

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

DK CROWN HOLDINGS INC. (FORMERLY DRAFTKINGS, INC.), A
DELAWARE CORPORATION,
Petitioner

v.

DIOGENES LIMITED, COLOSSUS (IOM) LIMITED,
Patent Owner

Case IPR2023-00262
Patent 9,117,341

SECOND DECLARATION OF DWIGHT CREVELT

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EXHIBIT LIST

EX[No.]	Description
1001	U.S. Patent No. 9,117,341 (“’341 Patent”)
1002	File History for U.S. Patent ’341 Patent
1003	Reserved
1004	U.S. Patent Application Publication No. 2008/0113765 A1 (“DeWaal”)
1005	U.S. Patent Application Publication No. 2008/0311981 A1 (“Schugar”)
1006	U.S. Patent Application Publication No. 2012/0309503 A1 (“Scott”)
1007	Declaration of Dwight Crevelt
1008	<i>Curriculum Vitae</i> of Dwight Crevelt
1009	Vishal Jain & Jyoti Moy Chatterjee, <i>Machine Learning with Health Care Perspective</i> (Springer 2020)
1010	Christiani Hugonii, The Value of all Chances in Games of Fortune; Cards, Dice, Wagers, Lotteries, &C. Mathematically Demonstrated (printed 1741)
1011	C.C. Heyde & E. Seneta, <i>Statisticians of the Centuries</i> (Springer 2001)
1012	Jui-Pin Cheng, <i>The Origin of Probability and The Problem of Points</i> (2000), https://sites.math.rutgers.edu/~cherlin/History/Papers2000/cheng.html
1013	Nicholas Hammond, <i>The Cambridge Companion to Pascal</i> (Cambridge University Press 2003)
1014	Prakash Gorroochurn, <i>Thirteen Correct Solutions to the “Problem of Points” and Their Histories</i> , THE MATHEMATICAL

	INTELLIGENCER (Springer 2014)
1015	Keith Devlin, <i>The Unfinished Game: Pascal, Fermat, and the Seventeenth-Century Letter that Made the World Modern</i> (Basic Books 2008)
1016	Anders Hald, <i>A History of Probability and Statistics and Their Applications before 1750</i> (John Wiley & Sons 2003)
1017	Adam Prügel-Bennett, <i>The Probability Companion for Engineering and Computer Science</i> (Cambridge University Press 2019)
1018	Elizabeth A. Killick & Mark D. Griffiths, <i>In-Play Sports Betting: a Scoping Study</i> , 17 INT J MENT HEALTH ADDICTION 1456 (Apr. 16, 2018)
1019	<i>What is In-Play Betting: Live Betting Explained by William Hill</i> , WILLIAMHILL.COM (Apr. 20, 2021), https://news.williamhill.com/betting-guides/in-play-betting/
1020	Mark O’Haire, <i>The History of Betting</i> , TheSetPieces (2021), https://thesetpieces.com/latest-posts/the-history-of-betting/
1021	U.S. Patent No. 9,117,341 (“the ’341 Patent”)
1022	Chris Summers, <i>How Does a Betting Exchange Work?</i> , BBC News (Dec. 7, 2007)
1023	Landi, Gianluca, <i>Betting Exchange: The Sports Trading Revolution</i> (StreetLib 2017)
1024	Declaration of Bernard J. Marantelli, Australian Patent Application No. 2013333573 (Jun. 18, 2016)
1025	Vaughan Williams & Donald S. Siegal, <i>The Oxford Handbook of the Economics of Gambling</i> (Oxford University Press 2013)
1026	Mark Davies <i>et al.</i> , <i>Betfair.com: Five Technology Forces Revolutionize Worldwide Wagering</i> , 23 EUROPEAN MANAGEMENT JOURNAL 533 (Oct. 2005)
1027	U.S. Patent No. 7,909,694 (“Schugar ’694”)

1028	Betfair Trading Software, <i>About Bet Angel Software</i> (via The Wayback Machine dated Dec. 26, 2007)
1029	Green All Over Blog (Dec. 7, 2008)
1030	Dan Thomas, <i>Betfair's 'Cash Out' Trading Tool Used for the Millionth Time</i> , BETTFAIR (Sept. 13, 2011)
1031	Betfair Financial Statement (Jun. 29, 2011)
1032	Dan Thomas, <i>Cash Out Comes to Betfair Mobile</i> , Betfair (Dec. 19, 2011)
1033	Michael Taylor, <i>Cash In My Bet with William Hill</i> , WILLIAMHILL.COM (Dec. 18, 2012)
1034	Tal Grant <i>et al.</i> , <i>UK Gaming</i> , Credit Suisse (Aug. 14, 2017)
1035	James Conrey McMath, <i>Speculation and Gambling in Options, Futures and Stocks in Illinois</i> (Hawkins & Loomis 1921)
1036	LeRoy Gross, <i>The Conservative Investor's Guide to Trading Options</i> (Wiley 1999)
1037	Stuart Banner, <i>Speculation: A History of the Fine Line Between Gambling and Investing</i> (Oxford University Press 2017)
1038	E.V. Smalley, <i>Northern Pacific Railroad Book of Reference</i> (E. Wells Sackett & Rankin 1883)
1039	Wesley A. Sturges <i>et al.</i> , <i>Stock Option and Stock Purchase Plans</i> (U.S. Gov't Printing Office 1952)
1040	Michael C. Thomsett, <i>Getting Started in Options</i> (Wiley 2007)
1041	Lawrence G. McMillan, <i>McMillan on Options</i> (Wiley 2011)
1042	The Sports Trader, <i>The Diary of a Betdaq Trader</i> (Dec. 5, 2007)
1043	Betfair Community, <i>Football Forum</i> (Dec. 11, 2009), https://community.betfair.com/football/go/thread/view/94070/23545078/i-didnt-think-you-got-your-green-until-after-events-were-

	finished?post_id=421340998#421340998#flvWelcomeHeader
1044	Betfair Community, <i>Golf Forum</i> at 1 (Apr. 9, 2010), https://community.betfair.com/golf/go/thread/view/94086/23563950/masters-day-2---in-running?liveView=0&pg=53
1045	Betfair Community, <i>General Betting Forum</i> (Dec. 10, 2010)
1046	Betfair Community, <i>General Betting Forum</i> at 3 (Jun. 8, 2011)
1047	U.S. Patent Application Publication No. 2001/0136566 A1 (“Acres”)
1048	Exhibit 338.A to Plaintiffs’ Initial Infringement Contentions, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1049	Exhibit 341.A to Plaintiffs’ Initial Infringement Contentions, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1050	Exhibit 439.A to Plaintiffs’ Initial Infringement Contentions, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1051	Exhibit 516.A to Plaintiffs’ Initial Infringement Contentions, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1052	Exhibit 716.A to Plaintiffs’ Initial Infringement Contentions, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1053	Exhibit 779.A to Plaintiffs’ Initial Infringement Contentions, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1054	Exhibit 822.A to Plaintiffs’ Initial Infringement Contentions, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1055	Exhibit 969.A to Plaintiffs’ Initial Infringement Contentions, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1056	Sotera Stipulation
1057	Deposition Transcript of Dr. Olaf Vancura, Vol. I (Nov. 13, 2023)
1058	Deposition Transcript of Dr. Olaf Vancura, Vol. II (Nov. 17, 2023)
1059	U.S. Patent No. 8,721,439 (“’439 Patent”)

1060	Report and Recommendation, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1061	Order, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1062	A Limitation-by-limitation Mapping between Substitute Claim 41 and Ineligible Claim 1 of the '439 Patent
1063	First Amended Complaint, <i>Diogenes Limited v. DraftKings, Inc.</i> , C.A. No. 21-1695-MN-CJB
1064	U.S. Patent No. 11,200,779 (“’779 Patent”)
1065	Decision Denying Institution of IPR2023-00268, paper 9 (Aug. 11, 2023)
1066	U.S. Patent Application Publication No. 2010/0113124 A1 (“Amirsadri”)
1067	U.S. Patent No. 7,233,922 (“Asher”)
1068	Reserved

I, Dwight Crevelt, declare as follows:

I. Introduction

1. I have been retained on behalf of DK Crown Holdings Inc. (formerly DraftKings Inc.), a Delaware corporation (“DraftKings” or “Petitioner”) for the above-captioned *inter partes* review (IPR) proceeding. I am being compensated for my time in connection with this IPR at my standard hourly consulting rate. I understand that this proceeding involves U.S. Patent No. 9,117,341 (“the ’341 Patent”) titled “WAGERING APPARATUS, METHODS AND SYSTEMS” by Bernard J. Marantelli.

2. I previously prepared a declaration in this case in which I was asked to provide my technical review, analysis, insights, and opinions regarding the ’341 Patent and the prior art references that form the basis for the grounds of unpatentability set forth in the Petition for *Inter Partes* Review of the ’341 Patent. See Declaration of Dwight Crevelt (November 29, 2022) (Ex. 1007) (“Initial Declaration”).

3. I understand that Patent Owner has filed a Motion to Amend (“MTA”) the ’341 Patent and proposes to replace Claims 1 and 10 of the ’341 Patent with proposed Substitute Claims 41 and 42. This declaration is a statement of my opinions on issues related to the unpatentability of proposed Substitute Claims 41 and 42. While I understand DraftKings is challenging Patent Owner’s MTA under

numerous statutory and regulatory bases, my opinions here are limited to considering invalidity under 35 U.S.C. §103.

4. I provided my credentials and background in my earlier declaration with respect to the '341 Patent. That information has not materially changed, and I incorporate it by reference herein.

II. Materials Considered

5. The analysis that I provide in this Declaration is based on my education, research, and experience, as well as the documents I have considered, including the '341 Patent (Ex.1001) and its prosecution history (Ex.1002). I have reviewed and am familiar with the specification of the '341 Patent. *See* Ex.1007, ¶¶44-51. I have also reviewed and am familiar with the file history of the '341 Patent. *See* Ex.1007, ¶¶52-56.

6. In preparing this Declaration, I have also reviewed and am familiar with each of the documents including Amirsadri (Ex. 1066) as well as Asher (Ex. 1067) identified in the exhibit list above and/or discussed in my declaration below.

III. Overview of Additional Prior Art

7. In my initial declaration regarding the '341 Patent (Ex. 1007), I considered the following references: DeWaal (Ex. 1004) and Schugar (Ex. 1005). I have been asked to further consider Amirsadri (Ex. 1066) as well as Asher (Ex. 1067), which I describe below.

A. Overview of Amirsadri (EX[1066])

8. U.S. Patent Publication No. 2010/0113124 A1 to Amir Amirsadri (hereinafter, “Amirsadri”), entitled “User-selected Risk-reward Tradeoffs in Lotteries and Other Wagering Games,” was published on May 6, 2010. The application leading to Amirsadri, U.S. Patent Application No. 12/261,435, was filed on October 30, 2008.

9. Amirsadri discloses a system and method for “facilitating the play of a multi-level game of chance” wherein players “may decide to either continue playing to the next level or redeem the ticket” after each round. Amirsadri Abstract, ¶¶0093, 0023. “Players who take greater risks, and advance several levels may achieve significantly larger prizes than at the base level.” *Id.* ¶0020. Specifically, Amirsadri discloses that “a processor [is] in communication with the input device” of the player such as “a PDA” (*id.* ¶¶0035, 0038) and is “configured to determine whether the player entry is a winning entry in the base round of the multi-level game” (*id.* ¶0035). The processor is “configured to, conditioned on the player winning the base round of the multi-level game, to cause an offer to be made to the player, the offer including a choice between receiving a base prize and continued play of the multi-level game for an additional round.” *Id.* ¶0036. The “players may partially redeem their prize” and continue playing with a reduced stake. *Id.* ¶0087.

10. Amirsadri discloses “pari-mutual” and “progressive” prize pools, which “might be increased depending on the number of players who advance to play succeeding rounds.” *Id.* ¶0083. “[T]he prizes may depend on the number or fraction of players that elect to proceed to a round (or that choose not proceed). The largest prize or group of prizes may have a progressive element, so that the prize increases for each game entry, or for each instance of the game where the large prize is not won by a player.” *Id.* ¶0134. “[A] random outcome generator” may be used to determine a winning draw for the base and additional rounds of the multi-level game. *Id.* ¶0035.

11. Amirsadri discloses a “Keno-type game” which includes receiving “information indicating a player’s entry in the multi-level game for a base round, the entry including at least one of a player-selected set of entry numbers or a quick pick set of entry numbers.” Amirsadri ¶0021. The “player-selected set of entry numbers” are compared against draw numbers at each respective round of the game. *Id.* ¶¶0021, 0023.

B. Overview of Asher (EX[1067])

12. U.S. Patent No. 7,233,922 B2 to Joseph M. Asher (hereinafter, “Asher”), entitled “System and Method for Wagering-based Transferable Financial Instruments,” was issued on June 19, 2007. The application leading to Asher, U.S. Patent Application No. 10/654,280, was filed on September 3, 2003.

13. Asher discloses a method for “facilitating a wager on a position with respect to the outcomes of a plurality of events” using a “point” value (*i.e.*, a “price guideline” for the present value of an ongoing wager), wherein “the point may run continuously 24-hours a day for unlimited duration.” Asher 3:52-60, 15:6-10. “[S]ince the point will be changing in real time ... the display of the point may be updated in real time[.]” *Id.* 14:25-28.

14. Asher discloses “various types of monitoring interfaces 62 that allow central controller 50 to capture information associated with the occurrence of events forming the basis for financial instruments 76.” *Id.* 7:56-60. For example, the gaming machines may be “recorded via live video and the data extrapolated from the video feed through a variety of manual or automated techniques.” *Id.* 8:5-8. FIG. 1 of Asher, as depicted below, illustrates a wager system 5 that includes the central controller 50 and the monitoring interfaces 62.

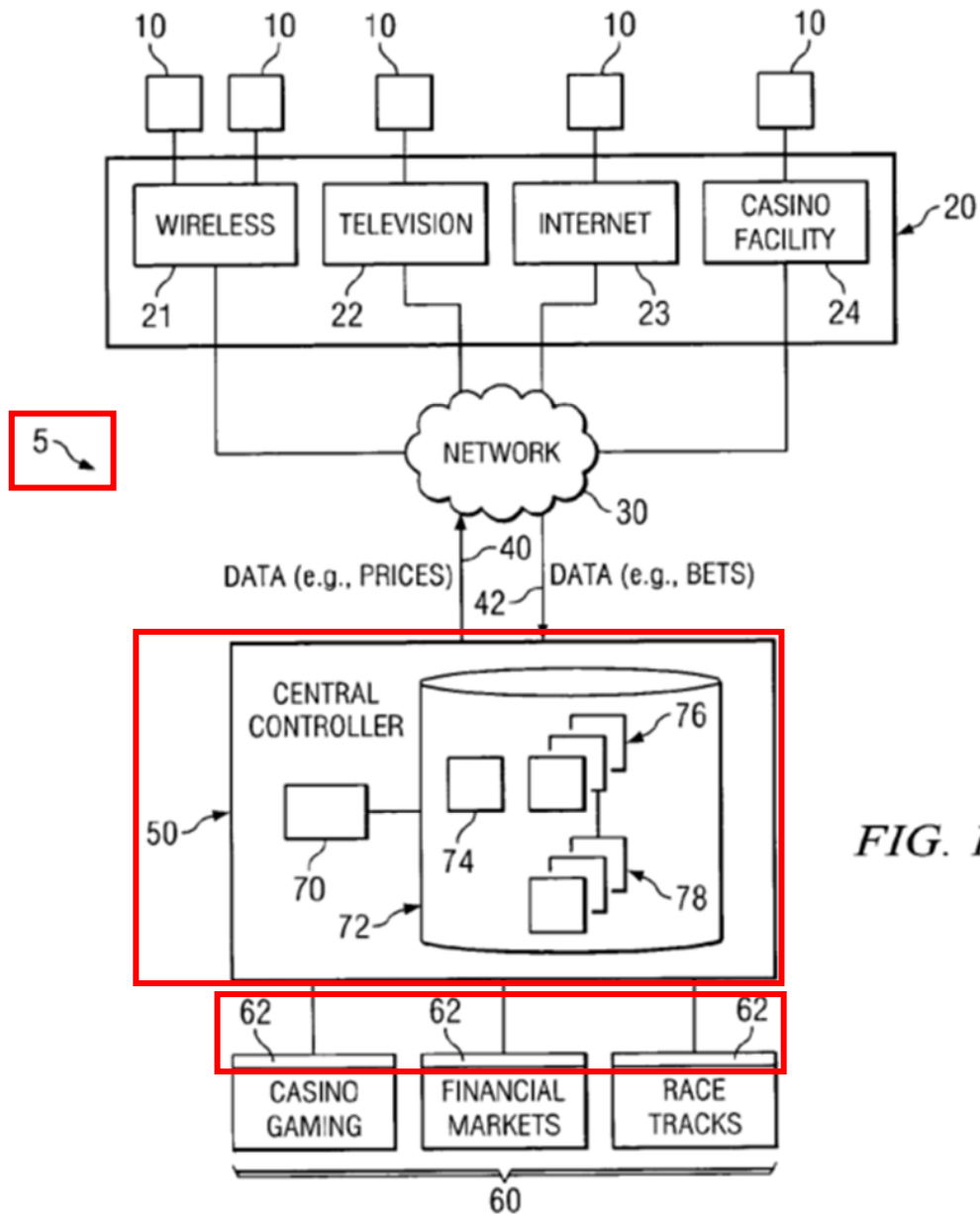


FIG. 1

Asher at FIG. 1.

15. Asher discloses that “the house monitors the events underlying financial instrument 76 in order to update regularly the house point based on the outcomes of those events.” *Id.* 9:3-9. Such updated information “may be broadcast to clients 10 of system 5 so that they may be apprised of the changing value of their

financial instruments 76, and further to facilitate trading of the instruments 76 between clients 10 based on their changing valuations.” *Id.* 9:9-13.

IV. Substitute Claims 41 and 42 Are Unpatentable

16. In this section, I will explain why Substitute Claims 41 and 42 of the ’341 Patent are rendered obvious by Amirsadri in view of Asher.

17. I note that in this discussion, I may focus on the particular language in Substitute Claims 41 and 42, but it should be understood that my analysis applies to the corresponding limitations of Substitute Claims 41 and 42 containing identical or substantially identical language. In addition, solely for purposes of rendering my opinion here and to the extent they are not indefinite, I have applied the claim constructions PO sets forth on pages 21-23 of the Motion to Amend in my analysis here.

A. Substitute Claims 41 and 42 Are Rendered Obvious over Amirsadri in view of Asher

18. I incorporate by reference my discussion of the overview of the Amirsadri and Asher references above. As is apparent from my overviews of those prior art patent publications, it would have been obvious to a POSITA to combine Asher’s continuous, real time wager valuation techniques with Amirsadri’s method of conducting wagering events. Moreover, a POSITA would have had a reasonable expectation of success in implementing Amirsadri’s method of conducting a wagering event in combination with Asher’s continuous and/or real time

implementation because it would involve routine software manipulation, which was not only well-known at the time, but also well-within the level of ordinary skill of a POSITA.

19. While I discuss the obviousness analysis in detail in the sections that follow, and I incorporate my obviousness analysis into each limitation below that discusses Amirsadri and Asher, it is worth noting at the outset that a POSITA would have been motivated to apply Asher's techniques for continuous monitoring and evaluation of wagering data to update Amirsadri's buy-out offers to more accurately reflect the value of a player's position in real-time as other events that impact that valuation unfold, enhancing the user's wagering experience and improving risk management for the system operator.

20. Amirsadri discloses a system and method for "facilitating the play of a multi-level game of chance" wherein players "may decide to either continue playing to the next level or redeem the ticket" after each round. Amirsadri Abstract, ¶¶0093, 0023. For example, Amirsadri discloses that "a processor [is] in communication with the input device" of the player such as "a PDA" (*id.* ¶¶0035, 0038) and is "configured to determine whether the player entry is a winning entry in the base round of the multi-level game" (*id.* ¶0035). The processor may be "configured to, conditioned on the player winning the base round of the multi-level game, to cause an offer to be made to the player, the offer including a choice between receiving a

base prize and continued play of the multi-level game for an additional round.” *Id.* ¶0036. The “players may [also] partially redeem their prize” and continue playing with a reduced stake. *Id.* ¶0087. Amirsadri also discloses “pari-mutual” and “progressive” prize pools, which “might be increased depending on the number of players who advance to play succeeding rounds.” *Id.* ¶0083. While Amirsadri discloses offering different buy-out offers after each round of the multi-level game (*e.g.*, a “base prize” and, for later rounds, “additional prizes,” Amirsadri ¶¶0021, 0023), it does not expressly describe that its buy-out offers are updated based on continuously receiving, recalculating, or evaluating wagering data in real time.

21. Asher discloses a method for “facilitating a wager on a position with respect to the outcomes of a plurality of events” using a “point” value (*i.e.*, a “price guideline” for the present value of an ongoing wager), wherein “the point may run ***continuously*** 24-hours a day for unlimited duration.” Asher 3:52-60, 15:6-10. “[S]ince the point will be changing ***in real time*** ... the display of the point may be ***updated in real time***[.]” *Id.* 14:25-28. A POSITA would have been motivated to combine Asher’s continuous, real time wager valuation techniques with Amirsadri’s method of conducting wagering events for at least the following reasons.

22. First, Amirsadri and Asher are analogous art because both are directed to cashing out of, or exiting, all or some portion of a multi-leg wager before the completion of the wagering event using a networked, electronic betting system.

Amirsadri teaches an “online” electronic betting system that offers a cash-out option in connection with a “multi-level” game of chance, such as “a Keno-type game” Amirsadri ¶¶0020-21. Asher teaches “a method for facilitating a wager on a position with respect to the outcomes of a plurality of events” by “providing a financial instrument that represents the position.” Asher 3:52-60. Asher uses a “point system” derived by a “central controller 50” to value the position and “monitor[s] the outcomes of at least one of a plurality of events” so as to “identify fluctuations in the value of the position based on the information related to the plurality of events.” *Id.* 3:52-4:9. Transfer of the financial instrument may take place, *e.g.*, between a client 10 and the house (central controller 50), before termination of the wager event. *Id.* 6:63-7:5.

23. Second, Asher explains that continuously performing wagering functionalities in real time related to the wagering event is advantageous for multiple reasons, which would have motivated a POSITA to implement Amirsadri’s methods using Asher’s continuous, real time valuation techniques. For example, Amirsadri’s progressive or pari-mutuel payouts are based on “the number of players who advance to play succeeding rounds.” Amirsadri ¶0083. Asher suggests continuously monitoring wagering information, such as the decisions of other players to forego or accept Amirsadri’s buy-out offer, to update Amirsadri’s “base prize” (or “additional prize” in later rounds) to reflect, in real time, the value of a player’s wager. Asher

14:25-33, 15:6-10. For example, as other players exit all, or a portion of, their interest in Amirsadri's wager-games, the pro-rata share of the "prize pool" could also increase such that the value of the active wagers also increases. *Id.* 9:3-9, 16:9-18. Updating Amirsadri's buy-out offers to reflect this increased value as wagering information is continuously received in real time would increase excitement and engagement in Amirsadri's disclosed games.

24. Asher explains other benefits, too. For example, Asher explains that, via continuous and/or real time data processing and transmitting, the "players not in the facility can ***follow the progress*** of their financial instruments" via a "website" (Asher 17:3-12), and the real time "***updated display*** can provide price guidelines upon which market participants may value the instruments 76 and place transactions" (*id.* 14:25-30). *See also id.* 9:3-13 ("the house monitors the events underlying financial instrument 76 in order to update regularly the house point based on the outcomes ... thereby affecting the value" and "[s]uch information may be broadcast to clients 10 of system 5 so that they may be apprised of the changing value of their [] instruments."). These benefits would have further motivated a POSITA to make the combination because they would have improved the gaming experience of Amirsadri's system by increasing player engagement by allowing players to monitor their wagering positions remotely such as through a website.

25. Moreover, a POSITA would have had a reasonable expectation of success in implementing Amirsadri's wagering events in combination with Asher's continuous and/or real time implementation. Both are implemented via software on a central "processor" or "server" (Amirsadri ¶¶0034, 0035, 0158) or "central controller" (Asher 4:47-49) that communicates with various client gaming devices (*e.g.*, Amirsadri's "input device[s]" like "PDA, a personal computer, or an Internet web page" (Amirsadri ¶0038) and Asher's clients (Asher 4:48)). Achieving the combination would involve routine software manipulation, well-within the level of ordinary skill of a POSITA. Further, Amirsadri states that "any of the above or below described method example embodiments may be provided using any of the above or below described system embodiments or ***on other systems not described herein.***" Amirsadri ¶0040. A POSITA would have therefore found the combination of Amirsadri and Asher discussed herein to be obvious and would have expected success in implementing the combination.

1. Substitute Claim 41

- a. *41[pre] – "A method of conducting a wagering event for one or more players, the wagering event comprising a defined number of legs, wherein a player is presented with at least one of a buy-out offer and a partial buy-out offer prior to completion of the wagering event, the method comprising the steps of:"*

26. Limitation 41[pre] is the preamble of Substitute Claim 41. In my opinion, and to the extent the preamble is limiting, Amirsadri discloses limitation 41[pre].

27. In my opinion, a POSITA would understand that Amirsadri discloses “[a] method of conducting a wagering event for one or more players, the wagering event comprising a defined number of legs” because it discloses “[a] **method** and system for facilitating the play of **a multi-level game of chance**” where “[p]layers who take greater risks, and advance **several levels** may achieve significantly larger prizes than at the base level.” Amirsadri Abstract, ¶0020. The players “can choose to **wager** from **pre-determined** price or prize thresholds” in “**a three round game**[.]” *Id.* ¶¶0051, 0087. An exemplary process, or “method,” for conducting Amirsadri’s multi-level game of chance is disclosed, for example, in FIG. 4, depicted below.

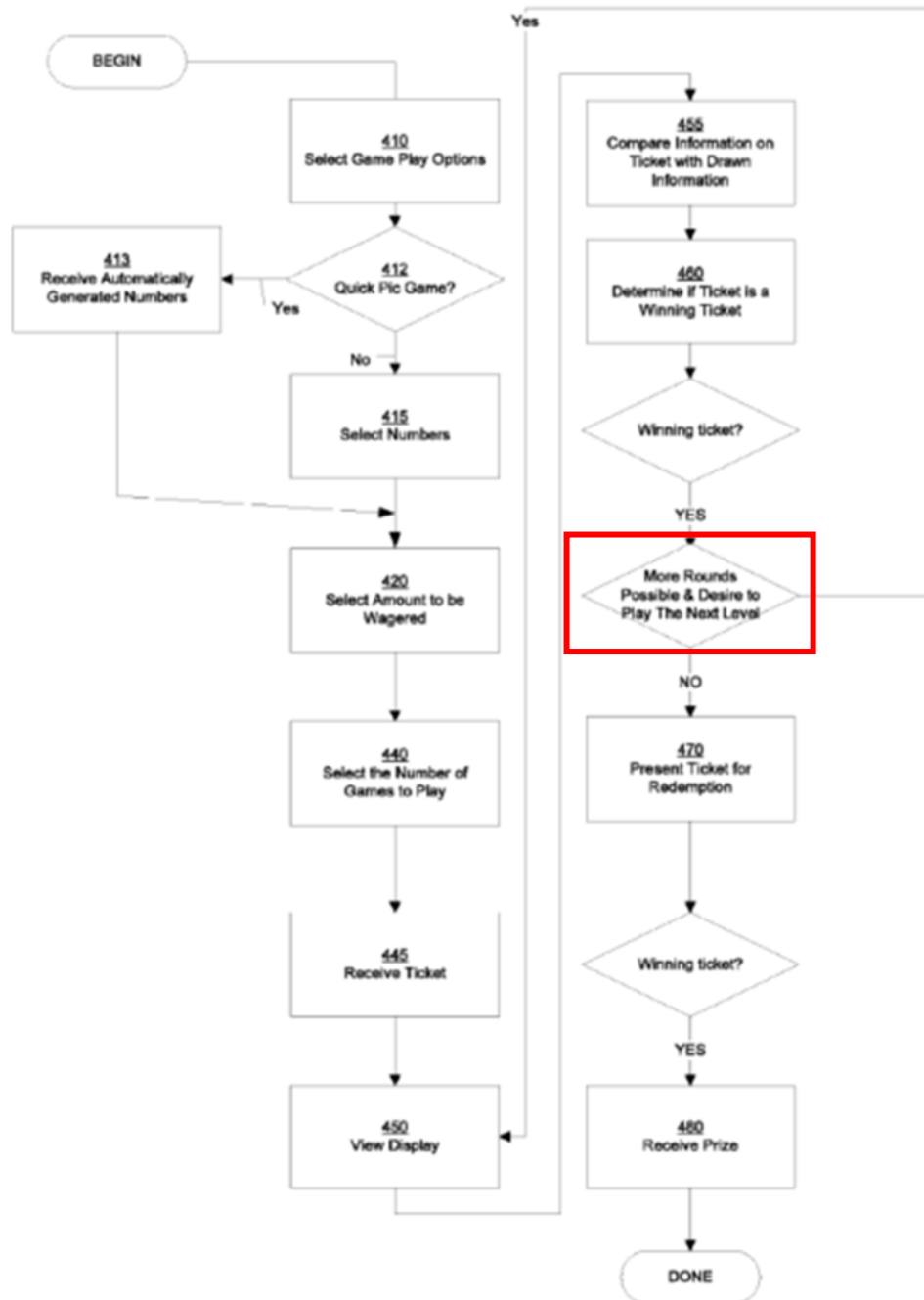


FIG. 4

Amirsadri at FIG. 4; *see also id.* ¶0084 (“FIG. 4 illustrates an example procedure for playing a game of chance, according to an example embodiment of the present invention.”).

28. In my opinion, a POSITA would understand that Amirsadri discloses “a player is presented with at least one of a buy-out offer and a partial buy-out offer prior to completion of the wagering event” because it discloses that the players “may decide to either *continue playing to the next level* or *redeem the ticket*.” *Id.* ¶0093; *see also id.* Abstract (“*offering* the player *a choice* between receiving a base prize and continued play of the multi-level game for at least an additional round”). As the players of Amirsadri can choose to “continue playing to the next level,” the buy-out offer is presented to the players prior to completion of the wagering event (*i.e.*, prior to completion of both a base round and additional round(s)). *Id.* ¶0093.

29. In addition, Amirsadri discloses that the “players may *partially redeem* their prize, so, e.g., a player betting \$3 and winning \$9 in the first round, could choose to receive \$4 as a prize and reinvest the other \$5 in the second round bet described above.” *Id.* ¶0087. A POSTA would understand that Amirsadri discloses “a partial buy-out offer” here because *partial* redemption of a prize and *partial* reinvestment of the player’s stake in the next round of the wagering event amounts to a “*partial* buy-out” of the player’s wager. In other words, the player accepts a reduced buy-out amount in exchange for only partially exiting the wager, while leaving some of the original wager amount at risk for further legs of the event.

30. To the extent not expressly disclosed by Amirsadri, a POSITA would have found it obvious to implement this “partial buy-out” functionality through as a

“partial buy-out **offer**” because Amirsadri discloses that buy-out opportunities are effectuated through server-implemented “offers.” *See, e.g.*, Amirsadri ¶¶0036 (“the processor may be further configured to, conditioned on the player winning the base round of the multi-level game, to **cause an offer to be made to the player**, the offer including a choice between receiving a base prize and continued play of the multi-level game for an additional round.”), 0021, 0023, 0027.

- b. 41[a] – “*providing one or more wagering input devices in communication with a system controller through which the one or more players may participate in a wagering event, said system controller being adapted for:*”

31. In my opinion, Amirsadri discloses limitation 41[a]. A POSITA would understand that Amirsadri discloses “providing one or more **wagering input devices** ... through which the one or more players may participate in a wagering event” because it discloses “**an input device** configured to receive information indicating a player's entry in the multi-level game for a base round” (Amirsadri ¶0035), where “[t]he **input device** may be at least one of an agent-operated lottery terminal, a player-operated kiosk, a mobile telephone, a PDA, a personal computer, or an Internet web page that is accessed by the player” (*id.* ¶0038).

32. A POSITA would understand that Amirsadri discloses “**a system controller**” in communication with the input device because it discloses that “**a processor** [is] in communication with the input device” (*id.* ¶0035) and “configured to determine whether the player entry is a winning entry in the base round of the

multi-level game” (*id.*). For example, Amirsadri discloses “**a server 1110**” including “a conventional microprocessor” that may be, via a network interface, in “communication with the interactive devices used by the players,” as depicted in FIG. 11 below. *Id.* ¶0158.

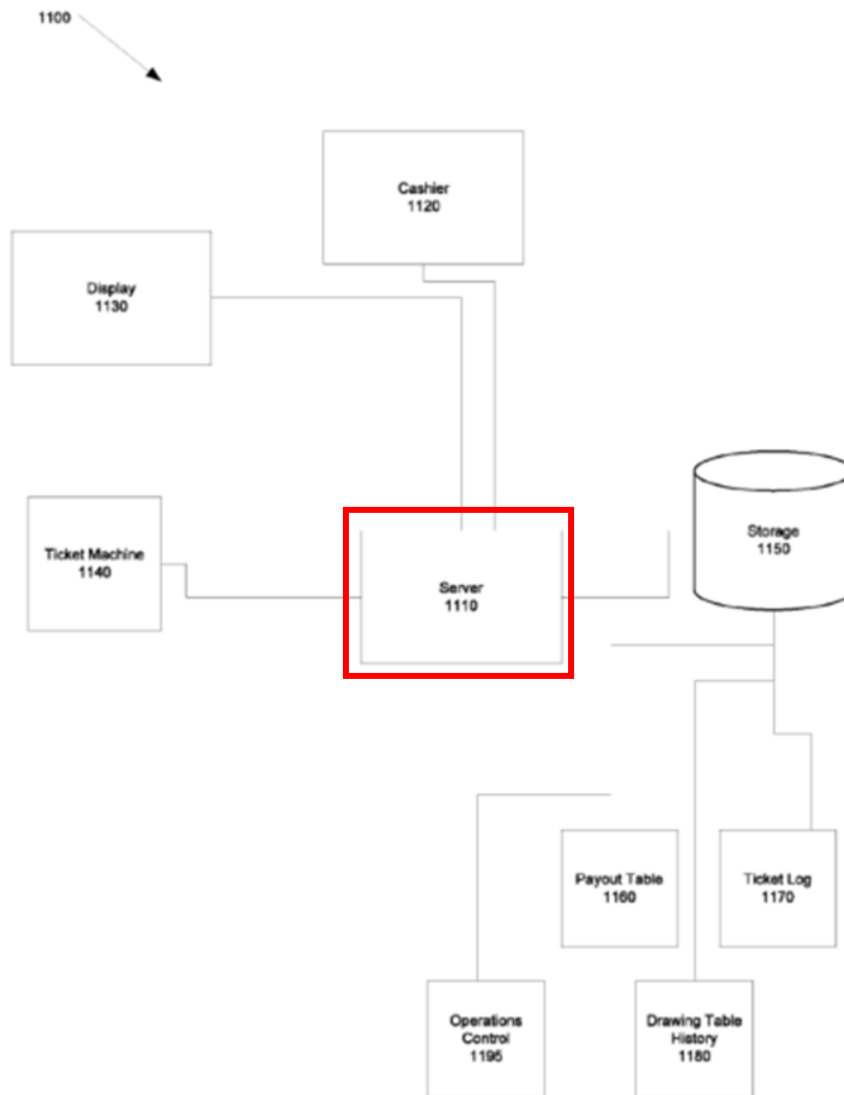


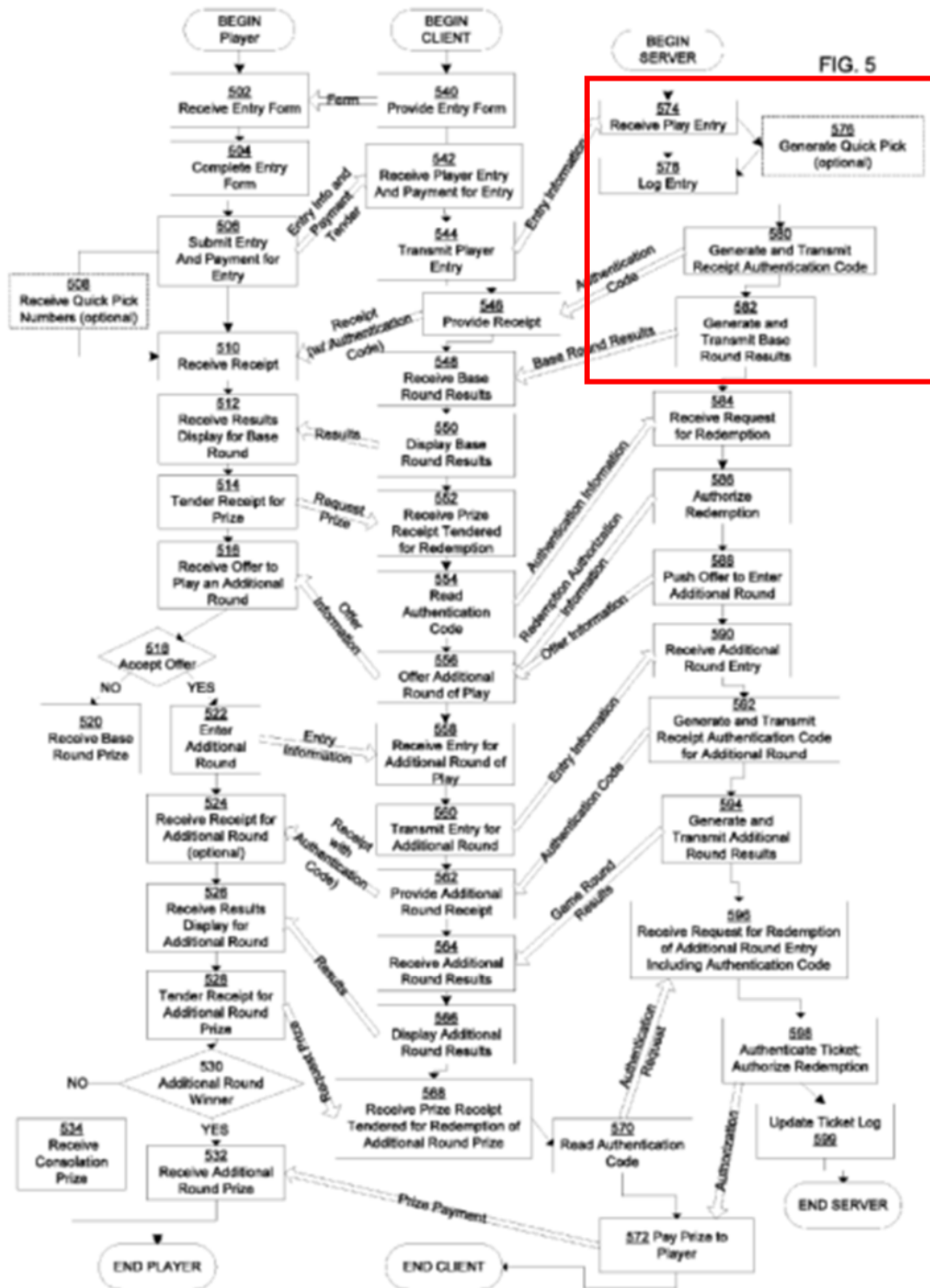
FIG. 11

Amirsadri at FIG. 11.

- c. 41[b] – “initiating the wagering event for the one or more players;”

33. In my opinion, Amirsadri discloses limitation 41[b]. A POSITA would understand that Amirsadri discloses a “system controller” adapted for initiating a wagering event for one or more players because it discloses that the “processor” executes the “instructions” that “**define a series of steps to be used to control a method.**” Amirsadri ¶0034; *see also id.* ¶0163 (“The instructions may be configured to be executed by **a processor**, which when executing the series of computer instructions **performs or facilitates the performance of all or part of the disclosed methods games and procedures.**”). FIG. 5 of Amirsadri “illustrates an example **procedure** for facilitating the play of a game of chance,” including the “modified Keno game or modified online Lottery drawing game” discussed above. *Id.* ¶0096. For example, in step 502 as depicted in FIG. 5 below, Amirsadri discloses that the player may receive “an entry form” that “identif[ies] the actions that a player must take to enter the game.” *Id.* ¶0097. Next, Amirsadri discloses at step 578, that the player “entry may be logged, e.g., in a ticket file or entry file” at a server. *Id.* ¶0126. “Authentication information confirming the player's entry may be generated, for example using conventional public-key cryptography methods used in lotteries, and may be transmitted responsive to the player entry for inclusion in the player's game receipt.” *Id.* Amirsadri next discloses that in step 582, results for an initial round of the game are determined. *Id.* ¶0127. A POSITA would understand that the server

here is “initiating the wagering event” for the one or more players because it is starting the wagering event.



Amirsadri at FIG. 5.

- d. 41[c] – “receiving a wager via the one or more wagering input devices in response to a player desiring to participate in the wagering event, the wager coinciding with each of the defined number of legs;”

34. In my opinion, Amirsadri discloses limitation 41[c]. A POSITA would understand that Amirsadri discloses “receiving a wager via the one or more wagering input devices in response to ***a player desiring to participate in the wagering event***” because the input device is “configured to receive information indicating a player's entry in the multi-level game for a base round, the entry including at least one of ***a player-selected set of entry information*** or a quick pick entry.” Amirsadri ¶0035. Referring to Fig. 5, at step 506, “the player entry and payment associated with the player’s ***wager*** may be submitted.” *Id.* ¶0100. That is, Amirsadri discloses receiving a wager (*i.e.*, a set of entry information) and payment via the input device.

35. A POSITA would understand that Amirsadri discloses “the wager coinciding with each of the defined number of legs” because it discloses a ***single*** wager including a selection of entry numbers for each of a “***base round***” and “***additional round[s] of the multi-level game.***” *Id.* ¶0021. For example, Amirsadri discloses a “Keno-type game” which includes receiving “information indicating a player’s entry in the multi-level game for a base round, the entry including at least one of a player-selected set of entry numbers or a quick pick set of entry numbers.”

Id. ¶0021. The “player-selected set of entry numbers” here “coincide[es] with each of the defined number of legs” because Amirsadri discloses that “**the player entry numbers**” (*i.e.*, the player-selected set of entry numbers from the initial wager) are compared against draw numbers at each respective round of the game.¹ *Id.* ¶¶0021, 0023. A POSITA would understand that this type of operation is consistent with

¹ While an example procedure in FIG. 5 of Amirsadri shows providing additional “entry information” to enter an additional round (*e.g.*, at step 522), Amirsadri also states that “[t]his entry may merely be an acknowledgement that the additional round is to be entered” (*i.e.*, providing additional entries is not required when entering an additional round). Amirsadri ¶0123. Indeed, Amirsadri repeatedly states “the player entry” information received in the base round is what is used to determine wins in later subsequent rounds, as consistent with the Keno-type games described by Amirsadri. *See, e.g., id.* ¶¶0021 (“The example method may include receiving information indicating a player’s entry in the multi-level game for a base round, the entry including at least one of a **player-selected set of entry numbers** ... determining whether the player entry is a winning entry in the base round of the multi-level game based, at least in part, on a comparison of **the player entry numbers** and the inning draw numbers for the **base round** ... determining whether the player entry is a winning entry **in the additional round** of the multilevel game based on a comparison of **the player entry numbers** and the additional set of winning draw numbers.”), 0023, Claims 1 and 3. Thus, a POSITA would understand that providing additional entries to enter an additional round is not necessary for at least the “Keno-type game” of Amirsadri, which is relied upon herein. *Id.* ¶¶0021, 0023.

“Keno,” which is a common game where players submit selected entry numbers (or “quick pick,” randomly selected numbers) with the initial wager, and that set of numbers is used to determine whether the player is a winner at each round. The wager, thus, “coincide[es]” with each of the defined number of legs.

36. To be sure, Amirsadri also discloses embodiments where “additional entry information, such as ***additional guess information*** for a drawing type game” is received as a condition for “entry into the additional round.” *Id.* ¶0123. Amirsadri also discloses, however, that entry into the additional round also “may merely be an acknowledgement that the additional round is to be entered” such that additional “guess information” or entry numbers are not entered in later rounds. *Id.* Indeed, Amirsadri discloses that “the player’s choice to continue play of the multi-level game rather than receive the base prize may be indicated by the failure of the player to redeem a winning ticket for the initial game round before a predetermined deadline, rather than by a direct input or request.” *Id.* ¶0026. Thus, a POSITA would understand that Amirsadri discloses conducting “additional rounds” with additional evaluations against the initial set of “player entry numbers” such that the initial wager coincides with each of the defined number of legs of the wagering event.

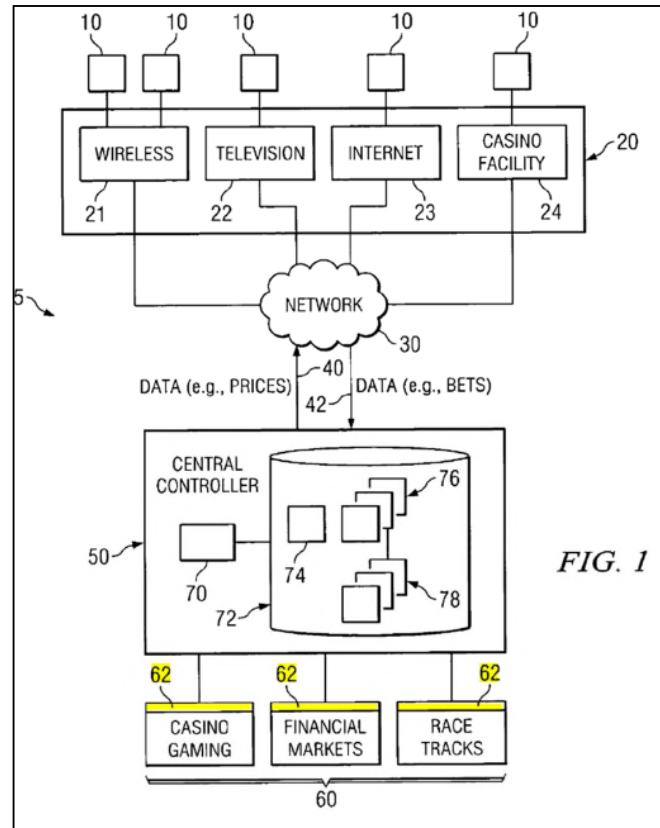
e. 41[c-1] – “continuously receiving data in real time related to the wagering event;”

37. As discussed above, Amirsadri discloses a multi-round “Keno-type game,” where an initial set of “player-selected set of entry information,” including

player entry numbers for each round of the game, is submitted along with the player's initial wager. *Supra* § Id. Amirsadri also discloses that payouts for such games can be of "progressive" or "pari-mutuel" form and can be based on "the number of players who advance to play succeeding rounds." Amirsadri ¶0083. For example, as other players exit all, or a portion of, their interest in Amirsadri's wager-games, the pro-rata share of the "prize pool" would also increase such that the value of the active wagers also increases. *Id.* ¶¶0083, 0134. However, Amirsadri does not expressly disclose continuously receiving wagering data in real time.

38. As discussed in § IV.A, *supra*, a POSITA would understand that Asher discloses "***continuously*** receiving data ***in real time*** related to the wagering event" because it discloses "facilitating a wager on a position with respect to the outcomes of a plurality of events" using a "point" value, wherein "the point may run ***continuously 24-hours a day for unlimited duration***" (Asher 3:52-60, 15:6-10); and "since the point will be changing ***in real time*** ... the display of the point may be ***updated in real time***" (*id.* 14:25-28). As Asher discloses, operating a point to update Amirsadri's "base prize" or "additional prize[s]" would require ***continuously receiving*** data in real time related to the underlying wagering event, including information regarding players that accept a prize and thus either fully or partially exit Amirsadri's games. Specifically, Asher discloses "various types of ***monitoring interfaces 62*** that allow central controller 50 to capture information associated with

the occurrence of events forming the basis for financial instruments 76,” as depicted in FIG. 1 below. *Id.* 7:56-60.



Asher at FIG. 1. One example “monitoring interface” that Asher discloses is “video surveillance.” *Id.* 8:17-24. Specifically, Asher discloses that gaming machines may be “**recorded via live video** and **the data extrapolated from the video feed** through a variety of manual or automated techniques.” *Id.*, 8:5-8; *see also id.* 8:20-24 (“The prevalence of **video monitoring** in casinos for security purposes, together with **known optical character and shape recognition software**, provides numerous opportunities for the automation of outcome-gathering steps in the present invention.”); *id.* 9:3-6 (“the house **monitors the events** underlying financial

instrument 76 in order to ***update regularly the house point based on the outcomes of those events***). Asher also discloses that gaming machines “may be mated to monitoring equipment, which transmits the outcomes of each pull event to the central controller 50 electronically.” *Id.* 8:8-11. In view of these teachings of Asher, a POSITA would have understood Asher’s monitoring interfaces 62 to continuously receive data related to wagering events. Similarly, Asher’s central controller 50 would also continuously receive data related to the wagering event from Asher’s monitoring interfaces 62. *Id.* 7:56-60.

39. A POSITA would have been motivated to combine Asher’s teachings to continuously update a “point” value to track the value of a wager with Amirsadri’s Keno-type games with buy-out offers in order to track the number of players advancing to succeeding rounds and to update Amirsadri’s “base prizes” (or “additional prizes” in later rounds) to reflect, in real time and during each round, the current value of a player’s wager. For example, as each player accepts a buy-out offer, the combined system would update the buy-out “prize” offered to the user in Amirsadri to reflect the corresponding increase in wager value.

40. A POSITA would have been motivated to apply Asher’s monitoring and updating of a “point” value to reflect the value of wagers in Amirsadri’s Keno-type game because a POSITA would understand that the potential prize award

increases incrementally with each player's acceptance of a "base prize" or "additional prize."

- f. 41[c-2] – *"recalculating, in real time and based on the continuously received data, wager information for one or more wagers associated with players participating in the wagering event;"*

41. As discussed in § IV.A, *supra*, a POSITA would understand that Asher discloses **"recalculating, in real time and based on the continuously received data, wager information** for one or more wagers associated with players participating in the wagering event" because it discloses that the slot machines may be **"recorded via live video** and **the data extrapolated from the video feed** through a variety of manual or automated techniques" (Asher 8:5-8); and "the house **monitors the events** under lying financial instrument 76 in order to **update regularly the house point based on the outcomes of those events**" (*id.* 9:3-9). "Since **the point** will be **changing in real time** as the slot machines are used by patrons at the one or more locations, **the display of the point** may be **updated in real time[.]**" *Id.* 14:25-28. That is, Asher discloses that the house monitors the wagering events *e.g.*, by recording live video of the slot machines (*i.e.*, "continuously received data") and extrapolating data from the video feed, and recalculates the point (*i.e.*, "wager information") in real time.

42. Asher also discloses that "[s]uch [updated] information may be broadcast to clients 10 of system 5 so that they may be apprised of **the changing**

value of their financial instruments 76, and further to facilitate trading of the instruments 76 between clients 10 based on *their changing valuations.*” *Id.* 9:9-13.

43. As applied to Amirsadri, a POSITA would have understood Asher’s real time recalculation of a “point” value based on continuously received wager data to recalculate the value of each active wager in Amirsadri’s Keno-type game, which is wager information for one or more wagers associated with participating players.

g. 41[c-3] – “*continuously evaluating the recalculated wager information;*”

44. As discussed in § IV.A, *supra*, a POSITA would understand that Asher discloses “*continuously evaluating* the recalculated wager information” because it discloses “facilitating a wager on a position with respect to the outcomes of a plurality of events” using a “point” value, wherein “the point may run *continuously 24-hours a day for unlimited duration*” (Asher 3:52-60, 15:6-10); and “the house monitors the events underlying financial instrument 76 in order to *update regularly the house point* based on the outcomes of those events” (*id.* 9:3-6). “*The house point may increase or decrease* according to the outcome of various underlying events thereby *affecting the value of financial instrument 76.*” *Id.* 9:6-9. That is, Asher discloses that the house continuously evaluates the real time updated house point (*i.e.*, “recalculated wager information”).

45. A POSITA would understand the combination with Amirsadri to disclose continuous evaluation of the recalculated wager information by virtue of

evaluating whether a new “prize” offer (*i.e.*, “base prize” or “additional prize” for later rounds) should be communicated to a player of Amirsadri’s Keno-type game. See Asher 7:32-37 (“Data 40 that is communicated to clients 10 may include ... updated values for financial instruments 76”). For example, if the value of the player’s wager changes (*i.e.*, by virtue of players exiting, for example, a Keno-type game with a pari-mutuel prize pool), the new value, or “point” would be continuously evaluated against the outstanding buy-out offer to determine whether it should be updated.

- h. 41[d] – “*identifying one or more winners for completed legs of each of the defined number of legs based on the wager from among the players participating in the wagering event;*”

46. In my opinion, Amirsadri discloses limitation 41[d]. A POSITA would understand that Amirsadri discloses “***identifying one or more winners*** for completed legs of each of the defined number of legs ***based on the wager from among the players*** participating in the wagering event” because it discloses that the processor is “configured to ***determine whether the player entry is a winning entry in the base round*** of the multi-level game ... and to ***determine whether the player entry is a winning entry in the additional round*** of the multilevel game ***based on a comparison of the player entry and the additional winning draw.***” Amirsadri ¶0035. That is, Amirsadri discloses identifying winners for the completed legs (*i.e.*, the base round and the additional round(s)) in the wagering event (*i.e.*, the multi-

level game) based on an initial “wager” (i.e., “player-selected set of entry information”). *Id.* ¶0021.

- i. 41[e] – “initiating at least one of a buy-out offer and partial buyout offer to any number of the one or more winners based on said evaluating, said buy-out offer or partial buy-out offer being initiated at any time before the wagering event has been completed;”

47. In my opinion, a POSITA would understand that Amirsadri discloses “**initiating at least one of a buy-out offer and partial buyout offer** to any number of the one or more winners **based on said evaluating**” because it discloses that the processor is “configured to, conditioned on the player winning the base round of the multi-level game, to **cause an offer to be made to the player, the offer including a choice between receiving a base prize and continued play of the multi-level game for an additional round.**” Amirsadri ¶0036. “[T]he prizes may depend on the number or fraction of players that elect to proceed to a round (or that choose not proceed). The largest prize or group of prizes may have a progressive element, so that the prize increases for each game entry, or for each instance of the game where the large prize is not won by a player.” *Id.* ¶0134. The “players may [alternatively,] **partially redeem** their prize” and continue playing with a reduced stake. *Id.* ¶0087. That is, Amirsadri discloses that the processor is configured with the ability to initiate full and partial buyout offers to winners based on progressive evaluation of the amount of the prize. Similarly, as discussed in §§ IV.A.1(f) and (g), *supra*, Asher

discloses that the house continuously evaluates the real time updated house point “to facilitate trading of the instruments 76 between clients 10 based on their changing valuations.” Asher 9:9-13.

48. A POSITA would understand that Amirsadri discloses “said buy-out offer or partial buy-out offer being initiated at any time ***before the wagering event has been completed***” because it discloses “allow[ing] players to ***win smaller prizes, and cash out***, or continue to play for a large life-changing prize at low odds. [For] example, the player may ***cash their entry after each round***, e.g., before a pre-determined deadline.” Amirsadri ¶0082.

49. Amirsadri and Asher renders obvious initiating full and partial buyout offers “based on said evaluating” because a POSITA would have been motivated to combine Asher’s continuous monitoring and analysis of wagering information, such as mid-round player decisions to accept buyout offers, to update (or “initiate” new) buyout offers to Amirsadri’s clients reflecting the real time value of active wagers.

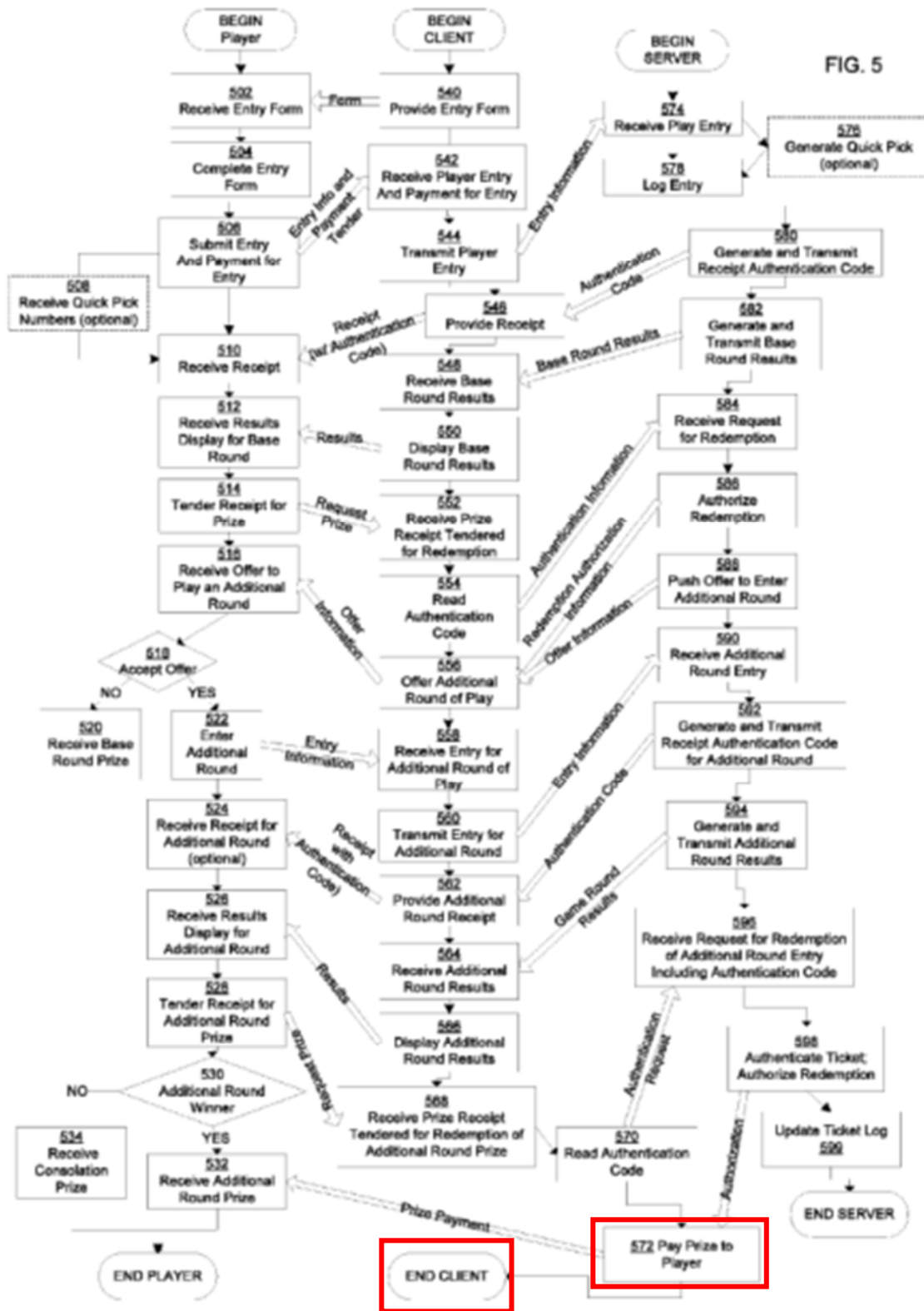
j. 41[f] – “*identifying any acceptances of said at least one of a buyout offer and partial buy-out offer that have been initiated;*”

50. In my opinion, Amirsadri discloses limitation 41[f]. A POSITA would understand that Amirsadri discloses “***identifying any acceptances*** of said at least one of a buyout offer and partial buy-out offer that have been initiated” because it discloses that the processor is configured “***responsive to the receipt of information***

indicating the player's choice to receive the base prize from the input device, to cause the base prize to be awarded the player and to end the player's participation in that instance of the multi-level game.” Amirsadri ¶0035. The “players may ***partially redeem*** their prize[.]” *Id.* ¶0087. A POSITA would understand that Amirsadri’s processor’s receipt of information indicating the player’s choice to receive the base prize in full or partially corresponds to “identifying any acceptances of said at least one of a buyout offer and partial buy-out offer.”

k. 41[g] – “*completing the wagering event; and*”

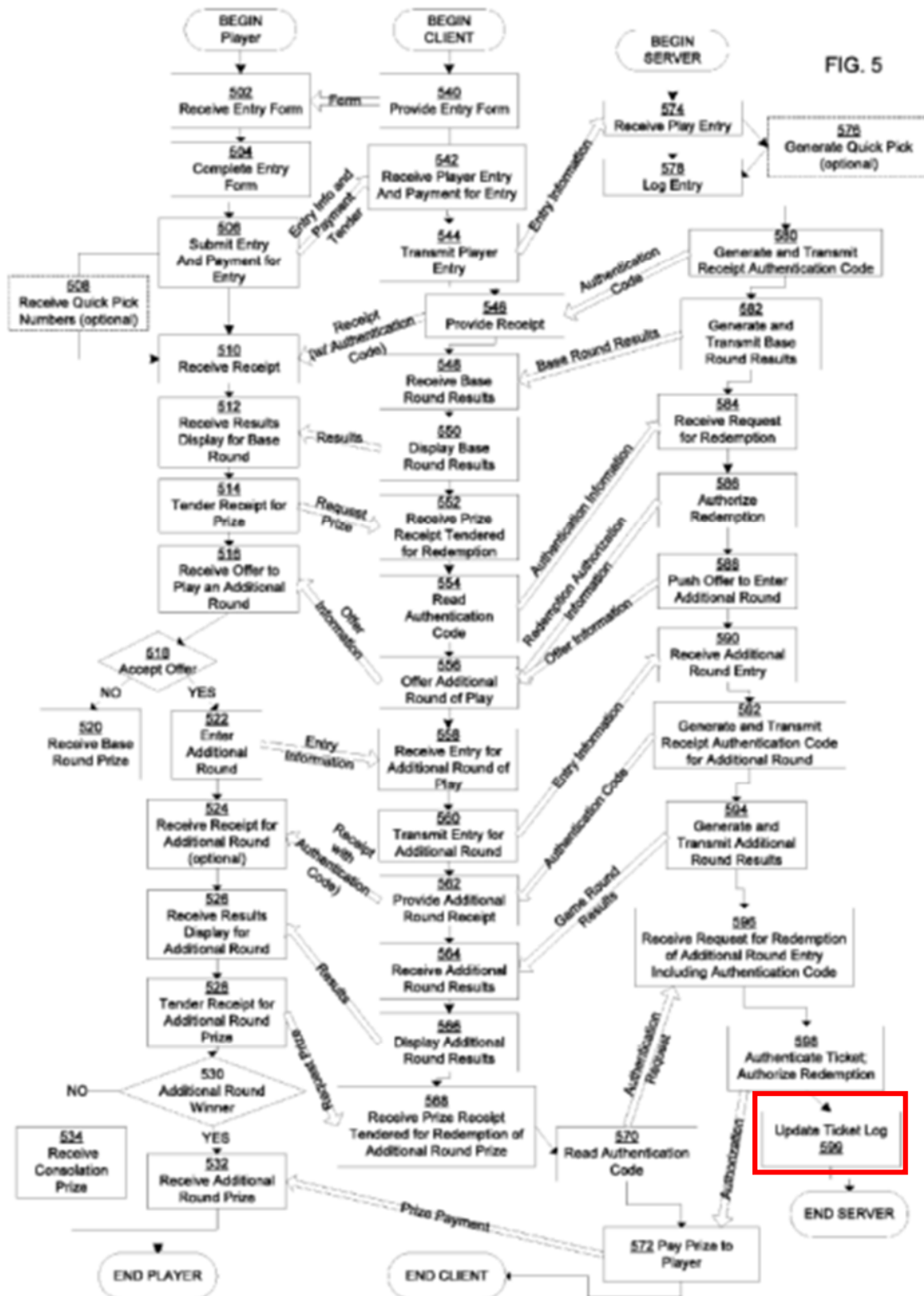
51. In my opinion, Amirsadri discloses limitation 41[g]. A POSITA would understand that Amirsadri discloses “***completing the wagering event***” because it discloses that the processor is configured “responsive to the receipt of information indicating the player’s choice to receive the base prize from the input device, to ***cause*** the base prize to be awarded the player and ***to end the player’s participation in that instance of the multi-level game.***” Amirsadri ¶0035. Amirsadri also discloses that “[a]fter 572, the example procedure for a client may be ***completed***,” as depicted in FIG. 5 below. *Id.* ¶0125.



Amirsadri at FIG. 5.

l. 41[h] – “*determining if any of the players have won.*”

52. In my opinion, Amirsadri discloses limitation 41[h]. A POSITA would understand that Amirsadri discloses “***determining if any of the players have won***” because it discloses that “***the ticket log may be updated*** to reflect that the ticket has been ***redeemed***, e.g., ***by marking the ticket as ‘redeemed’ in a winners file,***” as depicted in FIG. 5 below. Amirsadri ¶0131. That is, Amirsadri discloses that the winners are determined and recorded in “a winners file.”



Amirsadri at FIG. 5.

2. Substitute Claim 42

- a. 42[a] – *“The method of claim 41, wherein the multi outcome wagering event comprises one or more virtual games, said method further comprising:”*

53. In my opinion, a POSITA would have understood that Amirsadri in combination with Asher renders obvious “[t]he method of claim 41” for the reasons explained above, which are herein incorporated by reference.

54. In my opinion, a POSITA would understand that Amirsadri discloses “the multi outcome wagering event comprises one or more **virtual games**” because it discloses that “[t]he example method may also include **a random outcome generator** configured to determine a winning draw for the base round of the multi-level game.” Amirsadri ¶0035. The random outcome generator is “e.g., **a computer software pseudo random number generator**” that is a virtual game, as opposed to real world events. *Id.* ¶0160. That is, a POSITA would understand Amirsadri’s multi-level game using “a computer software pseudo random number generator” to be a “virtual game.”

- b. 42[b] – *“initiating the buy-out offer prior to completion of the one or more virtual games, but after an outcome of the one or more virtual games has been determined,”*

55. In my opinion, a POSITA would understand that Amirsadri discloses “initiating the buy-out offer **prior to completion of the one or more virtual games, but after an outcome of the one or more virtual games has been determined**” because it discloses that “the processor may be further configured to, **conditioned**

on the player winning the base round of the multi-level game, to cause an offer to be made to the player, the offer including a choice between *receiving a base prize* and continued play of the multi-level game *for an additional round.*” Amirsadri ¶0036. That is, Amirsadri discloses that the offer to “receiv[e] a base prize” (*i.e.*, a buy-out offer) is made prior to “an additional round” of the multi-level game (*i.e.*, prior to completion of the one or more virtual games), but after “the player w[on] the base round of the multi-level game (*i.e.*, after an outcome of the one or more virtual games has been determined). *Id.*; *see also id.* ¶0082 (“the player may cash their entry after each round, *e.g.*, before a pre-determined deadline”).

- c. 42[c] – “said buy-out offer including a price that is at least partially based on random-number-generated outcomes.”

56. In my opinion, a POSITA would understand that Amirsadri discloses “said buy-out offer including a price that is *at least partially based on random-number-generated outcomes*” because it discloses that “[t]he example method may also include *a random outcome generator* configured to determine a winning draw for the base round of the multi-level game.” Amirsadri ¶0035. Subsequently, the winning player may be offered to choose to “receive *the base prize* ... to be awarded the player and to end the player's participation in that instance of the multi-level game.” *Id.* That is, Amirsadri discloses that the offer to “receive the base prize” with “a certain amount” (*i.e.*, the buy-out offer including a price) is determined at

least partially based on “a winning draw” from “a random outcome generator” (*i.e.*, random-number-generated outcomes). *Id.* ¶¶0035, 0042.

V. Conclusion

57. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross-examination in the case and that cross-examination will take place within the United States. If cross-examination is required of me, I will appear for cross-examination within the United States during the time allotted for cross-examination.

58. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code.

Executed this 10th day of January 2024, in Washington D.C.

Respectfully submitted,



Dwight Crevelt