combination lock having tumbler rings with fewer than twenty-six positions. A233 (col.2, ll.59-64); A234-235 (col.4, l.1 – col.6, l.31). The algorithm optimizes the letter

³ U.S. Patent Application Publication 2006/0169007 (published Aug. 3, 2006). A238-258.

⁴ U.S. Patent No. 4,395,892 (issued Aug. 2, 1983). A211-226.

⁵ U.S. Patent No. 6,621,405 (issued Sept. 16, 2003). A227-237.

selection “in such a way as to be able to spell the largest number of possible words from a supplied word list.” A234 (col.4, ll.5-7).

C. The Board’s Affirmance of the Examiner’s Obviousness Rejection

The Board affirmed the Examiner’s rejection of Xiao’s claims for obviousness. A1-9. At the outset, the Board noted that Xiao argued patentability based only on the lock configuration and presented no arguments regarding the Examiner’s proposed combination of a lock with the briefcase in Remington or with Basche’s algorithm for selecting letters for the tumblers. A4. Accordingly, the Board selected claim 1 as representative and explained that the sole issue on appeal was whether the Examiner erred in concluding that the prior art would have rendered obvious a lock having “[only] one wild-card position-label [different from any alphabetical letter] and multiple alphabetical-letter position-labels” on each tumbler ring. *Id.*

Turning to that issue, the Board found that Gray discloses a combination lock having tumbler rings with multiple divisions, or positions. A4-5 (Fact 1). The Board also found that Gray teaches that the divisions may be designated by English alphabetical letters or indicia different from alphabetical letters, including blank spaces (Fact 2), but that Gray does not disclose “only one” position label different from any alphabetical letter or refer to non-alphabetical

position-labels as “wild-card” position-labels. A5. The Board then found that Fiegenger teaches the use of labels different from alphabetical letters on a combination lock. *Id.* (Fact 3). Based on these findings, the Board concluded that “[m]odifying Gray to include only one position label different from any English alphabetical letter involves merely the substitutions of elements known to be interchangeable or an alteration in the size of Gray’s device yielding a predictable result” and therefore would have been obvious to a person of ordinary skill in the art. A5-6.

Additionally, the Board determined that the wild-card position-label is printed matter that does not patentably distinguish the claimed invention over the prior art. A6-7. Addressing Xiao’s argument that the Examiner failed to give patentable weight to the wild-card label, the Board found that “even if the printed matter, the label, is functionally related to the lock, and entitled to patentable weight, it is not related to the lock in any new and unobvious way, because the combination of Gray and Fiegenger would have suggested it.” A7.

The Board also found unpersuasive Xiao’s argument that the wild-card position-label in this case is analogous to the “false label” on a measuring cup in *In re Miller*, 418 F.2d 1392 (CCPA 1969). A7. The Board found that any printed matter (e.g., a letter, figure, number, other mark, or blank space) may

serve as a “wild-card” without altering the function of Xiao’s lock because “what symbol constitutes a ‘wild-card’ is a distinction that is discernible only to the human mind.” *Id.* In contrast, changing the label on the measuring cup in *Miller* would alter the function of the cup because it would result in measuring a different quantity. *Id.*

Finally, the Board found that Xiao failed to provide any objective evidence of nonobviousness. First, it rejected Xiao’s argument that the Examiner’s alleged lack of appreciation of the advantages of the invention provided objective evidence of nonobviousness because “the objective standard for determining obviousness is based upon a hypothetical person of ordinary skill in the art, not a particular Examiner.” A6. Next, the Board disagreed with Xiao’s assertion that the claimed invention solved “a longstanding problem of selecting any desired word as a password.” A7. Lastly, the Board found that Basche does not establish long-felt need, failure of others, or teaching away because it simply describes an alternative solution to a similar problem and does not relate to Xiao’s claimed subject matter. A8.

IV. SUMMARY OF THE ARGUMENT

The claims at issue are directed to a combination lock with tumbler rings, each of which has multiple alphabetical-letter position-labels and one non-alphabetical “wild-card” position-label, such as a star or a blank. Gray discloses a combination lock with multiple alphabetical-letter position-labels and multiple blank position-labels on each tumbler ring. Fiegenger teaches that any marks that are distinguishable from other marks, such as letters or symbols or any combination thereof, may be used as position labels on combination locks. Based on these teachings, the Board correctly concluded that it would have been obvious to (1) modify Gray to include only one blank position-label on each tumbler ring or (2) replace one alphabetical-letter position-label on each tumbler ring in Gray with a non-alphabetical-letter position-label as taught by Fiegenger.

The Board also correctly found that the non-alphabetical-letter “wild-card” position-label does not render the claimed invention nonobvious. The non-alphabetical-letter position-label is printed matter that does not patentably distinguish the claimed invention over the prior art because it is not functionally related to the structure of the lock in any new and unobvious way. Furthermore, use of the non-alphabetical-letter position-label as a “wild-card” in the spelling

of a word that opens the lock occurs only in the human mind and does not impart patentability.

None of Xiao's additional arguments demonstrate error in the Board's decision. The Board did not improperly rely on hindsight, and its decision is fully consistent with the principles of *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398 (2007). Finally, Xiao fails to show there is any objective evidence of nonobviousness in the record.

V. ARGUMENT

A. Standard of Review

Whether an invention would have been obvious is a legal question based on underlying findings of fact. *In re Gartside*, 203 F.3d 1305, 1316 (Fed. Cir. 2000). What the prior art teaches is a question of fact. *Para-Ordnance Mfg., Inc. v. SGS Importers Int'l, Inc.*, 73 F.3d 1085, 1088 (Fed. Cir. 1995). Whether objective evidence of nonobviousness exists is also a factual determination. *Id.*

This Court upholds fact findings made by the Board that are supported by substantial evidence, 5 U.S.C. § 706(2)(E), and reviews the Board's legal conclusions *de novo*. *Gartside*, 203 F.3d at 1315. Substantial evidence is "such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *Consol. Edison Co. v. NLRB*, 305 U.S. 197, 229 (1938).

B. Xiao’s Claimed Combination Lock Would Have Been Obvious Over the Prior Art

Representative claim 1 generally recites a combination lock with multiple tumbler rings, each tumbler ring having multiple alphabetical-letter position-labels and a single non-alphabetical-letter “wild-card” position-label.⁶ A158. Gray discloses a combination lock with multiple alphabetical-letter position-labels and multiple blank position-labels on each tumbler ring. A210 (ll.40-55). Fiegner teaches that position labels on combination locks may be any marks that are distinguishable from other marks, including letters, numbers, ciphers, and symbols. A253 (§ 0041). Fiegner also teaches that position labels on a lock may be a combination of different types of marks. *Id.*

The Board concluded that Xiao’s claimed combination lock would have been obvious because “[m]odifying Gray to include only one position label different from any English alphabetical letter involves merely the substitutions of elements known to be interchangeable or an alteration in the size of Gray’s device yielding a predictable result.” A5-6. This conclusion is correct for two

⁶ Claim 1 is drawn to a “briefcase comprising a combination lock.” As Xiao does not challenge the Examiner’s finding that Remington teaches the combination of a lock with a briefcase, the only issue on appeal is the issue addressed by the Board—whether the prior art would have rendered obvious a combination lock having on each tumbler ring multiple alphabetical-letter position-labels and only one wild-card position-label different from any alphabetical letter. *See* A4.

independent reasons. First, the blank position-labels in Gray could be wild-card position-labels, and reducing the number of blank position-labels to one per tumbler ring (“alter[ing] . . . the size of Gray’s device,” A6) is a “predictable variation” that improves Gray by making the device smaller. *KSR*, 550 U.S. at 417. Alternatively, replacing one of the alphabetical-letter position-labels on Gray’s tumbler rings with a non-alphabetical-letter position-label as taught by Fiegner involves the alteration of “a structure already known in the prior art . . . by the mere substitution of one element for another known in the field” that does no more than “yield a predictable result.” *Id.* at 416; *see* A5-6.

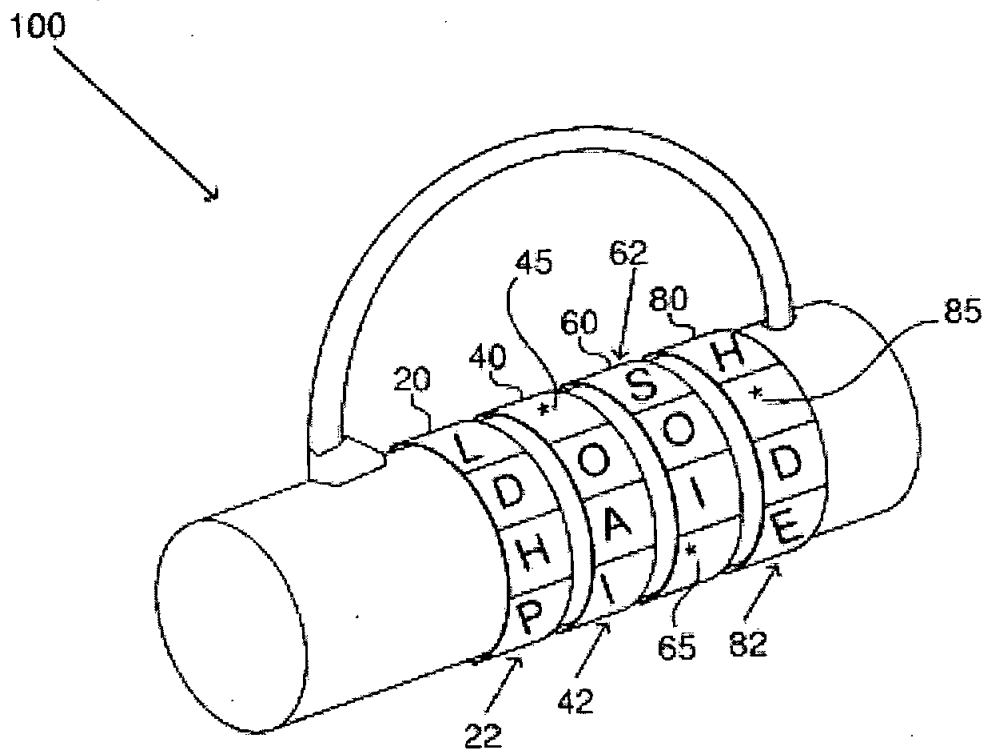
C. The “Wild-Card” Position-Label is Printed Matter That Does Not Render the Claimed Invention Nonobvious

In addition to being known in the art, the position labels on Xiao’s combination lock constitute printed matter that does not patentably distinguish the claimed invention over the prior art. *See* A7. When “printed matter is not functionally related to the substrate, the printed matter will not distinguish the invention from the prior art in terms of patentability.” *In re Gulack*, 703 F.2d 1381, 1385 (Fed. Cir. 1983). On the other hand, when printed matter is functionally related to the substrate, “[t]he critical question [in an obviousness analysis] is whether there exists any new and unobvious functional relationship

between the printed matter and the substrate.”” *In re Ngai*, 367 F.3d 1336, 1338 (Fed. Cir. 2004) (quoting *Gulack*, 703 F.2d at 1386).

In this case, the Board correctly found that to the extent the position labels in the claimed invention are functionally related to the lock, they are not related in any new and unobvious way. A7. As discussed, Gray teaches a combination lock with alphabetical letters as position labels on the tumbler rings. A209-210. In addition, Fiegenger shows that it was known in the art to use as position labels any markings that are distinguishable from other markings. A253 (¶ 0041). Moreover, Fiegenger specifically teaches that a lock may have a combination of one type of position label (e.g., alphabetical letters) and another type of position label (e.g., a symbol that is not an alphabetical letter). *Id.* Therefore, as the Board correctly found, the position labels in the claimed invention are not functionally related to the tumbler rings or the lock as a whole in any new and unobvious way because the combination of Gray and Fiegenger would have suggested the use of multiple alphabetical-letter position-labels and one non-alphabetical-letter position-label. A7.

Xiao asserts that the “wild-card” position-label is functionally related to the structure of the lock in a new and unobvious way because the wild card allows a user to select any word as a password. Br. at 24, 26. Xiao is incorrect.



DOOR

FIG._1A

From a functional perspective, each of the tumbler rings in Xiao's lock must be turned to a certain position in order for the lock to be opened. The label identifying the position of each tumbler ring may either be one of the multiple alphabetical-letter position-labels or the non-alphabetical-letter "wild-card" position-label. As is well-known in the art, the sequence of position labels that opens the lock is known to a user as a code or password. *See* A251 (¶¶ 0003-0004). However, whether the user thinks that the non-alphabetical-letter position-label represents an alphabetical letter in the spelling of a password is immaterial to the operation of the lock. For instance, in the example shown in Figure 1A (A30, reproduced on facing page), the user's password is "DOOR," and the lock opens when the tumbler rings are set at "D-O-O-*," with the "*" representing "R" in the user's mind. But the lock also opens if the user thinks the "*" represents "M" to spell "DOOM," or even if the user thinks the "*" is just a "*." Therefore, as the Board correctly determined, the use of the non-alphabetical-letter position-label as a "wild-card" to represent an alphabetical letter occurs only in the human mind and bears no functional relationship to the structure of the lock. *See* A7. Accordingly, characterizing the non-alphabetical-letter position-label as a "wild-card" does not patentably distinguish the claimed invention from the prior art. *See Gulack*, 703 F.2d at 1385.

Xiao further argues that this case cannot be distinguished from *In re Miller*, 418 F.2d 1392 (CCPA 1969), another case involving printed matter. Br. at 21-22. The claims in *Miller* were directed to a measuring cup that allowed a person to make a fraction of a recipe. 418 F.2d at 1394. Printed on the cup were volumetric indicia that indicated volume in a certain ratio to actual volume and a legend that indicated the ratio. *Id.* The indicia were described as “false labels” because, taken literally, they specified a different amount than was actually being measured. *Id.* The Court concluded that the claims would not have been obvious because there was a new and unobvious functional relationship between the printed matter (i.e., the volumetric indicia and the legend) and the substrate (i.e., the cup), resulting in a special purpose measuring cup. *Id.* at 1396.

Contrary to Xiao’s assertion, the instant case is readily distinguishable from *Miller*. Before the Board, Xiao argued that the wild-card position-label is analogous to the “false label” in *Miller* because the wild-card is also literally “false,” e.g., a “*” representing an alphabetical letter. *See* A154. This factual similarity, however, does not support Xiao’s position. The basis for the Court’s decision in *Miller* was not the false label itself but the existence of a new and unobvious functional relationship between the false label and the measuring cup.

418 F.2d at 1396. In contrast, as discussed above, there is no new and unobvious functional relationship between the wild-card position-label and the lock in Xiao's claimed invention.

Xiao also takes issue with the Board's assertion that what constitutes a wild card is a distinction that is discernible only to the human mind. Br. at 21-23; A6; A7. In alleging that the Board has created a new "mental distinction" doctrine, Br. at 23, Xiao fails to recognize that the Board made this statement in the context of determining whether there is a new and unobvious functional relationship between the wild-card position-label and the lock. As explained above, the "wild-card" aspect of the non-alphabetical-letter position-label (i.e., that the wild card can represent any letter when a user spells a password) exists only in the user's mind and is not functionally related to the structure of the lock. The Board's analysis is consistent with cases in which printed matter that is "useful and intelligible only to the human mind," *In re Lowry*, 32 F.3d 1579, 1583 (Fed. Cir. 1994) (internal quotation marks and citation omitted), does not impart patentability because it lacks a new and unobvious functional relationship with the underlying structure. *See Ngai*, 367 F.3d at 1339 (holding that a new set of instructions for a known kit does not impart patentability); *see also In re Bryan*, 323 Fed. Appx. 898, 901 (Fed. Cir.

2009) (non-precedential) (holding that printed matter on game cards bears no new and unobvious functional relationship to game board).

D. Xiao's Remaining Arguments Fail to Demonstrate Error in the Obviousness Rejection

1. The Board Did Not Rely on Impermissible Hindsight

Xiao argues that the Board improperly used hindsight reasoning to substitute a non-alphabetical-letter position-label for an alphabetical-letter position-label in Gray. Br. at 10-11, 15, 17. Her argument appears to focus on the Examiner's observation, echoed by the Board, that any one of the twenty-six letters in Gray's lock could be used as a "wild card." A134; A180-181; A6; A7-8. Xiao describes this as a "hindsight modification or hindsight variation" of the claimed invention. Br. at 10-11, 17. Xiao also alleges that the Board relied on hindsight reasoning when it asserted that "any printed matter, letter, figure, number, other mark or blank space may serve as a 'wild-card.'" Br. at 22; A7.

Xiao misapprehends the context in which the Examiner and the Board made these statements. The Examiner's comment was part of an explanation as to why the wild-card position-label is printed matter, which in this case, as discussed above, does not patentably distinguish the claimed invention over the prior art. *See* A134; A138; A180-181. Similarly, the Board asserted that any printed matter can serve as a wild card to illustrate why use of the

non-alphabetical-letter position-label as a “wild-card” occurs only in the human mind and therefore is not functionally related to the structure of the lock. A7. Thus, the Examiner and the Board made these statements to show why printed matter—the wild-card position-label—does not render the claimed invention nonobvious, not to explain why it would have been obvious to substitute a non-alphabetical-letter position-label for an alphabetical-letter position-label.

To the extent Xiao contends that the Board improperly used hindsight because there is no apparent reason for substituting a non-alphabetical-letter position-label for one of the alphabetical-letter position-labels in Gray, *see* Br. at 11, Xiao is mistaken. The Board found that it was known in the art to use non-alphabetical-letter position-labels on combination locks and that Fiegenger expressly teaches the use of a combination of letters and symbols as position indicia. A5 (Fact 3). Thus, Fiegenger itself suggests substituting a non-alphabetical-letter position-label for an alphabetical-letter position-label in Gray.

2. The Board’s Decision is Consistent with *KSR*

Xiao asserts that the Board’s alleged “mental distinction” doctrine is “not in consonance with the principles of *KSR*.” Br. at 21, 23. Because Xiao does not elaborate on this point, the issue is deemed waived. *See SmithKline Beecham Corp. v. Apotex Corp.*, 439 F.3d 1312, 1320 (Fed. Cir. 2006) (“When

a party includes no developed argumentation on a point . . . we treat the argument as waived under our well established rule.” (quoting *Anderson v. City of Boston*, 375 F.3d 71, 91 (1st Cir. 2004))). In any event, as discussed above, the Board’s determination that the wild-card is “discernible only to the human mind” comports with established case law regarding printed matter.

To the extent Xiao contends that other aspects of the Board’s decision are inconsistent with *KSR*, those arguments fall short. First, Xiao argues that the Board erred in describing the claimed invention as “merely the substitutions of elements known to be interchangeable.” Br. at 12-13 (quoting A5-6). She argues instead that the claimed apparatus should more accurately be regarded as a “combination of elements.” Br. at 12-13. However, recharacterizing the claimed lock as a combination of elements does not help Xiao. Under *KSR*, both the “substitution of one element for another known in the field” and the “combination of familiar elements according to known methods” are likely to be obvious when they do “no more than yield predictable results.” 550 U.S. at 416. Accordingly, it makes no difference whether Xiao’s claimed lock is a substitution of an element in Gray with a known element from Fiegenger or a combination of prior art elements from Gray and Fiegenger. In either case, under

KSR the claimed invention would have been obvious to a person of ordinary skill in the art.

Next, Xiao argues that there was no reason “to combine the [prior art] elements in the way the claimed invention does.” Br. at 13 (quoting *KSR*, 550 U.S. at 418). As noted above, however, Fiegenger suggests the combination of alphabetical-letter position-labels and a non-alphabetical-letter position-label. Furthermore, the desire to improve Gray by making it smaller (“an alteration in the size of Gray’s device,” A6) provides the motivation for modifying Gray to include only one blank space (a non-alphabetical-letter position-label) and multiple alphabetical-letter position-labels. See *Leapfrog Enters., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007) (“[O]ne of ordinary skill . . . would have found it obvious to combine [prior art elements] . . . in order to gain the commonly understood benefits of such adaptation, such as decreased size, increased reliability, simplified operation, and reduced cost.”).

Xiao further alleges that the claimed invention is not a “predictable use of prior art elements according to their established function[s].” Br. at 24 (quoting *KSR*, 550 U.S. at 417). This argument has two components, neither of which has merit. First, Xiao argues that the non-alphabetical symbol in her lock performs more than its “established function” because it enables a user to select

any word as the password for the lock. *Id.* Xiao also describes this as a “synergy effect.” Br. at 19, 21. With respect to the operation of the lock, however, the non-alphabetical symbol performs its established function of indicating the position of a tumbler ring. As discussed earlier, the selection of a word as a “password” for opening the lock occurs only in the user’s mind and is not functionally related to the lock. Moreover, the user’s ability to select a password does not appear in the language of the claims.

Second, Xiao argues that the claimed combination lock “involves ‘more than the predictable use of prior art elements’ because the number of possible combinations that can be derived from the references is so large as to render the claimed combination unpredictable.” Br. at 24 (quoting *KSR*, 550 U.S. at 417). Although a combination lock may have numerous possible “combinations” of alphabetical-letter position-labels and non-alphabetical-letter position-labels, the claimed invention is nevertheless a combination of a small, finite number of prior art elements—the structural elements and alphabetical-letter position-labels of Gray combined with one blank position-label from Gray or a non-alphabetical-letter position-label from Fiegener. *See* A5-6. There is nothing “unpredictable” about combining these elements to create a lock with multiple

alphabetical-letter position-labels and one non-alphabetical-letter position-label on each tumbler ring. *See id.*

Finally, Xiao argues that the Board erred in relying on a “per se” rule. Br. at 18 (citing Examination Guidelines Update: Developments in the Obviousness Inquiry After *KSR v. Teleflex*, 75 Fed. Reg. 53,643, 53,645 (Sept. 1, 2010)). The Guidelines caution against treating any line of reasoning or legal precedent as a per se rule without sufficient explanation. 75 Fed. Reg. at 53,645. Xiao, however, does not identify a particular legal rule that the Board misapplied. In any event, the Board properly supported its decision by explaining the applicability of legal principles to the facts of the case as required by the Guidelines. *See id.*

3. There Is No Evidence of Secondary Considerations in the Record

Xiao appears to argue at various points in her brief that the Board erred by not considering certain objective evidence of nonobviousness. These arguments are not persuasive.

First, Xiao argues that the claimed invention achieves “new and unexpected results.” Br. at 14, 25-26. As an initial matter, Xiao did not argue to the Board that the claimed lock creates new and unexpected results and therefore

this argument is waived.⁷ *See In re Watts*, 354 F.3d 1362, 1367 (Fed. Cir. 2004) (explaining that “it is important that the applicant challenging a decision not be permitted to raise arguments on appeal that were not presented to the Board”). Even if this Court were to consider this new argument, the record is devoid of any actual evidence of unexpected results. Accordingly, Xiao’s argument fails for lack of evidentiary support. *See In re Geisler*, 116 F.3d 1465, 1470 (Fed. Cir. 1997 (“[I]t is well settled that unexpected results must be established by factual evidence.”)).

Xiao also alleges that there has been a long-felt need for the claimed invention. Br. at 14 (“Appellant’s lock as claimed solved a long-standing, but not well-known, problem”). This argument also must fail for lack of evidentiary support because the record contains no actual evidence that the claimed invention satisfies a long-felt need. *See In re Kahn*, 441 F.3d 977, 990 (Fed. Cir. 2006) (“[P]recedent requires that the applicant submit actual evidence of long-felt need, as opposed to argument.”).

Finally, Xiao argues that the Board erred in not considering the Examiner’s alleged repetitive failure to appreciate the advantages of the claimed invention. Br. at 16. To the contrary, the Board correctly stated that “even if

⁷ Xiao had legal representation when her appeal brief to the Board was filed.

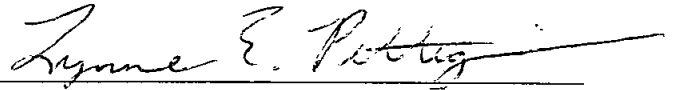
true, the alleged lack of appreciation of the advantages of the invention by the Examiner would not provide any objective evidence of nonobviousness because the objective standard for determining obviousness is based upon a hypothetical person of ordinary skill in the art, not a particular Examiner.” A6. Even if the Board had considered the Examiner’s alleged lack of appreciation, it would have carried little weight, as Xiao admits, Br. at 16, and would have been insufficient to rebut the Examiner’s prima facie case of obviousness.

VI. CONCLUSION

The Board's decision that the claimed invention would have been obvious is supported by substantial evidence and is in accordance with law. This Court should affirm.

May 27, 2011

Respectfully submitted,



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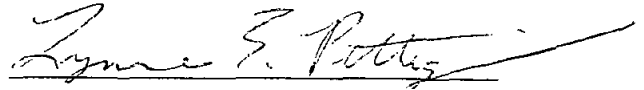
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CERTIFICATE OF SERVICE

I certify that on May 27, 2011, I caused two copies of the foregoing BRIEF
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OFFICE to be sent by first-class mail to:

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A handwritten signature in cursive script, reading "Lynne E. Pettigrew", written over a horizontal line.

Lynne E. Pettigrew
Associate Solicitor