IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ARISTOCRAT TECHNOLOGIES, INC., Petitioner,

V.

IGT, Patent Owner.

Case No. To Be Assigned Patent No. 6,913,532

PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 6,913,532 UNDER 35 U.S.C. §§311–319 AND 37 C.F.R. §42.100 et seq.

LIST OF EXHIBITS

Exhibit	Description	
Ex. 1001	U.S. Patent No. 6,913,532 (the "'532 patent")	
Ex. 1002	File History for U.S. Patent No. 6,913,532	
Ex. 1003	U.S. Patent No. 6,491,584 ("Graham")	
Ex. 1004	U.S. Patent No. 6,648,758 ("Bennett")	
Ex. 1005	World of Slots '99, Casino Journal, September 1999 ("WOS")	
Ex. 1006	INTENTIONALLY LEFT BLANK	
Ex. 1007	Declaration of Stacy A. Friedman	
Ex. 1008	Curriculum vitae of Stacy A. Friedman	
Ex. 1009	Slots For a New Millennium, Casino Player (1999)	
Ex. 1010	Something Fishy, Strictly Slots, Dec. 1998	
Ex. 1011	INTENTIONALLY LEFT BLANK	
Ex. 1012	John Grochowski, The Slot Machine Answer Book (1999)	
Ex. 1013	Latest Game Releases, NewsReel, Issue One 2001	
Ex. 1014	INTENTIONALLY LEFT BLANK	
Ex. 1015	INTENTIONALLY LEFT BLANK	
Ex. 1016	INTENTIONALLY LEFT BLANK	
Ex. 1017	INTENTIONALLY LEFT BLANK	
Ex. 1018	INTENTIONALLY LEFT BLANK	
Ex. 1019	INTENTIONALLY LEFT BLANK	
Ex. 1020	Declaration of Scott Bennett	
Ex. 1021	Attachment A to Bennett Declaration (Ex. 1020): Curriculum	
	vitae of Scott Bennett	
Ex. 1022	Attachment 1a to Bennett Declaration (Ex. 1020): Statewide	
	Illinois Library Catalog Record for Casino Journal	
Ex. 1023	Attachment 1b to Bennett Declaration (Ex. 1020): University of	
	Central Florida Library catalog record for Casino Journal	
Ex. 1024	Attachment 1c to Bennett Declaration (Ex. 1020): Copy of	
	"World of Slots '99" from the University of Central Florida	
7 105 -	Library	
Ex. 1025	Attachment 1d to Bennett Declaration (Ex. 1020): Copy of	
	"World of Slots '99" from Northeastern State University Library	

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Ground I: Claims 1-20 Are Invalid Under 35 U.S.C. §103 As

B.

I. MANDATORY NOTICES (37 C.F.R. §42.8(A)(1))

A. Real Party-In-Interest (37 C.F.R. §42.8(b)(1))

The real parties in interest for this petition for *Inter Partes* Review ("IPR") are Aristocrat Technologies, Inc. ("Petitioner"); Aristocrat International Pty Ltd.; Aristocrat Technologies Australia Pty Ltd.; and Aristocrat Leisure Limited.

B. Related Matters (37 C.F.R. §42.8(b)(2))

U.S. Patent No. 6,913,532 ("the '532 Patent") is currently the subject of litigation against Petitioner in the District of Nevada, captioned *IGT v. Aristocrat Technologies, Inc.* (Civil Action No. 2:15-cv-00473).

C. Lead and Backup Counsel (37 C.F.R. §42.8(b)(3))

Petitioner designates Andrea G. Reister (Reg. No. 36,253, areister@cov.com) as lead counsel and Jay I. Alexander (Reg. No. 32,678, jalexander@cov.com) as back-up counsel, both of Covington & Burling LLP, One CityCenter, 850 Tenth Street, NW, Washington, DC 20001 (postal and hand delivery), telephone: 202-662-6000, facsimile: 202-662-6291.

D. Service Information (37 C.F.R. §42.8(b)(4))

Service information is provided in the designation of counsel above. A power of attorney is submitted with this Petition. Counsel for Petitioner consents to service of all documents via electronic mail.

II. FEES (37 C.F.R. §42.103)

The undersigned authorizes the Office to charge \$25,000 (\$9,000 request fee and \$16,000 post-institution fees) to Deposit Account No. 50-0740 for the fees set forth in 37 C.F.R. §42.15(a) for this Petition for *Inter Partes* Review. The undersigned further authorizes payment for any additional fees that might be due in connection with this Petition to be charged to this Deposit Account.

III. REQUIREMENTS FOR INTER PARTES REVIEW UNDER 37 C.F.R. §42.104

A. Grounds for Standing (37 C.F.R. §42.104(a))

Pursuant to 37 C.F.R. §42.104(a), Petitioner certifies that the '532 Patent is available for *Inter Partes* Review ("IPR"), and that Petitioner is not barred or estopped from requesting an IPR challenging the '532 Patent on the grounds identified below.

B. Citation of Prior Art

Exhibit	Reference	Publication	Availability	
		or Filing Date	as Prior Art	
Ex. 1003	U.S. Patent No. 6,491,584	Filed March	§102(e)	
	("Graham")	29, 2001		
Ex. 1004	U.S. Patent No. 6,648,758	Filed July 25,	§102(e)	
	("Bennett")	2001		
Ex. 1005	World of Slots '99, Casino Journal,	Published	§§102(a)&(b)	

September 1999 ("World of Slots")	Sept. 1999	

C. Claims and Statutory Grounds (37 C.F.R. §§42.104(b)(1) & (b)(2))

The relief requested by Petitioner is that claims 1–20 of the '532 Patent be found unpatentable and cancelled on the following ground.

Ground	Claims	Basis
Ι	1-20	Under 35 U.S.C. §103 as obvious over the combination of
		Graham, Bennett, and World of Slots

D. Unpatentability of the Construed Claims (37 C.F.R. §42.104(b)(4))

An explanation of how Claims 1–20 of the '532 Patent are unpatentable under the statutory ground(s) identified above, is provided in §VI, below.

E. Supporting Evidence (37 C.F.R. §42.104(b)(5))

The exhibit numbers of the supporting evidence relied upon to support the challenge and the relevance of the evidence to the challenge raised, including identifying specific portions of the evidence that support the challenge, are provided below. An Exhibit List with the exhibit numbers and a brief description of each exhibit is set forth above.

IV. BACKGROUND ON SLOT MACHINES

Traditionally, game designers often focused on gameplay, including the use of various "bonus games" (or "secondary games"), as a means for differentiating a gaming device from the competition. Ex. 1007, ¶¶14–23. To attract players,

designers often imitated popular gameplay elements and incorporated them into new gaming devices. *Id*.

One earlier type of game, often referred to as "Australian-style slots" because of its origin, offered scatter pays, second screen bonuses, multiple paylines, and allowed multiple coins to be bet per payline. *Id.*, ¶21–22, 89; Ex. 1012, 65; Ex. 1005, 62. For example, Aristocrat's highly successful line-up of second screen bonus games included "Indian Dreaming" and "Queen of the Nile." Ex. 1007, ¶21–22. Both were multiple payline video slot games with themes; for example, "Queen of the Nile" had an ancient Egypt/Cleopatra theme and offered a base game where the Cleopatra symbol was a "wild" symbol. *Id.* The games also offered a free-spin bonus game in which the bonus game could be re-triggered (additional spins awarded) if a specified number of scattered pyramid symbols appeared. *Id.*

V. SUMMARY OF THE '532 PATENT

A. Overview of the '532 Patent

The '532 Patent (Ex. 1001), which issued on July 5, 2005, is entitled "Gaming Device Having a Re-Triggering Symbol Bonus Scheme." The '532 Patent was filed as U.S. Patent Application No. 09/981,133 on October 15, 2001. Thus, publications made public before October 15, 2000 are prior art under 35 U.S.C. §102(b). Further, U.S. patents that issued from a U.S. application before October 15, 2001 are prior art under 35 U.S.C. §102(e).

The '532 Patent is directed to a "gaming device." Ex. 1001, Title. As used in the patent, "gaming device" is a broad term that includes, among other things, video slot machines in which a player places a wager and then "spins" virtual reels—depicted by simulated movement of a reel on a video screen under the control of a processor—and receives awards if the reels display certain predefined symbol combinations when the reels stop. Ex. 1007, ¶¶27–28; *see* Ex. 1001, 3:4–19.

The initial reel spin is called the "primary" or "base" game. Ex. 1007, ¶¶27–28, 31. The '532 Patent describes prior art gaming machines that also included secondary or "bonus" games that differed from the primary game. *See* Ex. 1001, 1:28–32; Ex. 1007, ¶¶29–30, 32.

The goal of the '532 Patent is to provide "players with new and different gaming devices with new and different bonus schemes for the enjoyment and entertainment of players." Ex. 1001, 1:33–35. As the specification notes, "[i]n many [then presently available] games, a triggering event such as a symbol or combination of symbols yield one or more opportunities or chances in a bonus or secondary game, which is played in addition to the base game." *Id.*, 1:28–32. The purported innovation concerns the retriggering of a bonus game from within that bonus game. *Id.*, 2:21–23 ("It is therefore an advantage of the present to provide a gaming device having a re-triggering symbol bonus scheme."). The "present

invention" is directed to making the retriggering event "more likely to occur in the bonus game" than the initial triggering event in the base game. *Id.*, 1:59–65.

B. Person of Ordinary Skill in the Art

A person of ordinary skill in the art of the '532 Patent at the time of the alleged invention ("POSA") would have had at least three to five years of experience with designing and developing gaming device systems with electronic video displays. Ex. 1007, ¶13. A POSA's experience also would include working with a multi-disciplinary team including creative artists, mechanical and electrical engineers, design and regulatory specialists to develop a working, approvable gaming device. *Id*.

VI. THERE IS A REASONABLE LIKELIHOOD THAT PETITIONER WILL PREVAIL WITH RESPECT TO AT LEAST ONE CLAIM OF THE '532 PATENT

The subject matter of claims 1–20 of the '532 Patent is disclosed and taught in the prior art as explained below. The references and combinations utilized in Ground I render obvious each of claims 1–20 under 35 U.S.C. §103 and provide a reasonable likelihood that the Petitioner will prevail on at least one claim. 35 U.S.C. §314(a).

A. Prior Art

Paragraphs 14–26 of the Friedman Declaration, Ex. 1007, describe the state of the art in the gaming industry before October 2001. As that discussion and the prior art make clear, the purported innovation of the '206 Patent was well known

before the patent was filed. A discussion of the disclosures of the key prior art relied upon follows.

1. Graham (Ex. 1003)

Graham was filed on March 29, 2001 and issued on December 10, 2002. The examiner cited Graham during prosecution of the '532 Patent, but did not raise or resolve the same issues presented in this Petition. *See* Ex. 1002. Graham qualifies as prior art under at least pre-AIA 35 U.S.C. §102(e).

Graham describes a gaming machine wherein a "trigger condition" in the base game such as "the appearance of three scatter symbols anywhere on the display means" awards an "initial series of free games" along with a "bonus feature." Ex. 1003, 1:29–45, 2:24–25. Graham discloses that "any types of base games [can be] played on a gaming machine" but that "the invention would be particularly applicable in respect of spinning reel-type base games[.]" *Id.*, 2:16–20. Graham also explains that the "initial series of free games" may be, for example, ten free games. *Id.*, 3:7–10. During the initial series of free games, if another trigger condition occurs, a subsequent series of free games including a bonus feature is awarded and implemented immediately. *Id.*, 1:29–45.

A "trigger condition" triggers both the initial series of free games and subsequent series of free games. *Id.*, 1:36–40, 2:21–22. Graham explains that "[t]he trigger condition which triggers the subsequent and any further series of free games *is*

the same as the trigger condition which triggered the initial series of free games." *Id.*, 2:21–23 (emphasis added). Graham further explains that the frequency of the "trigger condition" can be "adjusted as necessary or required" by "changing the length or layout of the reel strips." *Id.*, 3:59–64. For example, the "trigger frequency may decrease for at least some of the series of free games by changing the length or layout of the reel strips." *Id.*

2. Bennett (Ex. 1004)

Bennett was filed on July 25, 2001, and issued on November 18, 2003. Bennett qualifies as prior art under at least pre-AIA 35 U.S.C. §102(e). Bennett was not considered during prosecution of the '532 Patent.

Bennett is directed to a spinning reel-type game. Ex. 1004, 3:28–34. Bennett discloses a free spin bonus game that is triggered during the base game. *See id.*, 1:29–45. The base game in Bennett is "typically a video reel game (a video simulation of spinning reels)[.]" *Id.*, 3:66–4:1. The bonus game may be triggered by the "occurrence of a predetermined combination of symbols on the display" such as "a specific picture symbol on the first reel and a different specific picture symbol on the last reel." *Id.*, 4:1–17. In one embodiment, Bennett discloses that when the bonus game is triggered, "the player may choose to add extra symbols to the [bonus] feature games that *did not appear in the base game*." *Id.*, 4:65–67 (emphasis added). In another embodiment, Bennett discloses that

players "may alter the quantity of a certain symbol that appears on the virtual reels of the video reel game." *Id.*, 5:1–3.

3. World of Slots '99 ("WOS") (Ex. 1005)

WOS is an article published in the September 1999 edition of Casino Journal magazine. Ex. 1005, 56. Among other games, WOS describes an Aristocrat game called "Queen of the Nile" that included a re-triggering feature. Ex. 1005, 62; Ex. 1007, ¶67–74.

WOS indicates a publication date of September 1999. Ex. 1005, 1. In addition, the cover page and table of contents of the copy included as Exhibit 1005 bears a stamp of the University of Central Florida Library ("UCFL") dated October 4, 1999. *Id.*, 1–2. The cover page also bears an address label to UCFL, as well as a stamp identifying the document as "Presorted and Printed Matter" that had "US Postage Paid" in Las Vegas Nevada under Permit #2543. *Id.* These indicia on the face of the magazine indicate that WOS was published more than one year before the effective priority date of the '532 Patent, and thus WOS is prior art under both pre-AIA 35 U.S.C. §§102(a)&(b). WOS was not considered during prosecution of the '532 Patent.

Moreover, the Bennett Declaration (Ex. 1020) provides "competent evidence" to show that WOS qualifies as a "printed publication" under pre-AIA 35 U.S.C. §102. *In re Hall*, 781 F.2d 897, 899 (Fed. Cir. 1986); Ex. 1020, ¶19–27.

A reference is a "printed publication" if it was publicly accessible to persons concerned with the art to which the document relates. See In re Wyer, 655 F.2d 221, 227 (C.C.P.A. 1981). A reference is publicly accessible "upon a satisfactory showing that such document has been disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence, can locate it." Kyocera Wireless Corp. v. Int'l Trade Comm'n, 545 F.3d 1340, 1350 (Fed. Cir. 2008). One way of showing public accessibility is by pointing to "competent evidence of the general library practice" to establish an approximate time when a reference became available to the public. Hall, 781 F.2d at 899. For example, evidence of receiving, date-stamping, cataloguing, and shelving an item may be reliable proof in determining whether a document is a publicly accessible "printed publication." *In re NTP, Inc.*, 654 F.3d 1279, 1295 (Fed. Cir. 2011).

Exhibit 1005 (also Exhibit 1024) includes a library date stamp indicating that the September 1999 issue of Casino Journal was processed by the UCFL on October 4, 1999. Ex. 1020, ¶23–24. The stamp indicates that the September 1999 issue of Casino Journal was mailed to the UCFL before October 4, 1999, and became accessible no later than mid-October 1999. *Id.*, ¶25. Further, there is sufficient evidence of cataloguing and indexing of this issue by UCFL and several other libraries. *Id.*, ¶20–21.

B. Ground I: Claims 1-20 Are Invalid Under 35 U.S.C. §103 As Obvious Over the Combination of Graham, Bennett, and World of Slots

Independent claims 1, 5, 7, 13, and 17 generally require that the bonus triggering event or combination occur more frequently (*e.g.*, "more likely to occur," "having a likelihood of occurrence which is greater," "occurs more frequently") in the bonus game than in the base game. Independent claim 6 requires that at least one re-trigger of the entire secondary game or at least one additional spin of the secondary game be provided to the player when less than the number of symbols required to trigger the bonus game is displayed in the secondary game. As explained below, claims 1–20 would have been obvious over the combination of Graham (Ex. 1003), Bennett (Ex. 1004), and World of Slots (Ex. 1005).

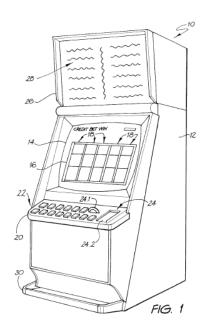
1. Claim 1

[1 preamble] "A gaming device comprising:"

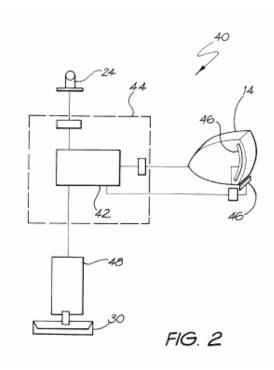
[1a] "a processor;"

Graham discloses these limitations because it discloses a gaming machine containing a memory device that stores instructions that allow a processor to operate with a display device and an input device. Graham describes a "gaming machine" and "[m]ore particularly ... an improvement to a game played on such a gaming machine." Ex. 1003, 1:6–9. This gaming machine includes "a display means and a

game control means arranged to control images displayed on the display means." *Id.*, 1:29–31. Figure 1 (below) of Graham discloses a gaming machine 10 which "includes a console 12 having a video display unit 14 on which a game 16 is played[.]" *Id.*, 2:39–42. Therefore, Graham discloses "a gaming device" as recited in the claim preamble. Ex. 1007, ¶35–38.



Graham also describes (and shows in Figure 2) a "processor 42" which "forms part of a controller 44 which drives the screen of the video display unit 14 and which receives input signals from sensors 46," including "sensors associated with the bank 22 of buttons and touch sensors mounted in the screen." Ex. 1003, 2:57–61. Graham discloses that "processor 42" runs "[a] program which implements the game and user interface[.]" *Id.*, Figure 2, 2:55–57. Graham therefore discloses "a processor" as required by limitation [1a]. Ex. 1007, ¶35–36, 38.



[1b] "a primary game controlled by the processor"

Graham discloses this limitation because it describes a "base game" (another term for "primary game", Ex. 1007, ¶39) displayed on a video display unit 14. Ex. 1003, 2:16–17, 2:42–44, 3:7–9. Graham also describes (and shows in Figure 2) a "processor 42" which "drives the screen of the video display unit 14." *Id.*, 2:57–58. Therefore in Graham, the processor drives the video display unit which displays the play of the primary game. Ex. 1007, ¶35–36, 38.

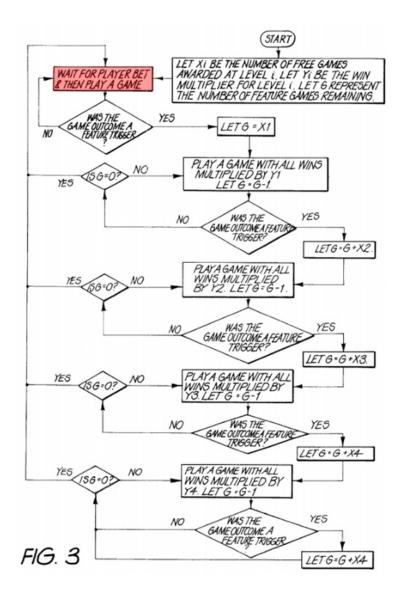


Figure 3 (reproduced here and colorized to highlight particular aspects) is a flowchart that indicates that the base game is played only upon placing of a wager by the player. Ex. 1003, Fig. 3 ("wait for player bet & then play a game"); Ex. 1007, ¶39. The base game may include "any type[] of base game[] played on a gaming machine" including a "spinning reel-type base game[.]" Ex. 1003, 2:16–20. A POSA would further understand that the primary game in Graham is controlled by a "processor 42" which runs "[a] program which implements the game and user

interface[.]" Ex. 1003, Figure 2, 2:55–57; Ex. 1007, ¶38. A POSA would understand that the program run on Graham's processor implements the primary game. *Id*.

[1c] "a secondary game controlled by the processor"

Graham discloses this limitation because it describes an "initial series of free games" that can be triggered by "the appearance of three scatter symbols anywhere on the display means." Ex. 1003, 1:29–45, 2:24–25. A POSA would understand that the "initial series of free games" is the secondary game. Ex. 1007, ¶41. A POSA would further understand that the secondary game in Graham is controlled by a "processor 42" which runs "[a] program which implements the game and user interface[.]" Ex. 1003, Figure 2, 2:55–57; Ex. 1007, ¶38.

[1d] "a secondary game triggering event in the primary game which triggers the secondary game; and"

Graham discloses this limitation because it describes a gaming machine wherein a "trigger condition" in the base game such as "the appearance of three scatter symbols anywhere on the display means" awards an "initial series of free games" along with a "bonus feature." Ex. 1003, 1:29–45, 2:24–25. A POSA would understand that the "initial series of free games" is the secondary game, and that the "three scatter symbols" is a secondary game triggering event in the primary game. Ex. 1007, ¶41, 43. Graham explains that the secondary game may be "ten free games." *See* Ex. 1003, 3:5–10; Ex. 1007, ¶41.

[1e] "a secondary game re-triggering event in the secondary game which retriggers the entire secondary game, wherein the secondary game re-triggering event in the secondary game is more likely to occur in the secondary game than the secondary game triggering event in the primary game."

Graham alone or in combination with WOS discloses this limitation because it discloses that the entire secondary game may be re-triggered during play of the secondary game and that the re-triggering event which re-triggers the secondary game is more likely to occur than the secondary game triggering event in the primary game. As a starting point, Graham explains that "[if] during the initial series of free games, another trigger condition arises, a subsequent series of free games ... is awarded[.]" Ex. 1003, 1:38–40. The "trigger condition" can be "three scatter symbols anywhere on the display means." *Id.*, 2:24–25; Ex. 1007, ¶43.

Further, Graham discloses that the entire secondary game may be re-triggered in the secondary game. Graham first discloses that "ten free games are awarded in the initial series of free games[,]" Ex. 1003, 3:9–10, when "three scatter symbols [appear] anywhere on the display means." *Id.*, 2:24–25; Ex. 1007, ¶57. Graham further discloses that "[if] during the initial series of free games, another trigger

¹ Petitioner maintains that this limitation is subject to multiple interpretations. Petitioner reserves the right to challenge this limitation as indefinite under 35 U.S.C. §112(2) in a different forum.

condition arises, a *subsequent series of free games* ... is awarded[.]" Ex. 1003, 1:38–40 (emphasis added). The "subsequent series of free games" equals "ten free games[,]" which is the same number of free games as the "initial series of free games[.]" *Id.*, 3:28–32; Ex. 1007, ¶57. Because both the initial and re-triggered bonus games includes "ten free games[,] Graham discloses that the *entire* secondary game may be re-triggered in the secondary game. *Id*.

A POSA would have found it obvious to make the re-triggering event in the secondary game more likely to occur in the secondary game than the secondary game triggering event in the primary game because Graham teaches that the "likelihood of getting a trigger condition" can be "adjusted as necessary or required." Ex. 1003, 3:63–64. For example, Graham teaches that the "trigger frequency may *decrease* ... by changing the length or layout of the reel strips." *Id.*, 3:59–61 (emphasis added). A POSA would understand that the same task of "changing the length or layout of the reel strips" may also be used to *increase* the "trigger frequency[.]" Ex. 1007, ¶¶48, 58.

A re-triggering event in the secondary game may be "more likely to occur" (*i.e.*, the frequency may increase), less likely to occur (*i.e.*, the frequency may decrease), or equally likely to occur (*i.e.*, the frequency stays the same) relative to the triggering event in the primary game. *Id.* A POSA would have good reason to choose from among these finite options by changing the length or layout of the reel

strips as taught by Graham. *See* Ex. 1003, 3:59–61 (emphasis added). Doing so would be well within the technical grasp of a POSA, who would find no need for undue experimentation in implementing any of these options. Ex. 1007, ¶48, 58. The POSA would encounter little technical difficulty in modifying the gaming system disclosed in Graham because Graham's game is controlled by a "processor 42" that runs "[a] program which implements the game and user interface[.]" Ex. 1003, 2:55–57. A POSA would expect to successfully change the game programming to implement the feature because such programming skills are within the ordinary level of skill in the art. Ex. 1007, ¶48, 58.

The choice among these options therefore would have been obvious. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 402–03 (2007) ("[W]hen there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions, a [POSA] has good reason to pursue the known options within the POSA's technical grasp. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense."). The three options can reasonably be defined as a small and easily traversed. *See Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc.*, 520 F.3d 1358, 1364 (Fed. Cir. 2008) ("*KSR* posits a situation with a finite, and in the context of the art, small or easily traversed, number of options that would convince an ordinarily skilled artisan of obviousness.").

In particular, a POSA would be motivated to increase the frequency of the

"trigger condition" as claimed because one way for a game manufacturer to increase player interest is to configure the re-triggering condition in the bonus game such that the bonus game re-triggers more frequently, thereby increasing excitement and enjoyment for players, who tend to favor games that appear to provide larger or more frequent bonus payouts. Ex. 1007, ¶¶48, 58. Such a modification would be consistent with Graham's stated goal of "develop[ing] innovative game features which add interest to the games," Ex. 1003, 1:12–15, and is one of the "numerous variations and/or modifications [that] may be made to the invention . . . without departing from the spirit or scope of the invention." *Id.*, 4:1–5; Ex. 1007, ¶¶48, 58.

Moreover, Graham's disclosure that the "trigger frequency may decrease ... by changing the length or layout of the reel strips[,]" suggests that a POSA would modify the reel strips to increase the trigger frequency because the process of modifying the reel strips to decrease the probability of a re-triggering event is similar to the process of modifying the reel strips to increase the probability. Ex. 1003, 3:59–61; Ex. 1007, ¶48, 58. There is no suggestion in Graham that modifying the reel strips to adjust the probabilities in either direction by changing the length or layout would pose any difficulties. *Id.*, ¶48, 58. A POSA would implement this modification by adding or deleting symbols on the virtual reel strips used in the bonus game programming, a task routinely done by game designers to add flexibility to the bonus games. *Id.* For example, by removing non-triggering symbols from the

bonus game reel strips, the triggering symbols would appear more frequently during the bonus game than in the base game. *Id.*. Similarly, by adding triggering symbols to the bonus game reel strips, the triggering symbols would appear more frequently during the bonus game than in the base game. *Id.*.

It would be obvious to combine Graham with WOS to meet this limitation. WOS describes a video slot machine game manufactured by Aristocrat called "Queen of the Nile." Ex. 1005, 62. In "Queen of the Nile," "three or more scattered Pyramid symbols send the game into 15 free spins[.]" *Id.* WOS further teaches that "three or more Pyramids during [the] free spin mode adds another 15 free spins[,]" *Id.* A POSA reviewing WOS would find it obvious to modify Graham such that the initial bonus game may be triggered by four or five scattered Pyramid symbols and the re-triggered bonus game may be triggered by three, four, or five scattered Pyramid symbols. Ex. 1007, ¶82. In this scenario, the re-triggering condition would be more likely to occur than the triggering condition because there is a higher likelihood of obtaining, for example, three scatter symbols than four or five scatter symbols. *Id.*

A POSA also would have reason to combine the references because game manufacturers were incentivized to draw upon the success of other games and their gameplay when developing gaming devices. *Id.*, ¶¶83–84. Game designers were constantly looking for exciting gameplay options to hold the interest of players and

entice players to play again. *Id.* Described as an "interesting twist" in a leading trade publication, the feature in "Queen of the Nile" awarding additional free spins (*i.e.* re-triggering) during the bonus game when "three or more Pyramids" appear would stand out to a POSA as an attractive gameplay option that should be combined with Graham. Ex. 1005, 62; Ex. 1007, ¶83–84. This feature in "Queen of the Nile" would help attract players excited by this feature to the game, and the POSA would expect success in incorporating this feature. Ex. 1005, 62; Ex. 1007, ¶83–84.

This modification might require changes to the math model of the game to ensure that the game remained profitable to the operator. Ex. 1007, ¶¶83–84. Developing a math model, however, is a routine process that is accomplished during the development of every gaming device. *Id*.

2. Claim 2

[2] "The gaming device of claim 1, wherein the secondary game re-triggering event in the secondary game and the secondary game triggering event in the primary game employ at least one of the same triggering symbols."

Graham discloses claim 1 as described in §VI.B.1. Graham further discloses this limitation. Graham discloses that the "trigger condition" consisting of "three scatter symbols" which triggers the initial bonus game is the same as the "trigger condition" which triggers the "subsequent and any further series" of bonus games. Ex. 1003, 2:21–25; Ex. 1007, ¶56. Further, in one embodiment of Graham, "[i]f,

during any one of the free games of the initial series of free games, the *same* trigger condition arises, a subsequent series of free games is awarded." Ex. 1003, 3:14–16. Therefore, in Graham, the secondary game re-triggering event in the secondary game and the secondary game triggering event in the primary game employ the same triggering symbols, which meets the claim requirement here that the triggering events share at least one of the same triggering symbols.

3. Claim 3

[3] "The gaming device of claim 1, wherein the secondary game re-triggering event in the secondary game and the secondary game triggering event in the primary game employ a plurality of the same triggering symbols, wherein the secondary game triggering event includes at least one combination of said triggering symbols and the secondary game re-triggering event includes a greater number of combinations of said triggering symbols."

Graham discloses claim 1 as described in §VI.B.1. Graham further discloses this limitation either alone or in combination with WOS. As a starting point, as explained above with respect to claim 2, Graham discloses that both the retriggering and triggering events are comprised of a plurality of the *same* triggering symbols ("three scatter symbols"). Ex. 1003, 2:24–25. Further, the secondary game triggering event in Graham includes at least one combination of said triggering symbols because the "three scatter symbols" is a combination of triggering symbols that triggers "ten free games." Ex. 1003, 2:24–25, 3:9–10; Ex. 1007, ¶46.

A POSA would have found it obvious to modify the secondary game retriggering event to include a greater number of combinations of triggering symbols than the triggering event. Ex. 1007, ¶60. Because nothing in Graham limits the "trigger condition" to only three scatter symbols, a POSA would understand that in Graham, three, four, or more scatter symbols can appear "anywhere on the display means" to form a plurality of combinations of triggering symbols that trigger or retrigger a secondary game because this was a well-known feature in the art. Ex. 1003, 2:24-25; Ex. 1007, ¶60 (describing Aristocrat's "Indian Dreaming"). A POSA would easily modify Graham such that while the triggering event includes only three combinations of triggering symbols (e.g., three, four, or five scatter symbols), the retriggering event includes four combinations (e.g., two, three, four, or five scatter symbols). Ex. 1007, ¶60. A POSA would have no technical difficulty implementing the modification because it would merely require changing the game rules to require only two triggering symbols to re-trigger a secondary game. *Id.* A POSA would be motivated to make this modification in order to increase player excitement by offering more than one way to re-trigger a high-paying bonus game. Ex. 1007, ¶55, 60. Keeping players interested and engaged in game play is one of the stated goals of Graham. See Ex. 1003, 1:15–17; Ex. 1007, ¶¶55, 60.

A POSA would have also found it obvious to modify Graham in view of the teachings of WOS to meet this limitation. In "Queen of the Nile," "three or more

scattered Pyramid symbols send the game into 15 free spins[.]" Ex. 1005, 62; Ex. 1007, ¶81. WOS further teaches that "three or more Pyramids during [the] free spin mode adds another 15 free spins[,]" Ex. 1005, 62, which shows that there may be combinations of three, four, five, or more triggering symbols that can re-trigger the bonus game ("15 free spins") during the bonus game ("free spin mode"). *Id*.; Ex. 1007, ¶81. In view of WOS's teaching that there can be multiple triggering combinations, a POSA would have found it obvious to modify Graham such that the re-triggering event includes a greater number of combinations of triggering symbols than the initial triggering event. Ex. 1007, ¶81. A POSA would be motivated to make this modification in order to increase player excitement by offering more than one way to re-trigger a high-paying bonus game, and would expect to combine the references with success for the reasons provided with respect to limitation [1e]. Ex. 1007, ¶¶83–84.

4. Claim 4

[4] "The gaming device of claim 1, wherein the secondary game triggering event in the secondary game and the secondary game triggering event in the primary game employ a plurality of the same triggering symbols, wherein the secondary game triggering event includes at least one combination of a plurality of said triggering symbols and the secondary game re-triggering event includes at least one of said triggering symbols and less than the plurality of said triggering symbols of said combination."

Graham discloses claim 1 as described in §VI.B.1. Graham further discloses this limitation either alone or in combination with WOS. As a starting point, as

explained above with respect to claim 2, Graham discloses that both the retriggering and triggering events are comprised of at least one of the *same* triggering symbols ("three scatter symbols"). Ex. 1003, 2:24–25; Ex. 1007, ¶51. Further, the secondary game triggering event in Graham includes at least one combination of a plurality of the triggering symbols because the "three scatter symbols" is a combination of triggering symbols that re-triggers "ten free games." Ex. 1003, 2:24–25, 3:9–10; Ex. 1007, ¶46, 59.

A POSA reviewing Graham would understand that the secondary game retriggering event may include at least one of the triggering symbols and less than the plurality of the triggering symbols in the combination of triggering symbols comprising the triggering event where, for example, the re-triggering event includes three or four triggering symbols and the triggering event includes five symbols. Ex. 1007, ¶61.

To the extent Graham does not expressly disclose this limitation, a POSA would have found it obvious to modify Graham in view of the teachings of WOS to meet this limitation. As explained with respect to claim 3, WOS teaches that the number of triggering symbols required to trigger or re-trigger a bonus game may be variable. *Id.*, ¶79. WOS states that "three or more scattered Pyramids" can trigger the bonus game and "three or more Pyramids during [the] free spin mode" can re-trigger the bonus game and that this is an "interesting twist" to the game. Ex.

1005, 62. WOS therefore discloses situations where, for example, the re-triggering event includes three triggering symbols and the triggering event includes four or five symbols. Ex. 1007, ¶¶79–80.

A POSA would combine Graham with WOS for the same reasons as described with respect to claim 3. Further, a POSA would encounter little technical difficulty in configuring the gaming system disclosed in Graham to meet this limitation. Ex. 1007, ¶¶83-84. A POSA would expect to successfully implement the claimed feature in the programming of the game, and game programming is within the ordinary level of skill in the art. *Id.* In particular, the modification would merely require a game designer to configure the bonus game to be re-triggered with more than three scatter symbols (e.g., four or five), such that the bonus game may be retriggered with fewer scatter symbols (e.g., three) than required to trigger the initial bonus game. Id. This modification might require changes to the math model of the game (i.e., the size of the awards and the likelihood of winning them) to ensure that the game remained profitable to the operator. *Id.* Developing a math model, however, is a routine process that is accomplished during the development of every gaming device. Id.

5. Claim 5

[5 preamble] "A gaming device comprising:"

[5a] "a processor;"

Graham discloses [5 preamble]–[5a] for the same reasons as [1 preamble]–[1a].

[5b] "a display device controlled by the processor;"

Graham discloses this limitation because the gaming machine in Graham includes "a display means and a game control means arranged to control images displayed on the display means." Ex. 1003, 1:29–31. Figure 1 of Graham discloses a gaming machine 10 which "includes a console 12 having a video display unit 14 on which a game 16 is played[.]" *Id.*, 2:39–42. Graham also describes (and shows in Figure 2) a "processor 42" which "drives the screen of the video display unit 14." *Id.*, 2:57–58.

[5c] "a primary game displayed by the display device and controlled by the processor, said primary game including a plurality of secondary game triggering symbols"

Graham discloses limitation [5c] for the same reasons as [1c]. Limitation [5c] additionally requires that (1) the primary game be displayed by the display device, and (2) the primary game include a plurality of secondary game triggering symbols.

The first additional requirement is disclosed because the gaming machine in Graham includes "a display means and a game control means arranged to control images displayed on the display means." Ex. 1003, 1:29–31. Figure 1 of Graham discloses a gaming machine 10 which "includes a console 12 having a video display unit 14 on which a game 16 is played[.]" *Id.*, 2:39–42. Graham also describes (and

shows in Figure 2) a "processor 42" which "drives the screen of the video display unit 14." *Id.*, 2:57–58. A POSA would understand that the "game 16" played on "video display unit 14" includes the primary game. *Id.*, 2:39–42; Ex. 1007, ¶¶36, 38–39.

The second additional requirement is disclosed because Graham discloses a "trigger condition" in the primary game which can be in the form of secondary game triggering symbols such as "the appearance of three scatter symbols anywhere on the display means[.]" Ex. 1003, 2:24–25.

[5d] "a secondary game triggering event in the primary game which triggers the secondary game; and"

Graham discloses limitation [5d] for the same reasons as [1d].

[5e] "a secondary game displayed by the display device and controlled by the processor, said secondary game triggered upon the display of a predetermined combination of a plurality of said secondary game triggering symbols in said primary game; and"

Graham discloses limitation [5e] for the same reasons as limitation [1c]. Limitation [5e] additionally requires that (1) the secondary game be displayed by the display device, and (2) that the secondary game is triggered upon the display of a predetermined combination of a plurality of the secondary game triggering symbols in the primary game.

Graham discloses that the secondary game is displayed by the display device for the same reasons described with respect to limitation [5c], particularly because

a POSA would understand that the "game 16" played on "video display unit 14" includes the secondary game. Ex. 1003, 2:39-42; Ex. 1007, ¶¶35, 38.

Graham also discloses that the secondary game is triggered upon the display of a predetermined combination of a plurality of the secondary game triggering symbols in the primary game. In particular, a "trigger condition" in the base game such as "the appearance of three scatter symbols anywhere on the display means" awards an "initial series of free games" along with a "bonus feature." Ex. 1003, 1:29–45, 2:24–25. A POSA would understand that "three scatter symbols" is "a predetermined combination of a plurality of the secondary game triggering symbols." *Id.*, 2:24–25; Ex. 1007, ¶46.

[5f] "at least one re-trigger of the entire secondary game or at least one additional spin in the secondary game provided to the player in the secondary game upon the display of one of a plurality of predetermined combinations of a plurality of said secondary game triggering symbols in said secondary game wherein said display of one of said combinations in said secondary game is more likely to occur than said display of said combination in said primary game."

Graham discloses that at least one re-trigger of the entire secondary game or at least one additional spin in the secondary game may be provided to the player in the secondary game upon the display of one of a plurality of predetermined combinations of a plurality of the secondary game triggering symbols in the secondary game. As explained above with respect to limitation [1e], Graham discloses re-triggering the entire secondary game upon the display of triggering symbols in the secondary game

because in Graham, the "subsequent series of free games" that is triggered by "another trigger condition" equals "ten free games[,]" which is the same number of free games as the "initial series of free games[.]" Ex. 1003, 3:28–32; Ex. 1007, ¶57. The "ten free games" is "at least one additional spin in the secondary game" as required by this limitation. Ex. 1003, 3:28–32; Ex. 1007, ¶57. Further, as described with respect to claim 3, Graham alone or in combination with WOS discloses a plurality of predetermined combinations of a plurality of the secondary game triggering symbols in the secondary game.

It would be obvious to modify Graham such that the display of one of the predetermined combinations of triggering symbols in the secondary game is more likely to occur than the display of the same combination in the primary game because Graham teaches that the "likelihood of getting a trigger condition" can be "adjusted as necessary or required." Ex. 1003, 3:63–64. For example, Graham teaches that the "trigger frequency may *decrease* ... by changing the length or layout of the reel strips." *Id.*, 3:59–61 (emphasis added). A POSA would understand that the same task of "changing the length or layout of the reel strips" may also be used to adjust the "trigger frequency[.]" Ex. 1007, ¶¶48, 58.

A trigger condition in a bonus game may be "more likely to occur" (*i.e.*, the frequency may increase), less likely to occur (*i.e.*, the frequency may decrease), or equally likely to occur (*i.e.*, the frequency stays the same) relative to a base game. *Id.*

A POSA would have good reason to choose from among these finite options by changing the length or layout of the reel strips as taught by Graham. *See* Ex. 1003, 3:59–61. Doing so would be well within the technical grasp of a POSA, who would find no need for undue experimentation in implementing any of these options. Ex. 1007, ¶48, 58. The POSA would encounter little technical difficulty in configuring the gaming system disclosed in Graham such that bonus game re-triggers more frequently because Graham's game is controlled by a "processor 42" that runs "[a] program which implements the game and user interface[.]" Ex. 1003, 2:55–57. A POSA would expect to successfully change the game programming to implement the feature because such programming skills are within the ordinary level of skill in the art. Ex. 1007, ¶48, 58.

The choice among these options therefore would have been obvious, *KSR*, 550 U.S. at 402–03, and the options can reasonably be defined as small and easily traversed. *See Ortho-McNeil*, 520 F.3d at 1364.

In particular, a POSA would be motivated to increase the frequency of the "trigger condition" as claimed because one way for a game manufacturer to increase player interest is to configure the re-triggering condition in the bonus game such that the bonus game re-triggers more frequently, thereby increasing excitement and enjoyment for players, who tend to favor games that appear to provide larger or more frequent bonus payouts. Ex. 1007, ¶¶48, 58. Such a modification would be

consistent with Graham's stated goal of "develop[ing] innovative game features which add interest to the games," Ex. 1003, 1:12–15, and is one of the "numerous variations and/or modifications [that] may be made to the invention . . . without departing from the spirit or scope of the invention[.]" *Id.*, 4:1–5; Ex. 1007, ¶¶48, 58.

Moreover, given Graham's disclosure that the "trigger frequency may decrease ... by changing the length or layout of the reel strips[,]" there is no reason that a POSA could not modify the reel strips to increase the trigger frequency because the process of modifying the reel strips to decrease the probability of a re-triggering event is similar to the process of modifying the reel strips to increase the probability. Ex. 1003, 3:59-61; Ex. 1007, ¶¶48, 58. There is no suggestion in Graham that modifying the reel strips to adjust the probabilities in either direction by changing the length or layout would pose any difficulties. Ex. 1007, ¶48, 58. A POSA would implement this modification by adding or deleting symbols on the virtual reel strips used in the bonus game programming, a task routinely done by game designers to add flexibility to the bonus games. *Id.* For example, by removing non-triggering symbols from the bonus game reel strips, the triggering symbols would appear more frequently during the bonus game than in the base game. *Id.* Similarly, by adding triggering symbols to the bonus game reel strips, the triggering symbols would appear more frequently during the bonus game than in the base game. *Id*.

6. Claim 6

[6 preamble] "A gaming device comprising:"

[6a] "a processor;"

Graham discloses [6 preamble]–[6a] for the same reasons as [1 preamble]–[1a].

[6b] "a display device controlled by the processor;"

Graham discloses [6b] for the same reasons as [5b].

[6c] "a primary game displayed by the display device and controlled by the processor, said primary game including a plurality of secondary game triggering symbols;"

Graham discloses limitation [6c] for the same reasons as [1c] and [5c].

[6d] "a secondary game displayed by the display device and controlled by the processor, said secondary game triggered upon the display of a predetermined combination of a plurality of said secondary game triggering symbols in said primary game; and"

Graham discloses limitation [6d] for the same reasons as [1c] and [5e].

[6e] "at least one re-trigger of the entire secondary game or at least one additional spin in the secondary game provided to the player in the secondary game when less than the plurality of said secondary game triggering symbols is displayed by the display device in the secondary game."²

Petitioner reserves the right to challenge this limitation as indefinite under 35 U.S.C.

§112(2) in a different forum.

² Petitioner maintains that this limitation is subject to multiple interpretations.

Graham discloses this limitation either alone or in combination with WOS. As described with respect to limitations [1e] and [5f], Graham discloses retriggering the entire secondary game or at least one additional spin in the secondary game. Graham additionally discloses that either at least one re-trigger of the entire secondary game or at least one additional spin in the secondary game is provided when less than the plurality of the secondary game triggering symbols that comprise the predetermined combination in limitation [6d] is displayed by the display device in the secondary game. As explained with respect to claim 3, Graham alone or in combination with WOS discloses forming a plurality of predetermined combinations of a plurality of the secondary game triggering symbols. A POSA would understand that the secondary game in Graham may be re-triggered with less than all of the plurality of the secondary game triggering symbols of the predetermined combination where, for example, the re-triggered secondary game is triggered by three or four triggering symbols and the initial secondary game is triggered by five triggering symbols. Ex. 1007, ¶¶61, 80.

7. Claim 7

[7 preamble] "A gaming device comprising:"

[7a] "a processor;"

Graham discloses [7 preamble]–[7a] for the same reasons as [1 preamble]–[1a].

[7b] "a display device controlled by the processor;"

Graham discloses [7b] for the same reasons as [5b].

[7c] "a base game displayed by the display device and controlled by the processor, said base game including a plurality of bonus game triggering symbols;"

Graham discloses limitation [7c] for the same reasons as [1c] and [5c]. A POSA would understand that a "base game" is another way of referring to "primary games." Ex. 1007, ¶39.

[7d] "a bonus game displayed by the display device and controlled by the processor, said bonus game triggered upon the display of a predetermined combination of said bonus triggering symbols in said base game, said predetermined combination having a likelihood of occurrence; and"

Graham discloses limitation [7d] for the same reasons as limitations [1c] and [5e]. Limitation [7d] further requires the predetermined combination of the bonus triggering symbols to have a likelihood of occurrence. A POSA would understand that this limitation is disclosed in Graham because any individual symbol or symbol combination has a likelihood of occurrence defined in the software of a virtual reel slot machine of the type in Graham. Ex. 1007, ¶63. The likelihood of occurrence of a predetermined combination of the bonus triggering symbols is a metric that is determined and modified on a routine by process by a POSA in programming the game because it is an integral part of constructing a workable math model for a game. *Id*.

[7e] "a bonus re-trigger provided to the player in the bonus game when a predetermined combination of said bonus triggering symbols is displayed by the display device in the bonus game, said predetermined combination having a likelihood of occurrence which is greater than the likelihood of occurrence of the predetermined combination to trigger the bonus game in the base game."

Graham discloses limitation [7e] for the same reasons as limitation [6e]. A POSA would understand that "a bonus re-trigger" in limitation [7e] refers generally to a re-triggered secondary game, particularly because claim 8 requires that the "bonus re-trigger" be selected from either "at least one re-trigger of the bonus game" or "at least one additional spin in the bonus game." Ex. 1007, ¶33. Moreover, as explained with respect to claim 3, Graham alone or in combination with WOS discloses forming a plurality of predetermined combinations of a plurality of the secondary game triggering symbols.

The predetermined combinations of triggering symbols can also provide a bonus re-trigger as explained with respect to claim 3 because, *inter alia*, Graham discloses that three scatter symbols can re-trigger "ten free games[.]" Ex. 1003, 3:28–32, and WOS teaches that "three or more Pyramids during [the] free spin mode adds another 15 free spins." Ex. 1005, 62.

Petitioner reserves the right to challenge this limitation as indefinite under 35 U.S.C. §112(2) in a different forum.

³ Petitioner maintains that this limitation is subject to multiple interpretations.

A POSA would have found it obvious to modify Graham such that the likelihood of occurrence of the predetermined combination of bonus triggering symbols that provides a bonus-retrigger is greater than the likelihood of occurrence of the predetermined combination to trigger the bonus game in the base game for the reasons described with respect to limitation [5f]. In particular, Graham teaches that the "likelihood of getting a trigger condition" can be "adjusted as necessary or required" and suggests that the task of "changing the length or layout of the reel strips" may be used to adjust the "trigger frequency[.]" Ex. 1003, 3:58–64; Ex. 1007, ¶¶48, 58. A POSA reviewing Graham would thus understand that the predetermined combination of triggering symbols may be configured to appear more frequently (i.e., have a greater likelihood of occurrence) in the secondary game than in the primary game for the reasons given with respect to limitation [5f]. Ex. 1007, ¶¶48, 58. Moreover, Graham's disclosure that the "trigger frequency may decrease ... by changing the length or layout of the reel strips[,]" suggests that a POSA could easily modify the reel strips to increase the trigger frequency because the process of modifying the reel strips to decrease the probability of a re-triggering event is similar to the process of modifying the reel strips to increase the probability. Ex. 1003, 3:59-61; Ex. 1007, ¶48, 58. A POSA would expect success in implementing this modification, and would be motivated to increase the frequency of the "trigger condition" in Graham for the reasons described with respect to limitation [5f].

8. Claim 8

[8] "The gaming device of claim 7, wherein said bonus re-trigger is selected from the group consisting of: at least one re-trigger of the bonus game; at least one additional spin in the bonus game."

Graham discloses claim 7 as described in §VI.B.7. Graham further discloses claim 8. Graham discloses that "ten free games are awarded in the initial series of free games[,]" Ex. 1003, 3:9-10, when "three scatter symbols [appear] anywhere on the display means." *Id.*, 2:24–25; Ex. 1007, ¶46. Graham further discloses that "[if] during the initial series of free games, another trigger condition arises, a subsequent series of free games ... is awarded[.]" Ex. 1003, 1:38-40 (emphasis added). Graham explains that the "subsequent series of free games" may be "ten free games[,]" which is the same number of free games as the "initial series of free games[.]" Id., 3:28-32; Ex. 1007, ¶57. Graham therefore discloses a bonusretrigger that satisfies "at least one re-trigger of the bonus game." Moreover, a POSA would understand that in a virtual reel-type slot machine such as Graham, the game is played by spinning the reels. Ex. 1007, ¶51, 57. Thus, Graham also discloses the "at least one additional spin in the bonus game" requirement in claim 8.

9. Claim 9

[9] "The gaming device of claim 7, wherein said bonus re-trigger activates a bonus re-triggering symbol in the bonus game, wherein when the bonus re-triggering symbol is subsequently displayed in the bonus game, the processor provides an additional bonus re-trigger to the player."

Graham discloses claim 7 as described in §VI.B.7. Graham alone or in combination with Bennett further discloses claim 9. Claim 7 requires that a bonus re-trigger be provided to the player during the bonus game when a predetermined combination of bonus triggering symbols is displayed in the bonus game. Claim 9 additionally requires the bonus re-trigger to activate a "bonus re-triggering symbol" that can appear during the bonus game. When the bonus re-triggering symbol appears during the bonus game, the game (through the processor which controls the game) provides an *additional* bonus re-trigger to the player. Graham describes a gaming machine wherein a "trigger condition" in the base game such as "the appearance of three scatter symbols anywhere on the display means" awards an "initial series of free games" along with a "bonus feature." Ex. 1003, 1:29-45, 2:24-25. During the initial series of free games, if another trigger condition occurs, the free games are re-triggered including the bonus feature which is implemented immediately. *Id.*, 1:29–45.

It would have been obvious for a POSA to modify Graham such that the bonus re-trigger activates a bonus re-triggering symbol in the bonus game that, when displayed in the bonus game, provides an additional bonus game to the player. Ex. 1007, ¶62. A POSA reviewing Graham would be motivated to implement this feature because Graham teaches applying "any suitable bonus feature" that may change the way symbols operate during the bonus game. Ex.

1003, 1:66–2:4; Ex. 1007, ¶62. In particular, Graham discloses a "bonus feature" which can change the definition of a symbol function to a feature trigger. Ex. 1003, 1:64–2:2. This change would be implemented as an added feature during the secondary game. Ex. 1007, ¶62. A POSA reviewing Graham would understand that the bonus re-trigger, via a newly applied bonus feature, can activate a *separate* bonus re-triggering symbol that can provide an additional bonus game to the player. *Id*.

Graham's stated goal is to provide a game which "will enhance player interest" by "develop[ing] innovative game features which add interest to the games." Ex. 1003, 1:13-15, 3:65-67; Ex. 1007, ¶62. Indeed, Graham teaches that the "length or layout of the reel strips" may be manipulated to "adjust[] as necessary or required" the "return to player percentage for different series of free games and/or the likelihood of getting a trigger condition[.]" Ex. 1003, 3:59-64. Because Graham suggests being flexible in the way the bonus games are structured. implementing the modification of claim 9 would be within the "numerous variations and/or modifications [that] may be made to the invention as shown in the specific embodiments without departing from the spirit or scope of the invention as broadly described." Id., 4:1-6; Ex. 1007, ¶62. A POSA would not encounter technical difficulties in making this modification because Graham's game is controlled by a "processor 42" that runs "[a] program which implements the

game and user interface[.]" Ex. 1003, 2:55-57. A POSA would also expect to successfully change the game math to implement the feature. Ex. 1007, ¶62.

It would have been obvious to combine Graham with Bennett to meet this limitation. Bennett discloses that when the bonus game is triggered, "the player may choose to add extra symbols to the [bonus] feature games that did not appear in the base game." Ex. 1004, 4:65–67. Bennett further discloses that the player may choose to "alter the quantity of a certain symbol that appears on the virtual reels of the video reel game." *Id.*, 5:1–3. Bennett therefore suggests liberally introducing new symbols that were not originally available during the play of the base or bonus game. Ex. 1007, ¶87. One such symbol may be, for example, a bonus re-triggering symbol which, when displayed in the bonus game, prompts the processor to provide an additional, re-triggered bonus game to the player. *Id.*, ¶87.

A POSA would be motivated to make this modification to Graham because doing so would increase player excitement. *Id.* When the player obtains a new retriggering symbol, he or she would want to continue playing the game in the hopes of re-triggering additional high-paying bonus games. *Id.* A POSA would therefore be motivated to combine the teachings of Graham and Bennett to provide the claimed feature in order to improve sales and retain/attract customers. *See* Ex. 1003, 1:25–26; Ex. 1004, 1:25–26. Furthermore, a POSA would not encounter technical difficulties in making this modification such that the processor provides

an additional bonus re-trigger to the player because it would merely require programming the game run on Graham's "processor." Ex. 1003, 2:55-57; Ex. 1007, ¶¶87-88.

Modifying Graham alone or in combination with Bennett might require changes to the math model of the game (*i.e.*, the size of the awards and the likelihood of winning them) to ensure that the game remained profitable to the operator. Ex. 1007, ¶¶87–88. Developing a math model, however, is a routine process that is accomplished during the development of every gaming device. *Id.* Moreover, changes to math models can make games more exciting to players. *Id.*

10. Claim 10

[10] "The gaming device of claim 7, wherein said bonus re-trigger activates a bonus re-triggering symbol in the bonus game, wherein when the bonus re-triggering symbol is subsequently displayed in the bonus game, the processor provides an additional bonus re-trigger to the player selected from the group consisting of: at least one re-trigger of the bonus game; at least one additional spin in the bonus game."

Graham discloses claim 7 as described in §VI.B.7. As explained above with respect to claim 9, Graham alone or in combination with Bennett discloses that the bonus re-trigger may activate a bonus re-triggering symbol in the bonus game, wherein when the bonus re-triggering symbol is subsequently displayed in the bonus game, the processor provides an additional bonus re-trigger to the player. And as explained above with respect to claim 8, Graham discloses that the bonus re-trigger can be either at least one-retrigger of the bonus game or at least one

additional spin in the bonus game because Graham teaches providing a bonus retrigger of "ten free games." Ex. 1003, 3:28–32; Ex. 1007, ¶57.

11. Claim 11

[11] "The gaming device of claim 10, wherein the bonus re-triggering symbol occurs more frequently in the bonus game than the bonus triggering symbols."

Graham alone or in combination of Bennett renders claim 10 obvious as described in §VI.B.10. It would have been obvious to modify Graham such that the bonus re-triggering symbol may occur more frequently in the bonus game than the bonus triggering symbols in the base game. Graham discloses that the "trigger frequency" may be adjusted by "changing the length or layout of the reel strips." Ex. 1003, 3:59–60. Graham states that this allows the "likelihood of getting a trigger condition to be adjusted as necessary or required." *Id.*, 3:63–64; Ex. 1007, ¶63. A POSA would thus understand that certain triggering symbols, such as the "bonus re-triggering symbol," could be made to occur more frequently in the bonus game than the regular "bonus triggering symbols" in the base game by manipulating the length or layout of the reel strips. Ex. 1003, 3:59–60; Ex. 1007, ¶63.

A POSA would be motivated to make this modification because one way for a game manufacturer to increase player interest is to configure the triggering and/or

re-triggering conditions in the bonus game such that the bonus game re-triggers more frequently, thereby increasing excitement and enjoyment for players, who tend to favor games that appear to provide larger or more frequent bonus payouts. Ex. 1007, $\P48$, 58. Such a modification would be consistent with Graham's stated goal of "develop[ing] innovative game features which add interest to the games," Ex. 1003, 1:12-15, and is one of the "numerous variations and/or modifications [that] may be made to the invention without departing from the spirit or scope of the invention." Id., 4:1-5; Ex. 1007, $\P48$, 58.

Further, a POSA would encounter little technical difficulty in configuring the gaming system disclosed in Graham such that the bonus re-triggering symbol occurs more frequently in the bonus game than the bonus triggering symbols in the base game. Ex. 1007, ¶¶48, 58. Graham's game is controlled by a "processor 42" that runs "[a] program which implements the game and user interface[.]" Ex. 1003, 2:55–57. A POSA would thus expect to successfully implement the modification in the programming of the game because game programming is within the ordinary level of skill in the art. Ex. 1007, ¶¶48, 58. Moreover, Graham's disclosure that the "trigger frequency may decrease ... by changing the length or layout of the reel strips[,]" suggests that a POSA would modify the reel strips to manipulate the frequencies because the process of modifying the reel strips to decrease the probability of a re-triggering event is similar to the process of modifying the reel

strips to increase the probability. Ex. 1003, 3:59–61; Ex. 1007, ¶¶48, 58. There is no suggestion in Graham that modifying the reel strips to adjust the probabilities in either direction by changing the length or layout would pose any difficulties to a POSA. Ex. 1007, ¶¶48, 58. A POSA would implement this modification by adding or deleting the triggering or re-triggering symbols to the virtual reel strips, a task which is done routinely via programming by game designers to add flexibility to the bonus games. *Id*.

12. Claim 12

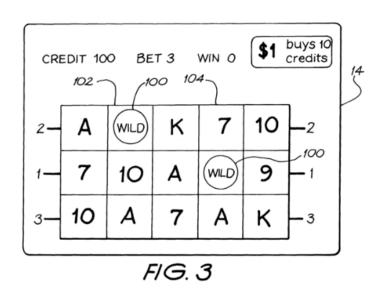
[12] "The gaming device of claim 7, which includes a plurality of reels wherein the predetermined combination is a plurality of bonus triggering symbols along a payline associated with the reels in the base game and the retriggering combination is the bonus triggering symbols displayed by the reels in any position in the bonus game."

Graham discloses claim 7 as described in §VI.B.7. Graham further discloses claim 12 either alone or in combination with Bennett. As a starting point, Graham discloses a gaming device with a "plurality of reels." Ex. 1003, 2:43–44 ("The game 16 is a spinning reel game which simulates the rotation of *a number of spinning reels* 18.") (emphasis added); *id.*, Fig. 1 (showing five spinning reels 18). A POSA would understand that both the primary and secondary games in Graham would have a plurality of reels because a spinning-reel type game by default includes a plurality of reels in both the primary and secondary games. Ex. 1007, ¶37.

This limitation further requires a plurality of bonus triggering symbols that appear along a payline associated with the reels to form a predetermined combination of triggering symbols. A POSA would understand that the gaming device described in Graham includes paylines because paylines were a known way to determine awards for players based on the alignment of symbols in certain predefined symbol positions the display. Ex. 1007, ¶37, 42. Indeed, a POSA would understand that the "bank 22 of buttons for enabling a player to play the game 16" as shown in Figure 1 are typically used to place bets on paylines. Ex. 1003, 2:43–44, Fig. 1; Ex. 1007, ¶37, 42.

Moreover, to the extent Graham does not expressly disclose paylines that are associated with the reels, it would have been obvious to a POSA to modify Graham such that it includes a payline associated with the reels because paylines were well-known features of slot machines before the priority date of the '532 Patent. Ex. 1003, 1:34–35; Ex. 1007, ¶¶18–23, 37, 42. Multi-payline slot games were popular in the gaming industry before the priority date of the '532 Patent, and these games utilized multiple paylines transposed over multiple reels on the display. Ex. 1007, ¶¶18–23, 37, 42. Graham explains that "[w]hen selecting a supplier of gaming machines, the operator of a [casino] venue will often pay close attention to the popularity of various games with their patrons." Ex. 1003, 1:20–23. A POSA would thus be motivated to draw upon the success of the multi-payline slot games

and expect success in incorporating the payline feature into Graham. Ex. 1007, ¶¶18–23, 42.



In addition, it would have been obvious to modify Graham in view of Bennett such that a plurality of bonus triggering symbols appear along a payline associated with the reels in the base game. Ex. 1007, \$\Psi_85-86\$. Bennett

describes, in reference to Figure 3, a gaming machine "having three paylines 1, 2, 3" associated with the reels. *See* Ex. 1004, 5:43–45. A POSA would combine Graham and Bennett because, for example, both references share the goal of developing innovative game features which add interest to the games in order to successfully compete in an intense gaming market. *See* Ex. 1003, 1:15–26; Ex. 1004, 1:18–26; Ex. 1007, ¶85–86. Bennett's teaching of using multiple paylines associated with the reels would help attract players excited by the opportunity to win multiple, simultaneous awards. Ex. 1007, ¶85–86. Such a modification would be consistent with Graham's stated goal of "develop[ing] innovative game features which add interest to the games," Ex. 1003, 1:12–15, and is one of the

"numerous variations and/or modifications [that] may be made to the invention . . . without departing from the spirit or scope of the invention." *Id.*, 4:1–5; Ex. 1007, ¶85–86. And a POSA would expect success in incorporating this feature into Graham due to its successful use in other known games. Ex. 1007, ¶85–86.

Graham discloses that the re-triggering combination is the bonus triggering symbols displayed by the reels *in any position in the bonus game*. Graham describes that the "trigger condition which trigger[s] the initial series of free games" may be the same as the "trigger condition which triggers the subsequent and any further series of free games" and that both "may be the appearance of three scatter symbols anywhere on the display means." Ex. 1003, 2:21–26. Scatter symbols can appear anywhere on the display screen (rather than just on a payline). Ex. 1007, ¶¶18, 42.

13. Claim 13

[13 preamble] "A gaming device comprising:"

[13a] "a processor;"

Graham discloses [13 preamble]–[13a] for the same reasons as [1 preamble]–[1a].

[13b] "a display device controlled by the processor;"

Graham discloses [13b] for the same reasons as [5b].

[13c] "a base game displayed by the display device and controlled by the processor, said base game including a plurality of bonus triggering symbols;"

Graham discloses limitation [13c] for the same reasons as limitations [1c] and [5c]. A POSA would understand that a "base game" is another way of referring to a "primary game." Ex. 1007, ¶40.

[13d] "a bonus game displayed by the display device and controlled by the processor, said bonus game triggered upon an occurrence of a bonus trigger in the base game, the bonus trigger including a display of a plurality of said bonus triggering symbols in said base game; and"

Graham discloses limitation [13d] for the same reasons as limitations [1c] and [5e]. In particular, the bonus game in Graham is triggered upon an occurrence of a bonus trigger in the base game in the form of "three scatter symbols anywhere on the display means." Ex. 1003, 2:24–25. The bonus trigger in Graham is in the form of displaying a plurality of bonus trigger symbols in the base game because "three scatter symbols" is a plurality of bonus trigger symbols. *Id.*; Ex. 1007, ¶¶34, 59.

[13e] "a bonus re-trigger provided to the player in the bonus game when less than the plurality of said bonus triggering symbols is displayed by the display device in the bonus game, such that the bonus re-trigger occurs more frequently in the bonus game than the bonus trigger occurs in the base game."

Graham discloses limitation [13e] for the same reason as limitations [1e] and [5f] because Graham discloses that the bonus re-triggering event comprised of a plurality of bonus triggering symbols occurs more frequently in the bonus game than the bonus trigger occurs in the base game. Ex. 1007, ¶¶48, 58. Further, as explained with respect to limitation [6e], Graham alone or in combination with WOS discloses

providing a bonus re-trigger in the bonus game when less than the plurality of the bonus triggering symbols is displayed in the bonus game because the secondary game in Graham may be re-triggered with less than the plurality of triggering symbols required to trigger the initial bonus game. *Id.*, ¶82.

14. Claim 14

[14] "The gaming device of claim 13, wherein said bonus re-trigger is selected from the group consisting of: at least one re-trigger of the bonus game; at least one additional spin in the bonus game."

Graham discloses claim 13 as described in §VI.B.13. Graham further discloses claim 14 for the same reasons described above with respect to claim 8.

15. Claim 15

[15] "The gaming device of claim 13, wherein said bonus re-trigger activates a bonus re-triggering symbol in the bonus game, wherein when the bonus re-triggering symbol is subsequently displayed in the bonus game, the processor provides an additional bonus re-trigger to the player."

Graham discloses claim 13 as described in §VI.B.13. Graham further discloses claim 15 for the same reasons described above with respect to claim 9.

16. Claim 16

[16] "The gaming device of claim 13, wherein said bonus re-trigger activates a bonus re-triggering symbol in the bonus game, wherein when the bonus re-triggering symbol is subsequently displayed in the bonus game, the processor provides an additional bonus re-trigger to the player selected from the group consisting of: at least one re-trigger of the bonus game; at least one additional spin in the bonus game."

Graham discloses claim 13 as described in §VI.B.13. Graham further discloses claim 16 for the same reasons as claim 10.

17. Claim 17

[17 preamble] "A gaming device comprising:"

[17a] "a processor;"

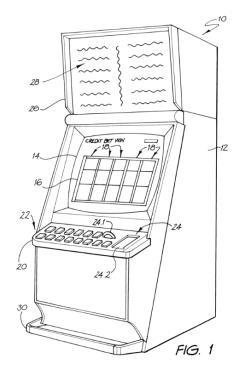
Graham discloses [17 preamble]–[17a] for the same reasons as [1 preamble]–[1a].

[17b] "a plurality of reels controlled by the processor;"

Graham discloses this limitation because the game in Graham "is a spinning reel game which simulates the rotation of a number of spinning reels[.]" Ex. 1003, 2:43–44. Moreover, Graham explains that a "processor 42 of the control circuit 40" "implements the [spinning reel] game and user interface[.]" *Id.*, 2:55–57.

[17c] "a plurality of symbols on each reel, said symbols including a plurality of secondary game triggering symbols;"

Graham discloses that the "number of spinning reels" includes a plurality of symbols including a plurality of secondary game triggering symbols. Ex. 1003, 2:43–44. Reels on slot machines were known to have a plurality of symbols, and a POSA would understand, particularly in view of Figure 1 (reproduced here), that the gaming device of



Graham provides a plurality of symbols on each "spinning reel[] 18" displayed on "video display unit 14 on which a game 16 is played." Ex. 1003, 2:42–44; Ex. 1007, ¶¶34–40. Graham expressly discloses that the reel strips may be manipulated such that the "length or layout" of the symbols on the reels may be "adjusted as necessary or required." Ex. 1003, 3:59–64. Graham further discloses a plurality of secondary game triggering symbols because it describes a "trigger condition" in the base game such as "the appearance of three scatter symbols anywhere on the display means" which awards an "initial series of free games" along with a "bonus feature." Ex. 1003, 1:29–45, 2:24–25; Ex. 1007, ¶¶40, 41, 44.

[17d] "a primary game including at least one activation of said reels by the processor;"

Graham discloses limitation [17d] for the same reasons as limitation [1b], particularly because Graham describes a "processor 42" which drives the screen of the video display unit 14" which displays the base game. Ex. 1003, 2:16–17, 2:42-44, 2:57–58, 3:7–9. Graham also discloses the "activation of [the] reels" in [17d] because a POSA would understand that, in the "spinning reel game" disclosed in Graham, Ex. 1003, 2:43–44, the "activation" of the reels occurs with each play of the game when the reels start to spin, *i.e.*, are activated. Ex. 1007, ¶15.

[17e] "a secondary game including at least one activation of said reels by the processor, said secondary game triggered upon the display of a plurality of the

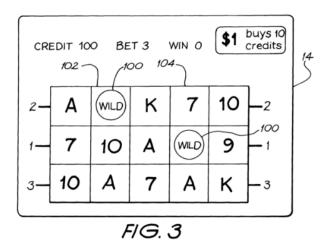
secondary game triggering symbols on an active payline associated with the reels in said primary game; and"

Graham discloses this limitation either alone or in combination with Bennett. Similar to limitation [17d], Graham discloses a spinning reel game that is controlled by the processor, and the game includes a secondary game where the reels are activated (*i.e.* spun). Ex. 1007, ¶15, 37, 40–41. Graham further discloses that the secondary game is triggered upon the display of a plurality of the secondary game triggering symbols because in Graham, three scatter symbols anywhere on the display means triggers ten free games. Ex. 1003, 2:24–25, 3:9–10; Ex. 1007, ¶42–43.

A POSA would understand that the gaming device described in Graham includes an active payline that is associated with the reels in the primary game because paylines were a known way to determine awards for players based on the alignment of symbols in certain predefined symbol positions on the display. Ex. 1007, ¶18, 37, 42. Indeed, a POSA would understand that the "bank 22 of buttons for enabling a player to play the game 16" as shown in Figure 1 are typically used to place bets on paylines. Ex. 1003, 2:43–44, Fig. 1; Ex. 1007, ¶37, 42. A payline becomes "active" when the player makes a bet on the payline. Ex. 1007, ¶37, 42.

Moreover, to the extent Graham does not expressly disclose paylines that are associated with the reels, it would have been obvious to a POSA to modify Graham such that it includes an active payline associated with the reels in the primary game in order to "award[] a prize" based on a "predefined winning event." Ex. 1003, 1:34-35; Ex. 1007, ¶37, 42. Multi-payline slot games were popular in the gaming industry before the priority date of the '532 Patent. Ex. 1007, ¶¶18–23, 37, 42. These games utilized multiple paylines transposed over multiple reels on the display. Id. Graham explains that "[w]hen selecting a supplier of gaming machines, the operator of a [casino] venue will often pay close attention to the popularity of various games with their patrons." Ex. 1003, 1:20-23. A POSA would thus be motivated to draw upon the success of the multi-payline slot games and expect success in incorporating the payline feature into Graham. Ex. 1007, \P 18-23, 37, 42.

In addition, it would have been obvious to combine Graham with Bennett to provide an active payline associated with the reels in the primary game. Ex. 1007, ¶¶85–86. Bennett describes, in reference to Figure 3, a



gaming machine "having three paylines 1, 2, 3" associated with the reels. Ex. 1004, 5:43-45. A POSA would combine Graham and Bennett because, for example, both references share the goal of developing innovative game features which add interest to the games in order to successfully compete in an intense gaming market. See Ex. 1003, 1:15-26; Ex. 1004, 1:18-26; Ex. 1007, ¶¶85-86. Bennett's teaching of using multiple paylines associated with the reels would help attract players excited by the opportunity to win multiple, simultaneous awards. Ex. 1007, ¶¶85–86. Such a modification would be consistent with Graham's stated goal of "develop[ing] innovative game features which add interest to the games," Ex. 1003, 1:12-15, and is one of the "numerous variations and/or modifications [that] may be made to the invention without departing from the spirit or scope of the invention." Id., 4:1-5; Ex. 1007, ¶¶85-86. A POSA would expect success in incorporating this feature into Graham due to its successful use in other known games. Ex, 1007, ¶¶85–86.

[17g] "a secondary game re-trigger provided to the player in the secondary game when the plurality of said secondary game triggering symbols are displayed by the reels in any position in the secondary game, wherein the secondary game re-triggering is more likely to occur in the secondary game than a trigger of the secondary game in the primary game."

Graham discloses limitation [17g] for the same reasons as limitation [1e]. Graham discloses that the secondary game may be re-triggered by a "trigger condition" consisting of "three scatter symbols anywhere on the display means."

Ex. 1003, 2:24–25, 3:14–16; Ex. 1007, ¶57. Therefore, Graham discloses that a plurality of secondary game triggering symbols may be displayed by the reels *in any position* in the secondary game. Ex. 1007, ¶42. Further, it would have been obvious to modify Graham such that the secondary game re-triggering is more likely to occur in the secondary game than a trigger of the secondary game in the primary game for the reasons provided with respect to limitation [1e].

18. Claim 18

[18] "The gaming device of claim 17, wherein said secondary game re-trigger is selected from the group consisting of: at least one re-trigger of the secondary game and at least one re-activation of the reels in the secondary game."

Graham discloses claim 17 as described in §VI.B.17. Graham further discloses claim 18 for the same reasons described with respect to claim 8.

19. Claim 19

[19] "The gaming device of claim 17, wherein said secondary game re-trigger activates a reel re-triggering symbol in the secondary game, wherein when the reel re-triggering symbol is subsequently displayed in the secondary game, the processor re-activates the reels in the secondary game."

Graham discloses claim 17 as described in §VI.B.17. Graham further discloses claim 19 for the same reasons described above with respect to claim 9.

20. Claim 20

[20] "The gaming device of claim 17, wherein said secondary game re-trigger activates a reel re-triggering symbol in the secondary game, wherein when the reel re-triggering symbol is subsequently displayed in the secondary game, the processor provides an additional secondary game re-trigger to the player selected from the group consisting of: at least one re-trigger of the secondary

game and at least one additional activation of the reels in the secondary game."

Graham discloses claim 17 as described in §VI.B.17. Graham further discloses claim 20 for the same reasons described above with respect to claim 10.

VII. CONCLUSION

Petitioner respectfully submits that, for the reasons set forth above, there is a reasonable likelihood that Petitioner will prevail on at least one claim. Accordingly, Petitioner respectfully requests that this Petition be granted and claims 1–20 of the '532 Patent be found to be unpatentable.

Date: September 20, 2016

Respectfully submitted,

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CERTIFICATION UNDER 37 C.F.R. §42.24(D)

I certify that the foregoing complies with the type-volume limitation of 37 C.F.R. §42.24 and contains 12,731 words based on the word count indicated by the word-processing system used to prepare the paper, and excluding those portions exempted by §42.24(a).

Date: September 20, 2016

Andrea G. Reister, Esq.

Registration No.: 36, 253

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§42.6 and 42.105, I hereby certify that on this 20th day of September 2016, the foregoing Petition for *Inter Partes* Review of U.S. Patent No. 6,913,532 Under 35 U.S.C. §§311–319 and 37 C.F.R. §42.100 *et seq.*, together with Petitioner's Exhibits Nos. 1001–1005, 1007-1010, 1012-1013, 1020-1025, was served was served by FedEx, a means at least as fast and reliable as Priority Mail Express®, on the following correspondence address of record for patent owner:

Neal, Gerber & Eisenberg LLP (IGT) 2 N. LaSalle Street Suite 1700 Chicago, IL 60602-38010

A courtesy copy was provided to Patent Owner's litigation counsel:

Adam K. Mortara Bartlit Beck Herman Palenchar & Scott LLP 54 W. Hubbard St. Chicago, IL 60610

Date: September 20, 2016

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