

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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INTERACTIVE COMMUNICATIONS INTERNATIONAL, INC.  
Petitioner,

v.

BLACKHAWK NETWORK INC.,  
Patent Owner

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Case No. IPR2024-00465  
U.S. Patent No. 11,488,451

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**DECLARATION OF JEFFREY MILLER, PH.D.**

I, Jeffrey Miller, declare as follows:

**I. INTRODUCTION**

1. I have been retained by Patent Owner, Blackhawk Network Inc. (“Patent Owner” or “Blackhawk”), to investigate and opine on certain issues relating to Interactive Communications International, Inc.’s (“Petitioner”) Petition for Inter Partes Review of U.S. Patent No. 11,488,451, Case No. IPR2024-00465 (the “Petition”), which challenges validity of claims 1-24 (the “Challenged Claims”) of U.S. Patent No. 11,488,451 (“the ’451 patent”). I also have been asked to review certain opinions provided by Michael Hutton in a declaration (EX1003) provided in support of the Petition.

2. I am being compensated at my usual consulting rate of \$600 per hour for my technical analysis in this matter. My compensation is not contingent upon the results of my work.

**A. Qualifications**

3. I am currently the Dean of Engineering and Computational Sciences and a Professor of Computer Science at Southern Utah University (SUU). I have served in this position since July 2022. In this role, I oversee the departments of Computer Science and Cybersecurity (with programs in Computer Science, Software Development, Information Technology, and Cybersecurity), Engineering and

Technology (with programs in Civil Engineering, Mechanical Engineering, Construction Management, and Engineering Technology), Mathematics (with programs in Theoretical Mathematics, Actuarial Mathematics, and Mathematics Education), and Aviation (Fixed-Wing Pilot, Rotor Pilot, Aviation Maintenance Technician, and Aviation Administration and Leadership).

4. I teach courses in the Computer Science and Cybersecurity department, specifically on software engineering and software development. My current research also focuses on the software and network architectures and algorithms used in mobile and wireless communication, ethics in intelligent applications, and science, technology, engineering, and mathematics (STEM) education in K12 and higher education.

5. I was previously the Department Chair of the Information Technology Department and a Professor of Computer Science and Information Technology Practice at the University of Southern California (“USC”). In this role, I oversaw programs in Applied Analytics, Artificial Intelligence, Blockchain, Cloud Computing, Computer Programming, Connected Devices, Cybersecurity, Digital Forensics, Digital Entrepreneur, Mobile App Development, Technical Game Art, Video Game Production, Video Game Programming, and Web Development. I was

employed by USC since August 2013. I taught courses in computer programming, software development, algorithms, and software engineering.

6. As further explained in my CV, from February 2002 through August 2007, I was an Adjunct Professor in the Computer Science department at California State University, Los Angeles (CSULA). From August 2007 through August 2013, I was an Assistant Professor, and later Associate Professor, of Computer Engineering at the University of Alaska Anchorage (UAA). And from December 2009 through August 2013, I served as an Online Adjunct Professor in the Information Technology Program at American Public University System/American Military University System, where I facilitated online education for mostly active or retired military students around the world in the areas of software engineering, computer programming, enterprise development, and networking.

7. In 2005, I founded a company called Imaginary Technology, LLC. As part of my work, I created handheld and standalone point-of-sale systems. The point-of-sale systems allowed customers to order items without an employee, sending the order to the backend system and completing payment unassisted. The system accepted credit/debit card and gift cards, and cash transactions could be completed with the assistance of an employee. During development of the point-of-sale systems, I worked with business owners and potential clients to determine the

requirements of the system, I managed a team of five software engineers to implement and install the systems, and I was responsible for, among other things, procuring hardware and working with customers to improve the system.

8. From January 2001 through June 2001, I developed an e-commerce site that allowed distributors and retailers to automate the ordering of their products. The web site allowed people in the entertainment industry to view, purchase, and download stock footage in real-time without the need for a physical medium to be shipped to them.

9. I graduated from USC, *cum laude*, with a Bachelor of Science degree in Computer Engineering and Computer Science in May 2002. I hold a Master of Science degree in Computer Science from USC (December 2002) with an emphasis in systems and software engineering. In May 2007, I earned a Ph.D. in Computer Science from USC.

10. I am an inventor on U.S. Patent No. 9,715,369, "Vehicle accessory engagement tracking," related to data collection from snowplows for use in intelligent transportation applications.

11. I have secured over \$8,500,000 for projects concerning distributed networks and applications, and science, technology, engineering, and mathematics (STEM) education at the K12, undergraduate, and graduate levels.

12. I have been a member of the Institute of Electrical and Electronics Engineers (IEEE) since 2002 and became a senior member in 2015. “IEEE, an organization dedicated to advancing innovation and technological excellence for the benefit of humanity, is the world’s largest technical professional society.”<sup>[1]</sup> I have been a member of the IEEE Education Society, the IEEE Communications Society, the IEEE Computer Society, the IEEE Intelligent Transportation Systems Society, and the IEEE Vehicular Technology Society.

13. I have been a member of the Association of Computing Machinery (ACM) since 2002, and I became a senior member in 2017. “ACM brings together computing educators, researchers, and professionals to inspire dialogue, share resources, and address the field’s challenges. As the world’s largest computing society, ACM strengthens the profession’s collective voice through strong leadership, promotion of the highest standards, and recognition of technical excellence.”<sup>[2]</sup> I have been a member of the ACM Special Interest Group on Computer Science Education.

14. I have authored or co-authored 75 technical publications and a lab manual accompanying a textbook on computer security.

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<sup>[1]</sup> <https://www.ieee.org/about/ieee-history.html>

<sup>[2]</sup> <https://www.acm.org/about-acm/about-the-acm-organization>

15. My curriculum vitae, which is EX2053, contains a more detailed description of my background.

**B. Scope of Review**

16. As indicated, I have been tasked to review a petition for *inter partes* review filed by Petitioner relating to the Challenged Claims of the '451 Patent. I understand that the parties are involved in litigation involving lottery ticket systems. I have not undertaken a review of materials from that litigation.

17. I understand that, in this *inter partes* review, Petitioner asserts that the Challenged Claims are invalid over prior art on the following Grounds:

- Ground 1: Claims 1-9, 11-24 are challenged as obvious over Irwin, U.S. Patent No. 9,405,984 (“Irwin”).
- Ground 2: Claim 10 is challenged as obvious over Irwin and Szrek, U.S. Patent No. 7,627,497 (“Szrek”).
- Ground 3: Claims 1-10, and 12-24 are challenged as obvious over Szrek and Llach, U.S. Patent Publication 2013/0041768.
- Ground 4: Claim 11 is challenged as obvious over Szrek, Llach, and Gilmore, U.S. Patent Publication 2005/0233797.

*See* Petition, paper 2 at 2 (herein “Pet.”). As explained herein, it is my opinion that the Challenged Claims are not obvious on the Grounds presented.

### C. Materials Considered

18. I considered the materials referenced in this declaration when developing my opinions, including the following:

- Incomm's Petition for *Inter Partes* Review of U.S. Patent No. 11,488,451, IPR2024-00465, paper 1, and exhibits thereto;
- Decision Granting Institution of *Inter Partes* Review, IPR2024-00465, paper 11;
- The Deposition of Michael Hutton, conducted October 16, 2024 (EX2051).

19. I provided a declaration in *Inter Partes* Review case no. IPR2020-01235, involving U.S. Patent No. 9,865,135, which is a parent patent to the '451 Patent. *See* EX1001.0001 (related U.S. applications). *See* IPR2020-01235, EX2038. I reviewed material relating to IPR2020-01235 as explained in that declaration.

## II. THE APPLICABLE LAW

20. I am not an attorney, and I am not providing any expert opinions on the law. However, I have been advised of certain basic legal principles applicable to my analysis in this report, and I have applied those principles in forming my opinions. Those principles are provided below:

**A. General Patent Law**

21. I understand that determining the validity of a patent requires a two-step analysis. First, the meaning and scope of the patent claims are construed, and second, the construed claims are compared to the prior art.

22. I understand that, in the context of an *inter partes* review, the prior art may comprise patents or printed publications. I also understand that a “printed publication” is a publication sufficiently accessible to the public interested in the art and depends upon dissemination and accessibility.

**B. Level of Ordinary Skill in the Art**

23. I understand there is a concept in patent law known as the “person having ordinary skill in the art” (“POSITA,” for short). I understand that this concept refers to a person who is trained in the relevant technical field of a patent without possessing extraordinary or otherwise exceptional skill. I further understand that factors such as the educational level of those working in the field, the sophistication of the technology, the types of problems encountered in the art, prior art solutions to those problems, and the speed at which innovations are made may help establish the level of skill in the art. I understand the level of skill of the person of ordinary skill is to be assessed at the time of the claimed invention.

**C. Principles of Claim Construction**

24. I understand that, to construe the meaning of a claim term, a court will first look to the claim language itself and its usage in context with other claim terms. I understand that courts will defer to the ordinary and customary meaning that the terms would have to a POSITA at the time of the invention.

25. I also understand that a court will look to intrinsic evidence if the meaning of the term to a person having ordinary skill in the art at the time of the invention is unclear. I have been informed that this intrinsic evidence includes the context of the words in the claim, the specification of the patent, and the prosecution history of the patent.

26. I understand that claim terms are interpreted within the context of other terms from the claim. For example, when a claim lists elements separately from each other, the claim language provides a clear implication that those elements are distinct components of the patented invention.

27. I understand that the specification is considered the single best guide to the meaning of a disputed term. I understand that, while the specification is to be used to interpret terms presented in a claim, it is impermissible to import limitations from the specification into a claim.

28. I understand that the prosecution history is an important source of intrinsic evidence and generally relevant to the proper interpretation of a claim. I understand that the prosecution history can provide additional context that, in addition to the written description, is helpful in interpreting the claims. Further, I have been informed that prosecution history is useful in determining what the patentee believed they originally were claiming, and whether the patentee has narrowed a potential claim construction in an amendment or argument to distinguish the claims over the prior art. Thus, I understand prosecution history is relevant in claim construction.

29. Also, I have been informed that a patentee can become their own “lexicographer” by defining terms within the patent however they wish, as long as they do so explicitly. If the inventor acts as their own lexicographer to give a claim term a special definition, that definition must be set forth with reasonable clarity, deliberateness, and precision. I understand that such special definitions can be provided within the patent’s specification or in the patent’s prosecution history.

30. Moreover, I understand that a patent applicant can disavow claim scope by making clear statements that the claimed invention does or does not include a particular feature. I understand that, as an example, a disavowal may occur when a patent applicant makes statements during prosecution that would cause a competitor

to reasonably conclude that the applicant clearly and unmistakably limited the scope of its claims.

31. If the meaning of a term is clear from the claim language and the intrinsic evidence, I understand that the claim construction must stop there. I have been informed that only if the meaning of the asserted claims cannot be determined after assessing the intrinsic evidence, may extrinsic evidence be considered. I have been informed that such extrinsic evidence may include expert testimony, dictionaries, and well-known treatises. Even if extrinsic evidence is considered, the claim construction may not be inconsistent with the construction mandated by the intrinsic evidence.

32. I understand that, when a dependent claim recites elements that are comprised by an element of an independent claim, the element that appears in the independent claim has a scope broad enough to encompass the elements of the dependent claim.

**D. Obviousness**

33. It is my understanding that, to prove that a claim is invalid for obviousness under 35 U.S.C. § 103, the challenger of its validity must prove that, for example, two or more prior art references in combination disclose, expressly or inherently, every claim limitation and also that the claim, as a whole, would have been obvious to a person of ordinary skill in the art at the time the invention was made.

34. It is my understanding that the relevant standard for obviousness under 35 U.S.C. § 103 is as follows:

A patent for a claimed invention may not be obtained, notwithstanding that the claimed invention is not identically disclosed as set forth in section 102, if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains. Patentability shall not be negated by the manner in which the invention was made.

35. In determining whether or not a patented invention would have been obvious, I understand that the following so-called “*Graham*” factual inquiries must be made: (1) the scope and content of the prior art; (2) the differences between the prior art and the claims at issue; (3) the level of ordinary skill in the pertinent art at the time the invention was made; and (4) any secondary considerations, including commercial success, long felt but unsolved needs, failure of others, etc.

36. I understand that a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was independently known in the prior art. Most, if not all, inventions rely on building blocks of prior art. The challenger of a patent’s validity must prove that, at the time of the claimed invention, there was a reason that would have prompted a person having ordinary skill in the field of the invention to combine the known elements in a way the claimed invention does, taking into account such factors as:

- a. whether the claimed invention was merely the predictable result of using prior art elements according to their known function(s);
- b. whether the claimed invention amounted to nothing more than using a known technique to improve similar devices or methods in the same way;
- c. whether the claimed invention provides an obvious solution to a known problem in the relevant field;
- d. whether the prior art teaches or suggests the desirability of combining elements claimed in the invention;
- e. whether the prior art teaches away from combining elements in the claimed invention;
- f. whether it would have been obvious to try the combinations of elements, such as when there is a design need or market pressure to solve a problem and there are a finite number of identified, predictable solutions; and
- g. whether the change resulted more from design incentives or other market forces.

37. To find the invention obvious in light of a prior art combination, the prior art combination must have provided a reasonable expectation of success.

38. I further understand that it is not permissible to use hindsight in assessing whether a claimed invention is obvious. Rather, I understand that, to assess obviousness, one places oneself in the shoes of a person having ordinary skill in the relevant field of technology at the time the invention was made who is trying to address the issues or solve the problems faced by the inventor, considering only what was known at the time of the invention and ignoring current knowledge of the inventions.

39. Regarding the fourth step in the four-step process for assessing obviousness (the so-called *Graham* inquiries), specifically the step involving “objective considerations,” I have been told that some of the factors that may be considered are those of copying, a long felt but unsolved need, failure of others, commercial success, unexpected results created by the claimed invention, unexpected properties of the claimed invention, licenses showing industry respect for the invention, and skepticism of skilled artisans before the invention was made.

### **III. THE '451 PATENT**

40. The '451 Patent was granted in November 2022 from application serial no. 16/280,629 (the “'629 application”), which was filed in February 2019:

(21) Appl. No.: **16/280,629**

(22) Filed: **Feb. 20, 2019**

EX1001.0001.

41. The '451 Patent identifies itself as a continuation application from several other patent filings, including patent filings made in 2015:

**Related U.S. Application Data**

(63) Continuation of application No. 15/833,566, filed on Dec. 6, 2017, now Pat. No. 10,769,894, which is a continuation of application No. 14/679,028, filed on Apr. 6, 2015, now Pat. No. 9,865,135.

EX1001.0001. I understand that, in this circumstance, the '451 Patent's claims are treated as if they were filed on the date of their parent patent filings. For purposes of my analysis in this declaration, I have evaluated the Challenged Claims as if they were filed in April 2015.

**A. The Challenged Claims**

42. The text of the Challenged Claims is presented below. Claim recitations are annotated with brackets in blue text to simplify discussion of the claims' recitations in my analysis:

**Claim 1:** A method for providing a manufactured, pre-printed, random draw lottery ticket comprising:

(a) receiving, by a third-party transaction processor, a transaction request from a retailer point of sale (POS) to activate the manufactured, pre-printed, random draw lottery ticket, wherein

[1] the manufactured, pre-printed, random draw lottery ticket [a] is selected by a customer prior to initiation of a check-out process and [b] is presented by the customer for activation during the check-out process,

[2] wherein the third-party transaction processor receives transaction requests from a plurality of different retailers;

(b) providing, via a first secured communication, by the third-party transaction processor, to a lottery administration system unique identification information associated with pre-printed lottery ticket information received from the retailer POS without the use of lottery hardware; and

(c) receiving, via a second secured communication, by the third-party transaction processor, from the lottery administration system, indication that draw information has been associated with the manufactured, pre-printed, random draw lottery ticket.

**Claim 2:** The method of claim 1, wherein receiving the transaction request comprises receiving unique product information associated with the manufactured, pre-printed, random draw lottery ticket over a secure communication channel from the retailer POS.

**Claim 3:** The method of claim 1, wherein draw information is made available on a printed receipt; by scanning a code on the manufactured, pre-printed, random draw lottery ticket;

or by entering a unique identifier associated with the manufactured, pre-printed, random draw lottery ticket into an online website or mobile application.

**Claim 4:** The method of claim 1, further comprising receiving unique product information associated with the manufactured, pre-printed, random draw lottery ticket, and wherein the third-party transaction processor provides the transaction requests from plurality of different retailers to a single lottery system.

**Claim 5:** The method of claim 4, wherein the product information is sufficient to determine one or more of:

a game type associated with the manufactured, pre-printed, random draw lottery ticket;

a wager amount associated with the manufactured, pre-printed, random draw lottery ticket; and

a number of wagers associated with the manufactured, pre-printed, random draw lottery ticket.

**Claim 6:** The method of claim 1, further comprising retrieving unique identification information associated with the manufactured, pre-

printed, random draw lottery ticket from the received product information.

- Claim 7:** The method of claim 1, further comprising validating the received transaction request.
- Claim 8:** The method of claim 7, wherein validating the received identification information comprises verifying that the product information corresponds to identification information associated with the manufactured, pre-printed, random draw lottery ticket.
- Claim 9:** The method of claim 8, wherein validating the transaction information includes verifying that the product is validly distributed by retailer of the plurality of different retailers.
- Claim 10:** The method of claim 7, wherein the validation comprises age validation.
- Claim 11:** The method of claim 1, wherein the information provided to the lottery administration system includes one or more randomly determined lottery numbers generated at the time the manufactured, pre-printed, random draw lottery ticket is purchased at the retailer POS.
- Claim 12:** The method of claim 1, wherein the information provided to the lottery administration system includes one or more randomly determined lottery numbers associated with the manufactured, pre-printed, random draw lottery ticket prior to the time the manufactured, pre-printed lottery ticket is purchased at the retailer POS.
- Claim 13:** The method of claim 1, wherein the retailer POS does not use lottery hardware at a retailer location to activate the lottery ticket.
- Claim 14:** The method of claim 1, wherein the manufactured, pre-printed, random draw lottery ticket comprises a barcode.
- Claim 15:** The method of claim 14, wherein the barcode comprises a first party information and a second party information.
- Claim 16:** The method of claim 14, wherein the barcode comprises a universal product code and pre-printed lottery ticket information.

- Claim 17:** The method of claim 1, wherein the manufactured, pre-printed, random draw lottery ticket contains information used to redeem a winning prize.
- Claim 18:** The method of claim 1, wherein the lottery administration system generates wagers for the manufactured, pre-printed, random draw lottery ticket and a draw date is assigned to the wagers.
- Claim 19:** The method of claim 1, wherein lottery numbers are entered in a draw.
- Claim 20:** The method of claim 1, wherein the first secured communication, the second secured communication, or combinations thereof are encrypted.
- Claim 21:** The method of claim 1, wherein activation requests are received from the plurality of different retailers and for at least one of the plurality of different retailers, the activation requests are received from a plurality of retailer locations and from a plurality of retailer points of sale at the plurality of retailer locations.
- Claim 22:** The method of claim 21, wherein the activation requests include requests for a plurality of different lottery games.
- Claim 23:** The method of claim 22, further comprising validating, by the third-party transaction processor, transaction information from the plurality of different retailers.
- Claim 24:** The method of claim 22, wherein validating the transaction information includes verifying that a product is validly distributed by a retailer of the plurality of different retailers and, where the product is verified, providing the transaction information to the lottery system.

*See* EX1001.0016-17.

**B. Summary of the '451 Patent's Specification Disclosure**

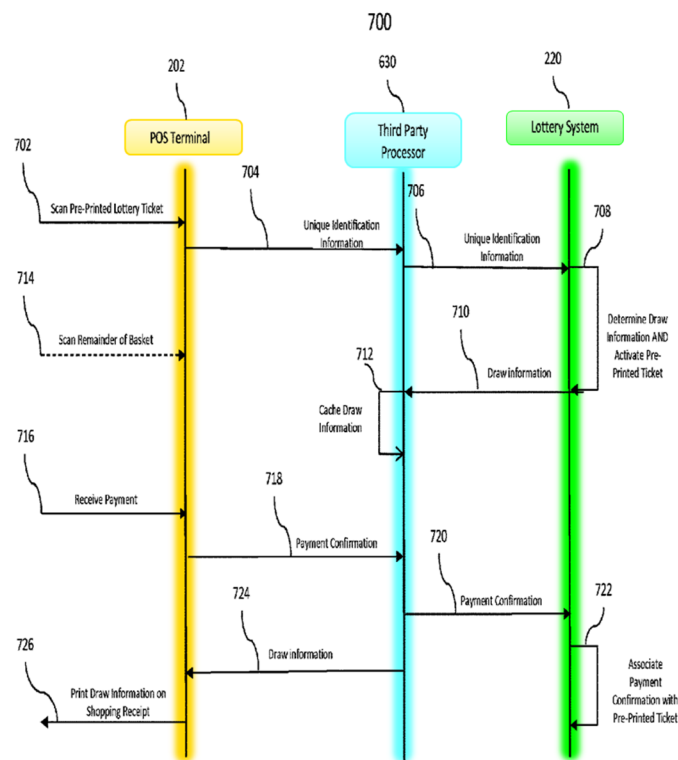
43. The '451 Patent is directed "to lottery systems and in particular to the sale and activation of pre-printed draw based lottery tickets through the retailers Point of Sale

without the need for additional lottery hardware.” EX1001 col. 1:13-16. At the time of the invention, “[t]ickets for draw based lotteries [were] typically printed at the time of purchase on special ticket paper by a printing device approved by the lottery administering body.” *Id.* col. 1:37-39. These issues created barriers to use of lottery systems at multi-lane retail environments due to capital expense and the requirement of operator training. *Id.* col. 1:59-67. Use of existing retailer Point of Sale (“POS”) equipment also was regarded as ineffective because the retailers’ low quality receipt paper deteriorates prematurely. *Id.* col. 2:1-4.

44. The ’451 Patent discloses techniques “that provide[] the ability to include online lottery tickets that can be placed in a customer’s shopping cart and paid for during the normal checkout process without the use of specialized hardware such as lottery terminals, ticket printers or customized devices at the point of purchase for the purpose of producing the lottery ticket.” *Id.* col. 2:52-58. “The online lottery ticket is manufactured and distributed as pre-printed lottery tickets that do not have a draw date or wager (i.e. lottery numbers) assigned or associated to the pre-printed ticket.” EX1001 col. 3:4-7. The pre-printed tickets each would have a unique bar code that identifies the particular pre-printed ticket and would also have a Universal Product Code bar code that identifies the lottery product. *Id.* col. 3:7-10. “Once scanned by the retailer’s POS and paid for by the customer, the lottery system will generate wagers for the pre-printed ticket and assign the next available draw date.”

*Id.* col. 3:17-20. “The generated numbers, the draw date and unique ticket identifier is printed on the customers shopping receipt.” *Id.* col. 3:20-22.

45. Independent claim 1 recites a method for providing a manufactured, pre-printed, random draw lottery ticket. The '451 Patent discloses various implementations of this method in FIGS. 7 and 8 in which a POS terminal 202 (*gold*) communicates with a third party transaction processor 630 (*blue*), and the transaction processor communicates with a lottery system 220 (*green*):

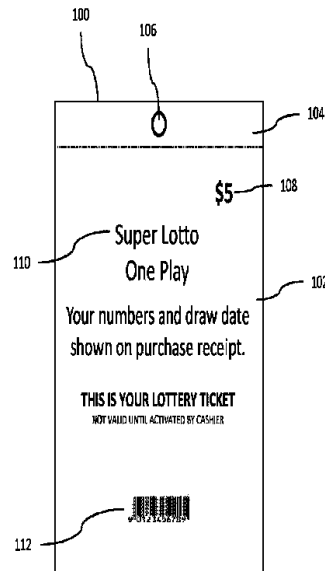


**'451 Patent (EX1001), FIG. 7 (annotated)**

*See also* EX1001 col. 8:6-9:64, FIGS. 6, 8.

46. The lottery ticket is a manufactured, pre-printed, random draw lottery ticket.

An exemplary ticket 100 is shown in FIG. 1:



**'451 Pat. (EX1001), FIG. 1 (excerpt)**

47. The ticket 100 is configured to be used in a retail location in the same way that other merchandise is used. It is selected by a customer during ordinary retail shopping, and it is paid for during an ordinary retail check out process:

The pre-printed tickets may be manufactured and shipped to retail locations. ... Customers can select a lottery product at any time with no additional interaction with a lottery retailer and drop the pre-printed lottery ticket(s) into their shopping cart. During the checkout process, the pre-printed ticket is scanned by the cashier in the retailer's POS as they would scan any other product being purchased.

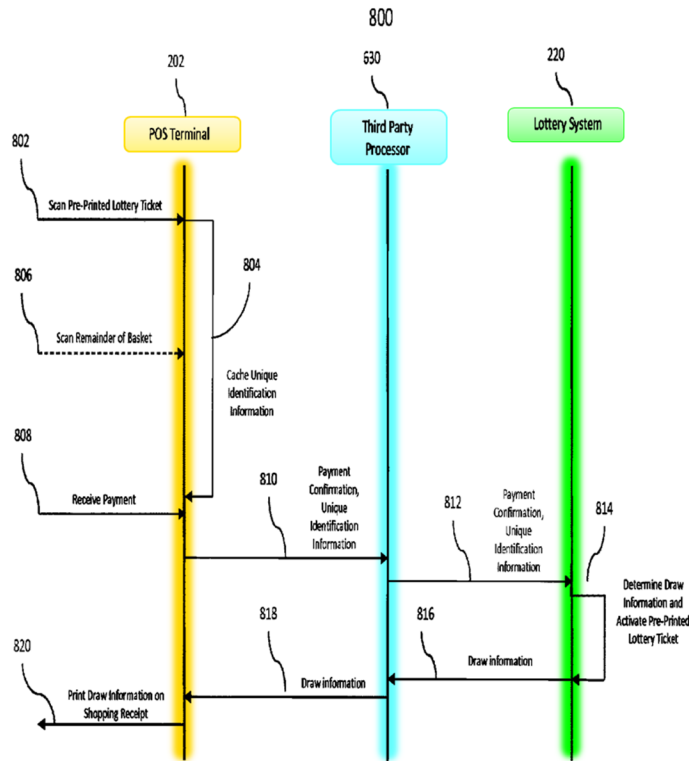
EX1001 col. 4:17-26; *see also id.* col. 2:52-58.

48. During checkout, the customer presents the preprinted lottery ticket to a cashier as one of any number of merchandise items that the customer selected during shopping. *Id.* col. 9:4-7. A POS terminal scans a pre-printed lottery ticket. *Id.* col.

9:7-10. The scan captures information from a bar code that “identifies the particular pre-printed ticket” and from a “Universal Product Code bar code that would identify the lottery product.” *Id.* col. 3:7-10; *see also id.* col. 5:65-67 (“Barcode information will contain the Ticket Unique Identifier, Universal Product Code and may contain price information.”). The POS terminal 202 communicates the “unique identification information and details of the pre-printed ticket ... to the transaction processor 630 who in turn communicates (706) the unique identifier and pre-printed ticket details to a lottery system 220.” *Id.* col. 7-12.

49. The lottery system 220 verifies the ticket information, and determines draw and wager information. *Id.* col. 12-14. The lottery system 220 activates the ticket and communicates the draw and wager information to the POS terminal. *Id.* In the FIG. 7 implementation, the lottery system 220 activates the lottery ticket even before receiving payment confirmation, and it sends draw and wager information to the transaction processor 630. *Id.* col. 9:16-23 The transaction processor 630 caches the draw and wager details, and it sends these details to the POS terminal 202 only after it receives confirmation from the POS terminal that payment has been received. *Id.*

50. In the FIG. 8 implementation, the transaction processor 630 receives payment confirmation from the POS terminal 202 in the same communication 830 that carries unique identification information scanned from the lottery ticket:



**'451 Pat. (EX1001), FIG. 8 (annotated)**

The third party processor 630 sends the payment confirmation to the lottery system 220 in the same communication 822 that provides the unique identification information. *See id.* col. 9:37-63.

### **C. The Prosecution History**

51. As part of my review, I reviewed the prosecution history of the '451 Patent. EX1002. Below, I summarize the portions of the prosecution history that are important to my review of the Challenged Claims.

52. As discussed above (¶ 40), the '451 Patent granted from the '629 application, which was filed February 20, 2019. The '629 application is a continuation application of two other non-provisional applications, the earliest of which was filed in April 2015. The '629 application was filed with twenty claims. EX1002.0771-0774. After a restriction requirement, claims 1-19 of '629 application were examined.

53. In August 2019, the Patent Office rejected all claims from the '629 application on prior art grounds. Specifically, it rejected claims 1-18 as anticipated by Sandvick, U.S. Patent 9,251,663, and it rejected claim 19 as obvious over Sandvick and Yacenda, U.S. Patent 6,332,446:

***Claim Rejections - 35 USC § 102***

Claims 1-18 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by Sandvick (US Patent 9,251,663).

EX1002.0695.

***Claim Rejections - 35 USC § 103***

Claim 19 is rejected under 35 U.S.C. 103 as being unpatentable over Sandvick as applied to claims above, and further in view of Yacenda (US Patent 6,322,446).

EX1002.0697.

54. The Patent Office also raised a subject matter rejection to the claims under 35 U.S.C. § 101. *See* EX1002.0689-0695.

55. Patent Owner responded to the Patent Office’s rejections in November 2019. EX1002.0654-0683. With respect to the prior art rejections, Patent Owner explained that the Sandvick reference relates to instant-winner lottery tickets, only, and as such, the rejected claims distinguish Sandvick:

Applicant respectfully notes that *Sandvick* specifically limits its disclosure and applicability to instant-winner lottery games and distinguishes instant-winner lottery games from the instantly claimed draw-based games. *See Sandvick* at col. 1, lines 10-11 (“This invention relates to instant-winner lottery games and systems and methods for implementing such games.”) and col. 3, line 28 – col. 4, line 36. *Sandvick* at col. 3, line 28 – col. 4, line 36 provides, in pertinent part:

Because *Sandvick* specifically limits its disclosure to “instant-winner” games and methods, *see Sandvick* at col. 1, lines 10-11, and because the present claims are specifically drawn to non-instant winner games and methods, i.e., “random-draw” games and methods, a person of ordinary skill in the art would not understand *Sandvick* to anticipate the instantly claimed “random draw” related methods.

*See* EX1002.0659-0663. Patent Owner also addressed the rejections raised under 35 U.S.C. § 101. *See* EX1002.0664-0682.

56. The Patent Office issued another office action in January 2020. EX1002.0633. In the office action, the Office withdrew its earlier prior art rejections in response to Patent Owner’s arguments:

### ***Response to Arguments***

Applicant's arguments, filed 11/27/19, with respect to 35 USC 102 rejection have been fully considered and are persuasive. The rejection has been withdrawn.

EX1002.0641. The Patent Office maintained its rejections based on 35 U.S.C. § 101. *See* EX1002.0635-0640.

57. Prosecution of the '629 Application continued for several months as the Patent Office continued to reject the pending claims on 35 U.S.C. § 101 grounds and Patent Owner responded to those rejections. *See* EX1002.0600-0628 (Patent Owner's response to the January 2020 rejections), EX1002.0597-0598 (the Patent Office's April 2020 Advisory Action maintaining its rejections), EX1002.0566-0590 (Patent Owner's April 2020 response to the Patent Office's January 2020 rejections and April 2020 Advisory Action), EX1002.0533-0547 (the Patent Office's June 2020 office action), EX1002.0506-0527 (Patent Owner's September 2020 response to the June 2020 office action).

58. In January 2021, the Patent Office raised a new prior art rejection based on Gilmore, U.S. Publ'n 2005/0233797:

***Claim Rejections - 35 USC § 102***

Claims 1-19 are rejected under 35 U.S.C. 102(a)(1) as being anticipated by  
Gilmore et al.1 (US Patent Pub. 20050233797, referred to hereinafter as Gilmore).

EX1002.0459. This Gilmore reference is the same reference (EX1029) on which  
the Petition's Ground 4 as based. *See* Pet. at 2 (identifying grounds).

59. The January 2021 office action maintained the prior 35 U.S.C. § 101  
rejections. EX1002.0452-0459. It also raised a double patenting rejection to the  
claims. EX1002.0450-0451. The double patenting rejection had been raised earlier  
in prosecution. *See, for example*, EX1002.0535.

60. Patent Owner responded to the prior art rejection in April 2021. With respect  
to the prior art rejection, Patent Owner explained that Gilmore does not disclose a  
pre-printed lottery ticket because, in Gilmore's system on-line tickets are printed at  
the time of purchase:

As is evident from the above-cited portions of *Gilmore*, *Gilmore* contains no disclosure of  
the claimed "manufactured, pre-printed, random draw lottery ticket" because *Gilmore's* "on-line  
ticket" (i.e., its non-instant win, non-scratch-off, lotto, Power Ball, random draw-type ticket), is  
not "pre-printed," but rather is printed at the time of purchase by the consumer. *See id.*

EX1002.0423. Patent Owner explained that Gilmore discloses two types of tickets,  
on-line tickets and instant win/scratch off tickets, and Gilmore distinguishes those  
types of tickets from each other:

Applicant respectfully notes that *Gilmore* specifically distinguishes its disclosed “instant win/scratch-off” tickets (i.e., *Gilmore*’s “pre-printed ticket”) from its “lotto/Power Ball/weekly draw” tickets (i.e., *Gilmore*’s “on-line ticket”). Examples of *Gilmore*’s distinguishing between its “pre-printed ticket” and its “on-line ticket” are provided below:

EX1002.0420. Patent Owner’s response cited to several portions of *Gilmore*’s disclosure that show this distinction. *See* EX1002.0420-0423.

61. The Patent Office issued its next office action in July 2021. EX1002.0384. The Patent Office rejected claims as obvious based on *Gilmore* and *McBride*, U.S. Publ’n. 2009/02227320:

Claims 1-19 & 21 are rejected under 35 U.S.C. 103 as being unpatentable over *Gilmore et al.* (US Patent Pub. 20050233797, referred to hereinafter as *Gilmore*), and further in view of *McBride* (US Patent Pub. 20090227320).

EX1002.0396. The Patent Office also maintained its double patenting rejection (EX1002.0386) and its 35 U.S.C. § 101 rejections (EX1002.0388).

62. Patent Owner responded to the office action in October 2021. Patent Owner amended the claims as shown below:

1. (Currently Amended) A method for providing a manufactured, pre-printed, random draw lottery ticket comprising:

(a) receiving, by a transaction processor, a transaction request from a retailer point of sale (POS) to activate the manufactured, pre-printed, random draw lottery ticket, wherein the manufactured, pre-printed, random draw lottery ticket is selected by a customer prior to initiation of a check-out process and is presented by the customer for activation during the check-out process;

(b) providing, via a first secured communication, by the transaction processor or retailer, to a lottery administration system unique identification information associated with pre-printed lottery ticket information received from a retailer POS without the use of lottery hardware; and

(c) receiving, via a second secured communication, by the transaction processor or retailer, from the lottery administration system, indication that draw information has been associated with the manufactured, pre-printed, random draw lottery ticket.

EX1002.0308. These elements correspond to the text marked as [1][a]-[b] above.

*See ¶ 41 (p. 15).*

63. In remarks, Patent Owner explained that Gilmore's random draw lottery tickets do not meet elements [1][a]-[b] because Gilmore's random draw lottery tickets are printed only at the conclusion of a check-out process:

As can be seen from the Final Office Action's cited portions of *Gilmore*, *Gilmore* does not disclose the instantly claimed, "wherein the manufactured, pre-printed, random draw lottery ticket is selected by a customer prior to initiation of a check-out process and is presented by the customer for activation during the check-out process," because *Gilmore* specifically discloses its "random draw" lottery tickets are printed during and/or at the conclusion of the check-out process – hence, *Gilmore*'s "random draw" lottery tickets cannot be "selected by a customer prior to initiation of a check-out process and . . . presented by the customer for activation during the check-out process."

*See supra*.

EX1002.0316. Patent Owner also argued against the 35 U.S.C. § 101 rejection. *See* EX1002.0320-0337.

64. The Patent Office issued its next office action in November 2021. EX1002.0270. The Patent Office agreed that the pending claims distinguished the prior art, and it withdrew the prior art rejections:

***Response to Arguments***

Applicant's arguments, filed 10/4/21, with respect to 35 USC 103 rejection have been fully considered and are persuasive. The 35 USC 103 rejection has been withdrawn.

EX1002.0282. The Patent Office raised a written description rejection to the claims under 35 U.S.C. § 112(a), the double patenting rejection, and the rejection under 35 U.S.C. § 101.

65. Prosecution continued over several more months. Patent Owner eventually resolved the remaining rejections, and the '629 Application granted as the '451 Patent.

#### **IV. LEVEL OF ORDINARY SKILL IN THE ART**

66. I understand that Petitioner defined the ordinary level of skill in the art as follows:

A person of ordinary skill in the art ("POSITA") in January 2015 is an artisan with a working knowledge of POS activation systems and lottery systems that was gained through a mixture of training and work experience in the relevant field such as (i) having a Bachelor's degree in computer science, computer communications, electrical engineering, or equivalent degree, coupled with at least three years of work experience; (ii) having a Master's degree in computer science, computer communications, or electrical engineering, but having less work experience; or (iii) having no formal degree, but having experience in the relevant field of at least six years of work experience.

Pet. at 2-3. I have adopted Petitioner's definition as the level of ordinary skill in my analysis.

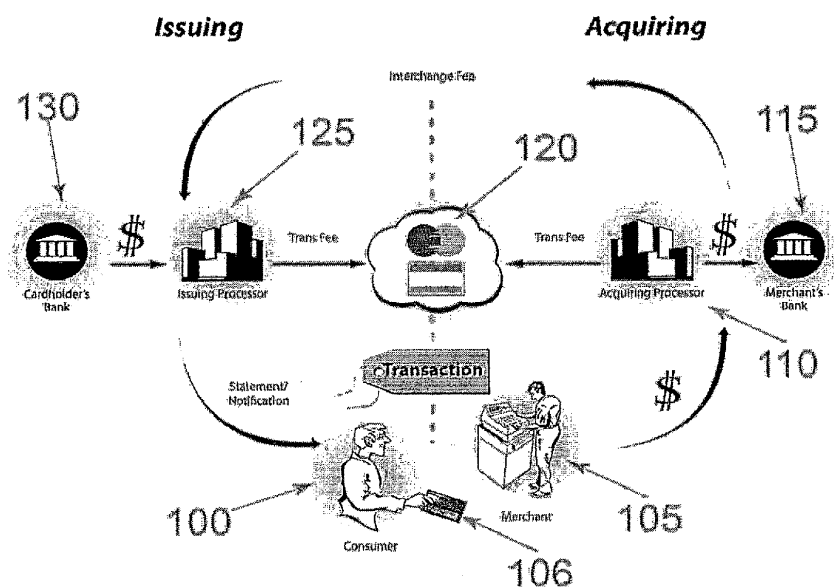
67. My own level of skill exceeds this level of ordinary skill. As discussed above (§ I.A), I have a Bachelor of Science degree in Computer Engineering and Computer Science, a Master of Science degree in Computer Science, and a Ph.D. in Computer Science all from the University of Southern California. I have over twenty years of experience working in computer science fields, and I have taught computer science

in various roles since 2002. I have a working knowledge of both POS activation systems and lottery systems.

## V. OVERVIEW OF THE PRIOR ART

### A. Irwin, U.S. Patent No. 9,405,984

68. Irwin is directed to a credit or debit card processing interchange to support sales and redemptions of lottery ticket sales. EX1030 Abstract. The interchange originally was designed to support credit or debit card sales in a process in which a merchant 105 accepts credit/debit card data for a sales transaction and provides it to an acquiring processor 110, which forwards the transaction data to an interchange 120:



**Irwin (EX1030), FIG. 1**

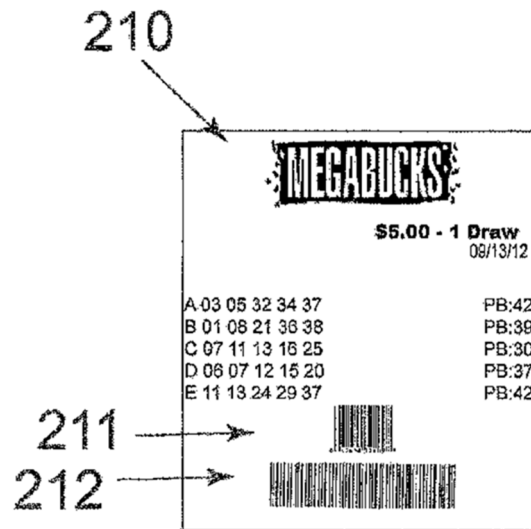
*See id.* col. 4:13-38. The interchange 120 routes the transaction to an issuing processor 125 that is associated with a bank 130 of the card that the consumer

provided to the merchant 105, using a Bank Identification Number (BIN) embedded within the credit/debit card. *Id.* The BIN number is always used by an acquiring processor 110, interchange 120, and issuing processor 125 to correctly route a transaction request. *Id.* col. 5:41-44. The issuing processor 125 processes the transaction and, assuming sufficient funds are available for the transaction, sends an approval notice to the merchant 105 via the interchange 120. *Id.* col. 4:39-46.

69. Irwin proposes to leverage the interchange network to support sales of instant (scratch off) lottery tickets (*id.* cols. 6:24-9:40) and quick-pick lottery tickets (*id.* col. 9:50-12:2). For quick-pick lottery tickets, which is the subject of the Petition's invalidity challenge, a consumer presents a hanging card 200 to a merchant 105, and the merchant 105 prints an on-line ticket 210 in response:



**Irwin (EX1030), FIG. 12**  
**(the hanging card 200)**



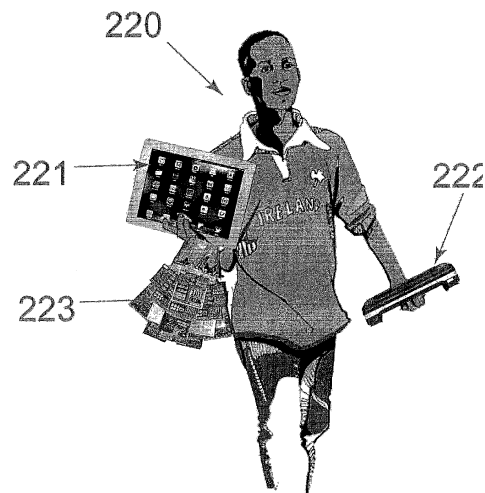
**Irwin (EX1030), FIG. 14**  
**(the on-line lottery ticket 210)**

Specifically, the hanging card 200 has a pair of barcodes 201, 202 that, when scanned, cause the merchant 105 to send a request, called a “quick-pick request” into the interchange 120. *Id.* col. 9:50-60. The quick-pick request is routed to the issuing processor 125 and, further, to a lottery central site 160, which decodes the request, generates a pseudorandom quick-pick, logs the quick-pick transaction and its serial number, and transmits a print command to the merchant to print the lottery ticket at the printer. *Id.* cols. 9:66-10:14. Irwin asserts that it previously was not possible to print quick-pick lottery tickets via a BIN interchange, but it becomes possible using cryptographic techniques proposed in other Irwin patent filings. *See id.* cols. 10:15-11:19.

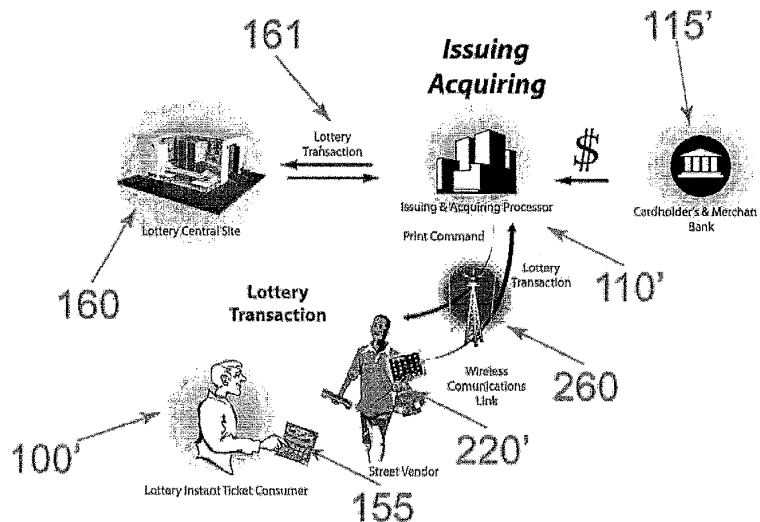
70. To validate a lottery ticket 210 as a winner or a loser, a consumer presents the on-line ticket 210 to a merchant 105, which scans two other barcodes 211, 212

printed thereon. These barcodes 211, 212 cause the merchant 105 to send a different request, called an “on-line ticket validation request,” into the interchange. *Id.* cols. 11:20-44. The interchange network forwards the validation request to the lottery central site 160. The lottery central site 160 compares the ticket’s serial number to a drawing database to determine if the ticket is a winner and, even so, if the ticket was previously cashed. *Id.* col. 11:47-62. The lottery central site 160 returns a print statement through the interchange to the merchant 105, where a winning/losing receipt is printed. *Id.* col. 11:66-12:2.

71. Irwin proposes to leverage the interchange network to support street vendor sales of instant lottery tickets (*id.* col. 13:50-15:64), quick-pick tickets (*id.* col. 15:65-16:19), and “passive game tickets” (*id.* col. 16:41-17:17), which are either pre-printed or printed in real time. A street vendor 220 does not work in a brick-and-mortar location but, instead, “roam[s] with a limited inventory of [] tickets literally conducting street sales ... on the spot.” *Id.* col. 12:44-52.



**Irwin (EX1030), FIG. 16**  
(the street vendor)



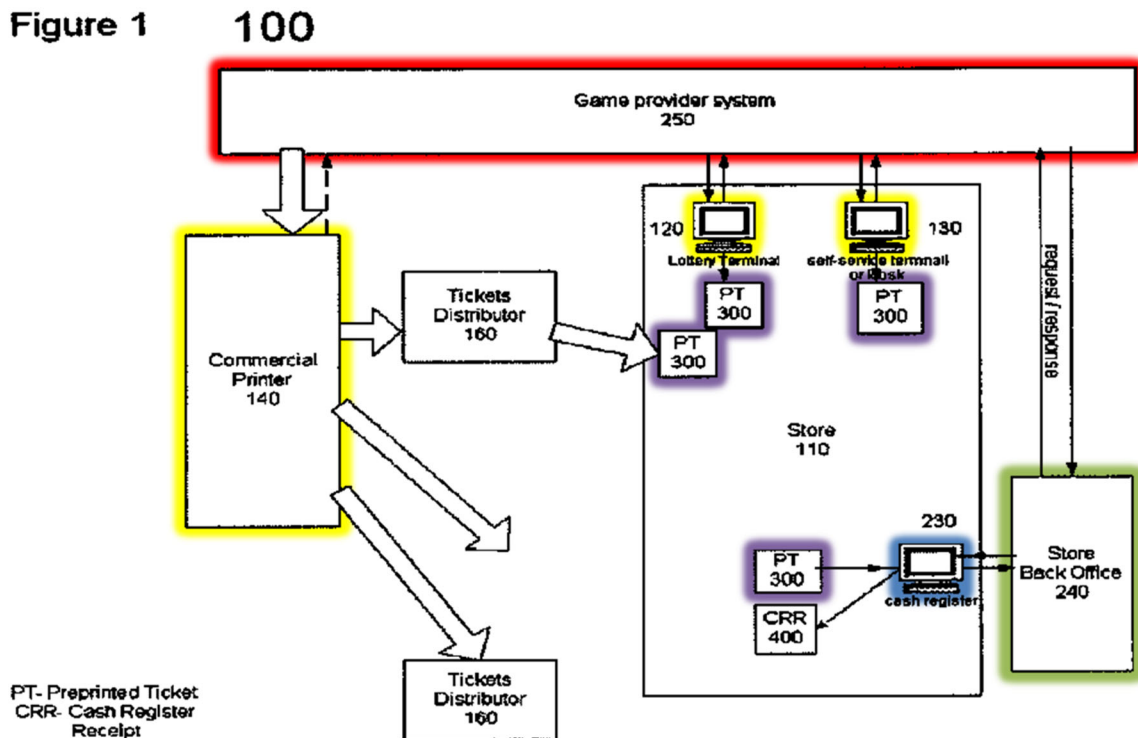
**Irwin (EX1030), FIG. 22**

The street vendor 220 carries a portable computer 221, a portable printer 222, and an inventory of lottery tickets 223. *Id.* col. 13:19-39.

#### **B. Szrek, U.S. Patent No. 7,627,497**

72. Szrek is a U.S. patent, entitled “Method for Selling Lottery Tickets from a POS Terminal.” EX1005 Title. Szrek discloses that “[a]n actual game ticket may be preprinted by the commercial printer, printed in the in-store kiosk, self-service terminal or on the standard gaming terminal.” *Id.* Abstract. “These preprinted tickets are not eligible to win prizes unless activated at the cash register.” *Id.* Szrek discloses that “[t]his approach allows for the sale of customer and computer generated lottery game selections at a cash register without any additional equipment in the lane or custom software in the cash register, with additional benefits of age control and integrated accounting.” *Id.*

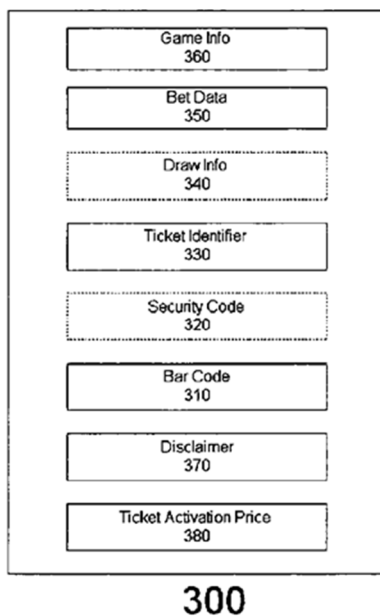
73. Szrek identifies FIG. 1 as “a diagrammatic view of the logical process of selling lottery tickets according to [their] invention.” *Id.* col. 5:42-43. FIG. 1 illustrates a system that includes a game provider system 250 (*red*), a commercial printer 140 (*yellow*), store 110 components including a lottery terminal 120 (also *yellow*), a self-service terminal 130 (again, *yellow*), and a cash register 230 (*blue*), and a store back office computer 240 (*green*):



*Szrek* (EX1005), FIG. 1 (annotated)

The system generates preprinted tickets 300 (*purple*) and activates them, as discussed below.

74. Szrek FIG. 3 discloses a diagrammatic representation of the lottery ticket 300:



**Preprinted Ticket**

**Figure 3**

***Szrek* (EX1005), FIG. 3**

“The preprinted ticket 300 contains many elements of a traditional lottery ticket, including bet selections 350, unique ticket identifier 330, barcode 310 that includes ticket identifier 330, duration for number of eligible draws (if activated) 340, ticket price or ticket activation price 380 (as opposed to ticket price on regular ticket).” *Id.* col. 5:65-6:3. The ticket also has “a disclaimer 370 printed such as ticket 300 will not be eligible in the draws until activated or the like.” *Id.* col. 5:63-65.

75. The ticket’s barcode 310 has information “identifying this barcode as lottery ticket 300 and uniquely identifying the ticket 330.” *Id.* col. 6:8-10. A “fixed part of the barcode should indicate the product type; the variable part of the barcode should

contain ticket identifier 330.” *Id.* col. 6:11-13. The ticket identifier provides the basis by which to activate the lottery ticket: “[T]he game provider system merely recognizes from the ticket identifier what transaction is activated (e.g. lotto, 6 specific boards known to the system and the player).” *Id.* col. 3:47-49.

76. The preprinted ticket 300 also contains bet selections 350. *Id.* col. 5:65-67. The bet selections 350 represent the ticket’s lottery numbers. Bet selections may be either computer-generated or customer-selected selections. *Id.* Abstract. For example, the player’s bet selection may represent the player’s favorite bet. *Id.* col. 3:29-31 (“The ticket can be preprinted according to player’s selection, his favorite bet, ...”). Computer-generated selections represent a quick pick. *Id.* (“The ticket can be preprinted ... as a computer generated selections (quick pick).”). In either case, the bet selections are preprinted on the lottery ticket “ahead of the ticket sale.” *Id.* col. 3:22-28; *see also id.* col. 6:24-27 (“A lottery player may choose his own selection and have it printed at the kiosk 130 or self-service terminal 130, or he may pick up a ticket 300 printed by the commercial printer 140.”).

77. Szrek discloses that preprinted tickets 300 can be generated by the commercial printer 140, the lottery terminal 120, and a self-service terminal 130. *Id.* col. 5:57-60. In FIG. 1 (above), Szrek illustrates the commercial printer 140, the lottery terminal 120, and the self-service terminal 130 in communication with the game

provider 250, which allows these elements to register lottery tickets with the game provider when they are printed. *Id.* col. 3:46 (All tickets are “preloaded” in the game provider’s system.”), *id.* col 3:63-66 (“Preprinted tickets from self-service terminals, kiosks, or on the regular lottery terminals are created by the transactions initiated from these devices, logged and processed on the game provider system and then printed on these devices.”).

78. Szrek discloses that, when the preprinted tickets 300 are generated by a commercial printer 140, the tickets 300 are preprinted with computer-generated bet selections:

In accordance with the novel method of the present invention, instead of printing the lottery ticket, from a legitimate and authorized game provider, on the cash register, the ticket is preprinted (printed ahead of the ticket sale by a commercial printer capable of printing lottery tickets or on a wagering terminal, self-service lottery terminal, or at a lottery kiosk). ...

From the player’s point of view, the commercial printer’s tickets are computer generated selections.

*Id.* col. 3:22-34.

79. The game provider 250 either provides bet selections to the commercial printer 140 directly, or it agrees with the commercial printer 140 on a method for generating the bet selections:

Preprinted tickets from a commercial printer are also coming indirectly from the game provider. The game provider will either provide bets

information to the commercial printer or agree on the method of generation of selections.

*Id.* col. 3:67-4:6.

80. In Szrek's system, no matter whether the lottery tickets are printed by the commercial printer 140, the lottery terminal 120, or the self-service terminal 130, the Szrek system preloads lottery ticket information in the game provider:

All tickets are "preloaded" in the game provider's system, and during ticket activation, the game provider system merely recognizes from the ticket identifier what transaction is activated (e.g. lotto, 6 specific boards known to the system and the player). ...

Preprinted tickets from self-service terminals, kiosks, or on the regular lottery terminals are created by the transactions initiated from these devices, logged and processed on the game provider system and then printed on these devices.

*Id.* col. 3:46-66.

81. Szrek also discloses an exception to his general statement that "[a]ll tickets are 'preloaded' in the game provider's system." *Id.* col. 3:46. At col. 7:18-31, Szrek discloses a technique that "allows printing customer selected wagers on tickets 300 on self-service terminals 130 and in kiosks 130 without game provider 250 connectivity." *Id.* col. 7:32-35. In this embodiment, a ticket identifier 330 may include information that identifies the lottery numbers selected by a customer at the self-service terminal or kiosk. Szrek states:

In some embodiments of this invention, the preprinted ticket identifier 330 on the self-service terminal 130 or kiosk 130 could be constructed

in a way that part of ticket identifier 330 could correspond to the bet combination 350 chosen by the players.

For example, in a lotto game 6 of 49, each combination corresponds to one of the numbers from 1 to 13,983,816, e.g. combination 1, 2, 3, 4, 5, 6 could correspond to 1 and 1, 2, 3, 4, 5, 7 to 2 etc. In this case, the game provider system may learn bet combination from the ticket identifier and authorize this bet. Another part of ticket identifier could contain some element making this ticket unique, such as issued tickets sequence counter on said self-service terminal 130 or kiosk 130.

*Id.* col. 7:18-31.

82. Szrek describes ticket activation as follows:

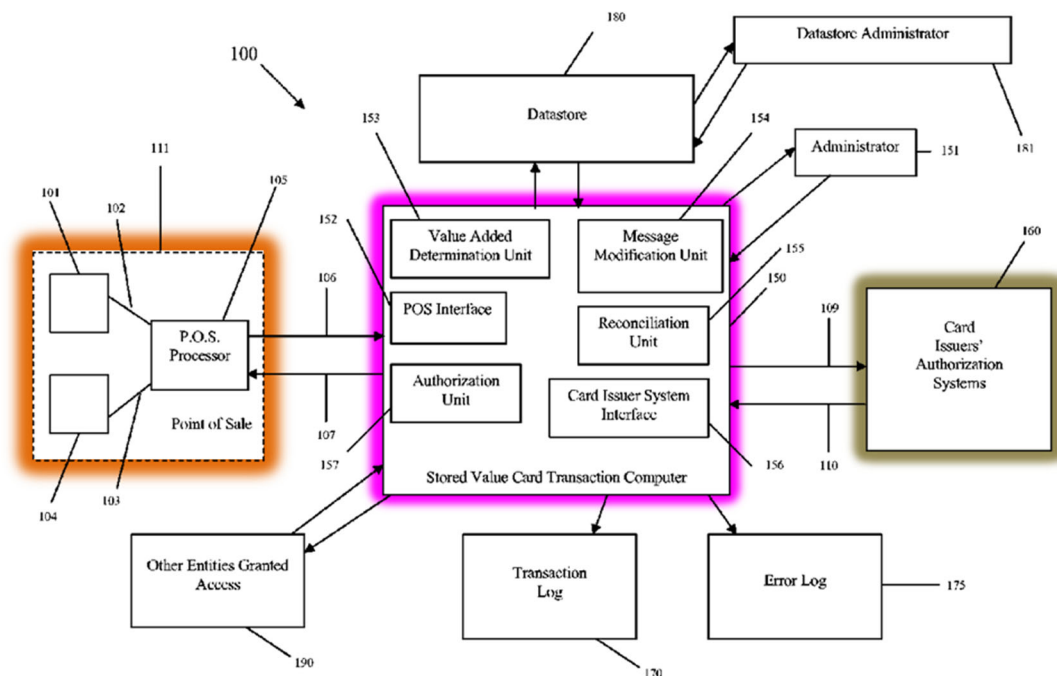
In accordance with the method of the present invention, the logical process 200 of activation of lottery ticket 300 via a cash register 230 is shown in FIG. 2. The store clerk scans ticket 300 like any other product. Normally when a barcode 310 is scanned for any merchandise, the checkout register 230 application looks up the merchandise price in database or checks the price by using some algorithmic interface. In case of the ticket 300 of the present invention, this request will be transformed into transactional request to the game provider 250 who verifies if this Checkout Play 300 was already activated. If not, it will activate this ticket by marking a status or state of corresponding identifier or record in the computer memory or on the computer disk or it may even create a record with the corresponding identifier. If the ticket 300 was already activated and ticket 300 did not participate yet in the lottery drawing, the transaction would be denied.

*Id.* col. 6:28-43; *see also id.* col. 4:20-22 (“This activation could be done on the cash register by scanning ticket bar code or entering the ticket identifier manually.”).

**C. Llach, U.S. Publ’n. No. 2013/0041768**

83. Llach discloses a system for processing, activating and redeeming stored value cards. EX1006 Abstract. The system includes a point of sale component 111

(orange), a stored value card transaction computer 150 (pink), and a card issuers' authorization system 160 (brown):



**Llach (EX1006), FIG. 1 (annotated)**

84. The system manages transactions involving stored value cards, such as “gift cards, prepaid telephone cards, loyalty cards, membership cards, ticket cards, entertainment cards, sports cards, prepaid cards, and the like.” EX1006 [0012]. Llach is directed to managing transactions in which value may be added to a stored value card over and above the card’s face value. *Id.* [0034]-[0036]. In one example, a card with a \$25 face value is activated for \$30 when purchased. *Id.* [0016]. In another, a \$15 gift card to a coffee house may have an electronic redemption coupon for a free shot of syrup to be added to coffee. *Id.*

85. The point of sale component 111 “typically [is] located at a vendor and/or redeeming merchant” premises. *Id.* [0019]; *see also id.* [0020]-[0022]. The point of sale component 111 sends activation requests and redemption requests to activate and redeem stored value cards. *Id.* [0034]. The point of sale component 111 also receives response messages when those requests are processed. *Id.* [0050], [0052].

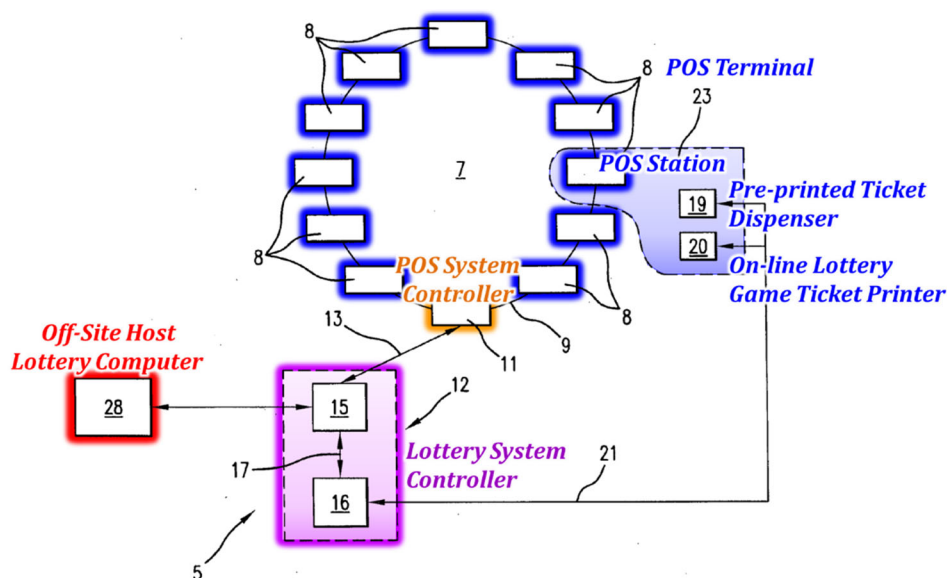
86. The transaction processor 150 receives requests from the point of sale component 111 and processes them. *Id.* [0023], [0046]. As part of its operation, it determines whether the card to which requests apply is “eligible for value differentiation.” *Id.* If so, the transaction processor 150 modifies a received request to add value before sending the request to a card issuers’ authorization system 160. *Id.* [0048], [0051]. The card issuers’ authorization system 160 activates, deactivates, and redeems value from stored value cards. *Id.* [0023].

87. Llach has no disclosure related to lottery tickets or to activation protocols for lottery tickets.

**D. Gilmore, U.S. Publ’n 2005/0233797**

88. Gilmore is directed to techniques for selling lottery game tickets through a point of sale system. EX1029 Title. The Gilmore system includes a plurality of networked POS terminals 8 (*blue*) provided in communication with a POS system controller 11 (*orange*). The POS terminals 8 may be equipped with a dispenser 19

for dispensing pre-printed ticket as is appropriate for an instant ticket. EX1029 [0095]. The POS terminals may be equipped with an on-line lottery game ticket printer as is appropriate for a random draw quick-pick game. *Id.* [0063]-[0067] (random numbers are generated, then printed). The POS terminal 8, ticket dispenser 19, and ticket printer 20 collectively are called a “POS station” (also *blue*). *Id.* [0047].

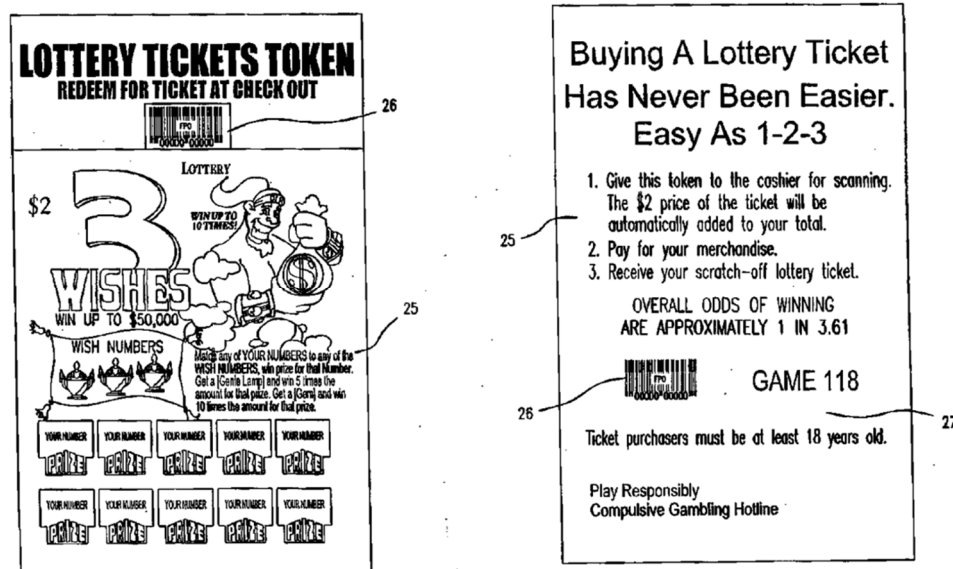


**Gilmore (EX1029), FIG. 1 (annotated)**

The POS system controller 11 possesses a price book representing the cost of all merchandise that can be sold through the point of sale system, including lottery games. *Id.* [0019], [0041], [0044], [0059].

89. Gilmore’s system includes a lottery system controller 12 (*purple*) that listens to traffic on the POS network. *Id.* [0043]. It interfaces with an off-site host lottery computer 28 (*red*) to process lottery sales transactions. *Id.* [0048].

90. Gilmore teaches that lottery sales transactions occur when a customer presents a “token” to a cashier at a POS station. An exemplary token is shown in FIG. 2A and 2B:



**Gilmore (EX1029), FIGS. 2A & 2B**

91. The tokens are not lottery tickets. *Id.* [0051] (“In all of the embodiments of this invention, the lottery game token is a pre-printed “dummy” token having no ability to serve as a valid lottery game ticket in any fashion.”). Instead, they carry a lottery identification code 26 that identifies the type of lottery game to which it corresponds. *Id.* [0049] (“The lottery game token includes a lottery game identification code 26 on either the front or rear, and/or both of the front and rear faces of the token”), [0050] (“[E]ach lottery game token will have a separate game identification code printed thereon and specific to the type of game to be played, whether a pre-printed or on-line lottery game, with the token.”).

92. When the token is scanned at a POS terminal, data passes from the POS terminal 8 to the POS system controller 11. *Id.* [0058]. The POS terminal obtains the cost of the lottery game tickets being purchased from the store's price book in the POS system controller. *Id.* [0059]. In some instances, price information may be coded in price look-up ("PLU") stored at the POS terminal or in a separate PLU database. *Id.* [0044].

93. The lottery system controller 12 passive listens to communication between the POS terminals 8 and the POS system controller 11. *Id.* [0044]. When it detects communications relating to a scanned token that relates to a preprinted lottery game, the lottery system controller 12 causes the ticket dispenser 19 to dispense an appropriate number of tickets from stock. *Id.* [0062]. When it detects communications relating to a scanned token that relates to an on-line game, the lottery system controller 12 generates a quick-pick transaction, which generates random numbers for the game. *Id.* [0063]-[0066]. The lottery system controller 12 causes a ticket to be printed on the ticket printer 20 with the lottery numbers. *Id.*

## **VI. CLAIM CONSTRUCTION**

94. In PGR2020-00084, the Board interpreted the terms "transaction processor" and "transaction processor system," as that term is used in the '894 Patent, to refer to "a processor [system] that processes transactions between two devices."

EX1008.0016. The Challenged Claims of the '451 Patent employ a related term, “third party transaction processor,” as follows:

(a) receiving, by *a third-party transaction processor*, a transaction request from a retailer point of sale (POS) to activate the manufactured, pre-printed, random draw lottery ticket, ... *wherein the third-party transaction processor receives transaction requests from a plurality of different retailers*;

See ¶ 41 (p. 15). My interpretation of the term “third-party transaction processor” aligns with the Board’s construction of “transaction processor” in PGR2020-00084. I interpret the term to require that, among other things, the third-party transaction processor processes transactions between two devices.

## **VII. ANALYSIS OF PETITION’S INVALIDITY GROUNDS**

95. I understand that the Petition alleges, and Mr. Hutton concludes, that the Challenged Claims of the '451 Patent are invalid on the grounds identified in § I.B above. As explained below, it is my opinion that the Challenged Claims are not obvious in the manners alleged by the Petition.

### **A. Ground 1 and 2**

96. I have reviewed Petitioner’s arguments and Mr. Hutton’s opinions regarding obviousness over Irwin, and I disagree with them.

97. Mr. Hutton asserts that Irwin’s disclosure meets the claims in two ways:

a. First, he asserts that Irwin's disclosure of a plastic hanging card 200 discloses a "manufactured, pre-printed, random draw lottery ticket," as claimed:

Irwin further discloses an embodiment where, "[f]or quick-pick ... purchases of *on-line tickets*," a merchant displays "a plastic hanging card 200" that is manufactured and preprinted "with a quick-pick coded interchange compatible barcode 201" for selection and purchase by a customer. Ex. 1030, 9:50-56. These cards are tickets for a random draw lottery that supports "quick-pick (i.e., numbers automatically selected for the consumer)," such as "Pick 3, Pick 4, Powerball, Mega Millions," which are examples of random draw lotteries. *Id.* Figure 12 depicts an example of these cards, which, like the gift card it resembles, is clearly manufactured and preprinted. A POSITA would understand that a printed, plastic card is manufactured and pre-printed.



FIG 12

EX1003 ¶ 100.

b. Second, Mr. Hutton asserts that Irwin's disclosure of a preprinted passive ticket discloses a "manufactured, pre-printed, random draw lottery ticket," as claimed:

Irwin also discloses “preprinted passive tickets 224’ (FIG. 20) ... sold through street vendors” that are “registered as sold on the central site.” *Id.*, 16:65-17:2. Figure 21 depicts an example of “a preprinted passive ticket,” which is clearly manufactured and preprinted.



22

FIG 21

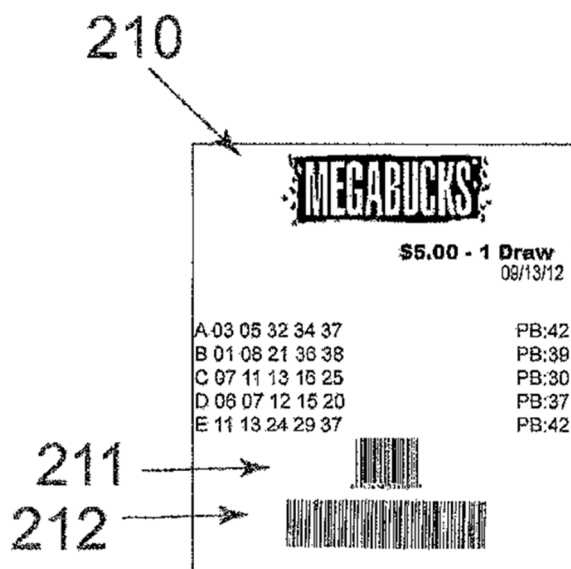
EX1003 ¶ 101. I disagree that either embodiment teaches or suggests a “manufactured, pre-printed, random draw lottery ticket [that] is selected by a customer prior to initiation of a check-out process and is presented by the customer for activation during the check-out process.” I explain my conclusions below.

**1. Analysis of Mr. Hutton’s first invalidity theory that Irwin’s plastic hanging card 200 is a “manufactured, pre-printed, random draw lottery ticket.”**

98. With respect to Irwin’s plastic hanging card 200, it is my opinion that it is not a “manufactured, pre-printed, random draw lottery ticket” and it is not “presented by the customer for activation during the check-out process,” as claimed.

99. Irwin discloses that the plastic hanging card 200 is scanned to initiate a purchase and printing a lottery ticket. Irwin shows the lottery ticket in FIG. 14. The

lottery ticket is distinct from the plastic hanging card 200 that Mr. Hutton identifies as the purported lottery ticket:



**Irwin (EX1030), FIG. 14**  
**(the lottery ticket)**



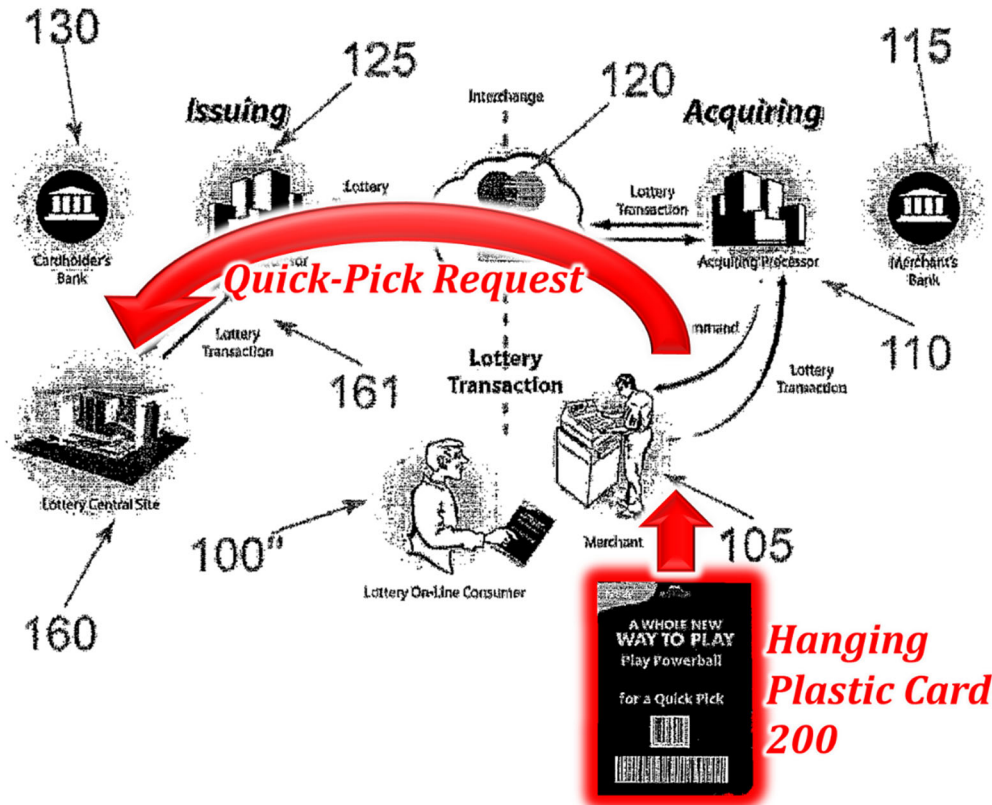
**FIG 12**  
**Irwin (EX1030), FIG. 12**  
**(the plastic hanging card 200)**

100. Irwin discloses that, when the plastic hanging card 200 is scanned, it causes a merchant 105 system to generate a quick pick request:

For quick-pick (i.e., numbers automatically selected for the consumer) purchases of on-line tickets, the consumer would either take a plastic hanging card 200 (FIG. 12) with a quick-pick coded interchange compatible barcode 201 to the merchant or simply ask the merchant for a quick-pick for a given on-line game (e.g., Pick 3, Pick 4, Powerball, Mega Millions, etc.) The merchant would either take the hanging card or pull one from behind the counter (or from a pocket in the case of a street vendor) and scan the UPC barcode for the quick-pick sale (202) followed by the interchange compatible barcode 201 to trigger *a quick-pick request*.

EX1030 col. 9:50-60.

101. An interchange network 120 routes the quick pick request from the merchant 105 to a lottery central site 160 as shown in the mockup below:



*Irwin (EX1030), FIGS. 11 & 12*

In FIG. 11, Irwin shows the routing of the quick-pick request as “lottery transaction.”

102. Irwin describes the routing operation as follows:

As before, the pending quick-pick transaction is forwarded to the acquiring processor 110 (FIG. 11), routed through the interchange 120, to the issuing processor 125. The issuing processor would then detect either a lottery BIN or a special ‘lottery quick-pick BIN’ and route the pending transaction through the designated channel 161 to the lottery's central site 160 or complementary gaming system.

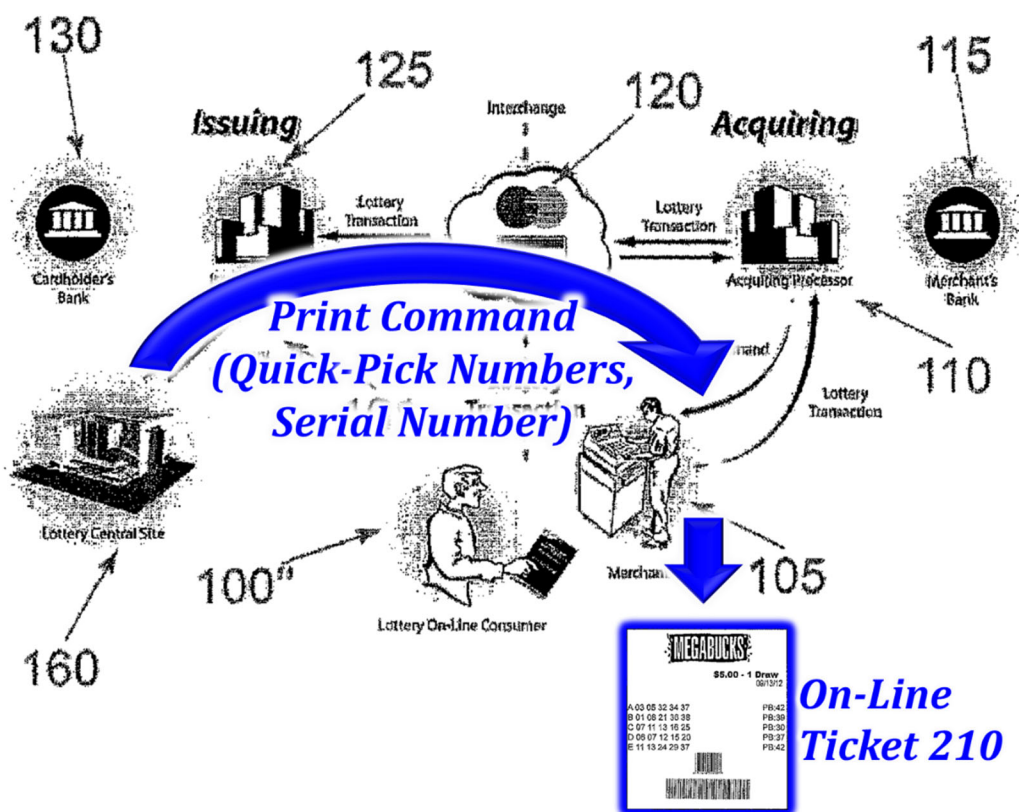
EX1030 col. 9:66-10:5.

103. Irwin explains the lottery central site 160 generates data for a new lottery ticket, specifically, the ticket's random number and a serial number, is stores the data in a local database, and it sends a print command back to the merchant 105 to print the lottery ticket:

The lottery's central site or complementary gaming system would then decode the quick-pick request, use a random number generator to generate a pseudorandom quick-pick, log the quick-pick transaction with a generated serial number on its database, and transmit a print command documenting the quick-pick and the assigned serial number to be printed on the merchant's printer at his or her location 105 ...

EX1030 col. 10:5-12.

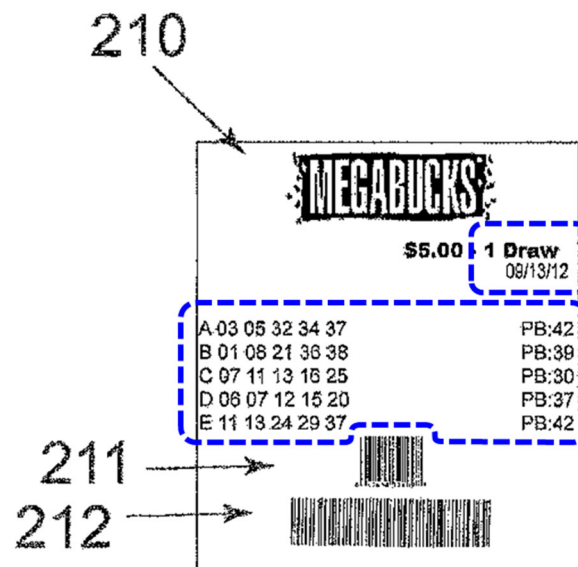
104. I show the data flow of the print command (*blue*) in the following mockup:



Irwin (EX1030), FIGS. 11 & 14

Irwin illustrates the print command with an arrow that extends from the acquiring processor 110 to the merchant 105 in FIG. 11.

105. Irwin discloses an exemplary lottery ticket in FIG. 14:



Irwin (EX1030), FIG. 14

The lottery ticket is shown with five exemplary sets of lottery numbers A-E and a draw date assignment. A POSITA would recognize that print command illustrated in FIG. 11 causes the merchant 105 to print the on-line ticket illustrated in FIG. 14, with the lottery numbers generated by the lottery central site 160.

106. Irwin discloses that, when a consumer believes her ticket 210 is a winning ticket, the consumer presents the ticket 210 to the merchant 105 for validation. This process involves a scan of the barcodes 211, 212 on the lottery ticket 210, which causes the merchant 105 to send a new request to the lottery central site 160 called an “on-line ticket validation request:”

In the preferred embodiment, processing an on-line game ticket validation begins with the lottery on-line ticket consumer 100' presenting a perceived winning on-line ticket 210 (FIG. 14) to the merchant 105 (FIG. 11) for prize payment. Assuming the POS equipment requires an UPC barcode scan, the merchant first scans the on-line ticket's 210 (FIG. 14) UPC formatted barcode 211 to place the POS equipment in a state to receive gift debit card activation data. ... Immediately after, the merchant scans the on-line ticket's 210 UPC formatted barcode 211 and then the second interchange compatible barcode 212. Alternatively, the merchant's POS equipment could be configured to recognize interchange compatible barcode formats 212 without being placed in a special state. If this is the case, the on-line ticket may omit the UPC formatted barcode 211.

In either case, the interchange compatible barcode 212 will be configured to be compatible with the proxy data packet 215 (FIG. 15) normally passed over the debit or credit interchange with the lottery BIN 216 concatenated to a data blob (217) containing the on-line ticket validation request. ...

Returning to the pending on-line ticket validation, the merchant's POS equipment 105 (FIG. 11) would then forward the interchange compatible packet 205 (FIG. 13) (including the embedded on-line ticket data blob 207) to the acquiring processor 110 (FIG. 11), that would then use the BIN header 206 (FIG. 13) information to route the packet through the interchange 120 (FIG. 11) to the acquiring processor 125. The acquiring processor's 125 servers would then detect the lottery BIN and forward the received data packet through the interchange 120 to the issuing processor 125 which would then forward the data packet through the lottery transaction channel 161 to the lottery central site 160.

EX1003 col. 11:22-58.

107. The lottery central site 160 determines whether the consumer's ticket 210 is a winner or a loser by comparing the ticket's serial number with serial numbers stored in its database:

The lottery central site would then extract the on-line ticket validation request, comparing the received serial number to a drawing database to determine if the scanned ticket's serial number is a winner or not and if it was previously cashed. ... The lottery central site would then send a print statement back through the interchange 120 to the merchant's POS equipment 105 where a winning/losing receipt would be printed.

EX1003 col. 11:58-12:2. Irwin explains that the ticket's serial number is associated with its lottery numbers when the ticket is created. *See id.* col. 10:5-9 (The lottery central site 160 “log[s] the quick-pick transaction with a generated serial number on its database”).

108. A POSITA would not regard the plastic hanging card 200 as a “manufactured, pre-printed, random draw lottery ticket,” under the Challenged Claims. The plastic hanging card 200 is not a lottery ticket because it does not carry lottery numbers. In a traditional lottery, a lottery ticket has lottery numbers on it, which are compared to numbers randomly selected during a draw event to determine whether the ticket is a winning ticket. *See* EX1003 ¶ 64 (“The numbers on the player’s tickets are then compared to the numbers randomly selected during the draw event to determine if there is a match and thus a winning ticket.”). Irwin has no disclosure that the plastic hanging card 200 has lottery numbers on it, or that the plastic hanging card 200 is used to determine whether a player holds a winning ticket. Instead, in Irwin, the on-line ticket in FIG. 14 has the ticket’s lottery numbers (*blue* above (p. 54)), and the on-line ticket is used to determine whether the player holds a winning ticket

(EX1030 col. 11:20-62). Thus, the POSITA would regard the on-line ticket 210 as the lottery ticket for a quick-pick game, not the plastic hanging card 200.

109. A POSITA would regard the plastic hanging card 200 as akin to a token, which is used to purchase a lottery ticket but is distinct from the lottery ticket itself. These tokens are well known tools for lottery systems.

a. For example, Mr. Hutton explains that he designed a lottery system in which tokens processed at a point of sale to dispense tickets, either instant tickets or quick-pick tickets:

Q. So let me make sure I understand. A customer would -- would bring a token to the POS system, and it would get a dispensed lottery ticket when the token was purchased; is that correct?

A. Right. When the token was scanned.

Q. "Was scanned," okay.

And, then, is the -- is the token -- does it have a one-to-one correspondence with the ticket that is dispensed?

A. No. It has a one-to-one correspondence with the type of ticket that was dispensed.

Q. Okay. So is it more accurate to say that the token represents the type of ticket that's being purchased, rather than representing an individual ticket that's going to be purchased?

A. Exactly.

EX2051 at 16:24-17:18.

Q. Okay. And, then, there's a reference to "online games" in this paragraph. Please describe those online games.

- A. You could also have a -- pick up a ticket for an online game, and there were various different bet combinations you could pick, different tokens representing different types of games with different types of bet combinations, and you would bring that token up and what would happen is they would scan that token and instead of dispensing a physical product, the system would print a physical lottery ticket as if it had been printed by a traditional lottery terminal.

EX2051 at 18:14-19:4.

- b. Gilmore, the prior art reference on which Petitioner's Ground 4 is based, also discloses use of tokens to generate lottery tickets:

Each pre-printed lottery game token will have at least one predetermined lottery game identification code printed thereon which is associated with a predetermined pre-printed lottery game. A game player traveling may thus pick up at least one lottery game token, if not a plurality of tokens, and *take the token with them to the POS terminal* where the token is presented to a sales clerk for being scanned thereat with the other items being purchased. ...

The game monitor will determine from the game identification code the type of pre-printed lottery game ticket to be played, and will communicate this information to a ticket dispenser assembly. The ticket dispenser assembly will send a dispense ticket command to a ticket dispenser located at the POS terminal such that *the desired number and type of pre-printed lottery game tickets are dispensed therefrom*.

EX1029 [0017]-[0018] , FIGS 2A, 2B.

110. A POSITA would recognize that, in Irwin, the plastic hanging card 200 operates as a token much in the same way that the tokens operate in these other systems. The plastic hanging card 200 identifies a game for which a ticket is to be purchased, and, when the plastic hanging card 200 is scanned as part of a purchase,

it causes the Irwin system to dispense a separate lottery ticket (shown in FIG. 14) at the merchant 105.

111. Mr. Hutton's deposition testimony aligns with my conclusion that the plastic hanging card 200 is akin to a token but it is not a lottery ticket. When asked to describe Irwin's FIG. 12, Mr. Hutton characterized the card as a "substrate," rather than as a lottery ticket:

Q. And, then, in Figure -- well, I'm going to switch to Figure 12.

Will you explain to me what is described here.

A. This is -- now, referring to the text, this is a preprinted substrate with some marketing information on the top and two Bar Codes on it.

EX2051 at 45:5-12.

112. But, when asked to describe Irwin's FIG. 14, Mr. Hutton quickly acknowledges that FIG. 14 shows a lottery ticket:

MR. HAILS: I'm going to switch the Zoom to Figure 14.

BY MR. HAILS:

Q. Do you see that?

A. I do.

Q. Okay. What does this -- what does -- what does Figure 14 show?

A. Figure 14 shows a printed lottery ticket with, you know, marketing logo at the top, the price, the draw date, some selections, and two Bar Codes.

EX2051 at 56:6-16.

113. When asked to describe how Irwin's system (FIG. 11) processes the plastic hanging card 200 shown in FIG. 12, Mr. Hutton explained that the lottery central site 160 sells a lottery ticket in response to information scanned from the plastic hanging card:

Q. And what does the Bar Code 201 do to the merchant's POS equipment?

A. The 201 is encoded, along with information -- the 201, along with the UPC, the -- the product I.D., the generic product I.D. from the UPC, and that whatever's encoded in that 201 Bar Code, then, become the payload or the data blob that's sent through the rest of the infrastructure shown above Figure 11 --

Q. Okay.

A. -- in Figure 11.

...

Q. What does the lottery central site do with this information?

A. The lottery central site validates it, that it's a -- first, it decodes it. It takes -- it knows what's in the lottery blob, and how to decode -- how to decode the lottery Blob. It decodes the lottery blob, figures out what it's being asked to do. In this case, it would be -- *sell a lottery ticket based on the information extracted from the product information.*

It then will generate a transaction -- actually, generate a Quick Pick transaction, and record that in its sales database, it's transaction database of live tickets, and associate it with the actual physical identifier of the indicia, and, then, send back -- you know, it would pick the numbers, and send that back, along -- it would pick the draw date and the numbers and, then, send that back through the infrastructure, back to the merchant's POS terminal.

EX2051 at 53:13-55:12 (emphasis added). Here, the reference to a "blob" is a transcription error. It refers to a "blob" discussed in Irwin, for example, at col. 6:4-6 (a data blob "only has significance to the issuing processor 125").

114. And Mr. Hutton acknowledged that the lottery numbers and draw date that the lottery central site 160 associates with the lottery ticket are shown on the lottery ticket in FIG. 14:

Q. Okay. So the -- the system confirms that a lottery ticket is a winner by scanning the ticket in Figure 14; is that correct?

A. Yes.

Q. Okay.

A. And maybe you mentioned this already, but I -- I can't tell -- the lines here, "A," "B," "C," "D," and "E" in Figure 14, what does those represent?

A. They just represent bets; in other words, that's a Mega Bucks draw, so it would be -- I don't remember what the -- I don't remember what the matrix is for -- I don't know what the matrix is, but those are just lottery numbers. "A," "B," "C." "A" and the numbers following it are lottery numbers. "B" and the numbers following it are lottery numbers, and so on.

And the "PB" on the other side, I assume, stands for "Powerball," so the Powerball pick was 42.

Q. Okay. And, so, the "PB," are they part of the set of lottery numbers for each row?

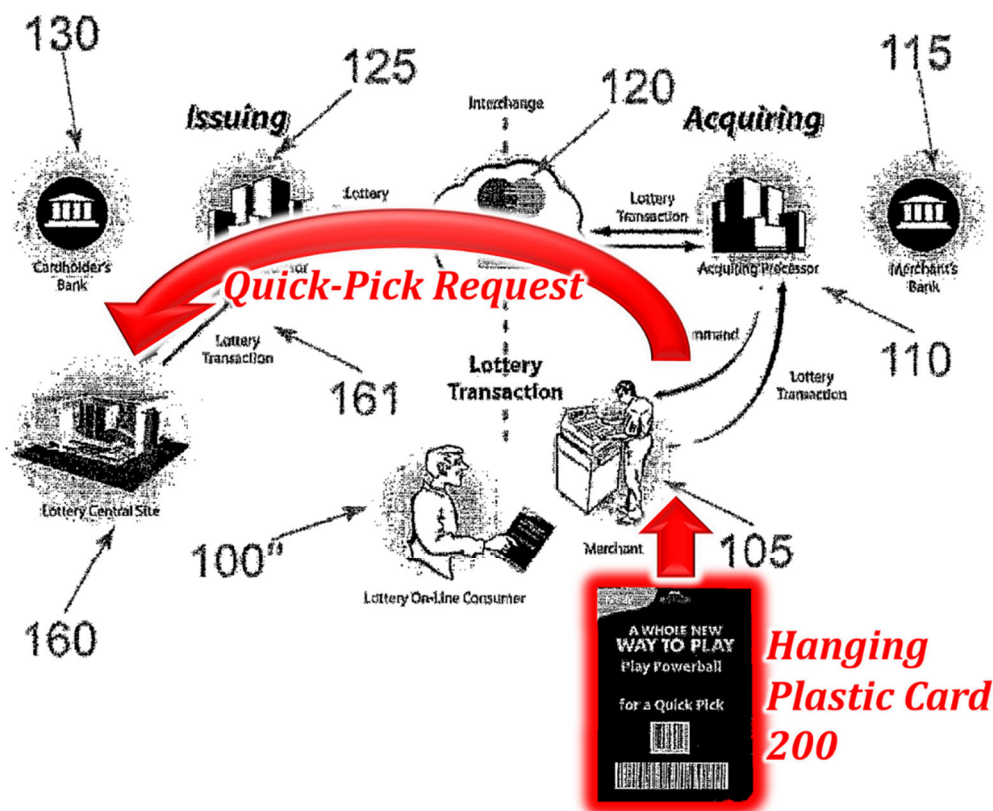
A. Yes.

EX2051 at 60:18-61:19.

115. For the foregoing reasons, I disagree with Petitioner's first invalidity theory and Mr. Hutton's opinion, that Irwin's disclosure of plastic hanging card 200 and processing operations performed when the plastic hanging card is scanned, teaches the subject matter of the Challenged Claims. Again, Irwin's plastic hanging card 200 is not a "manufactured, pre-printed, random draw lottery ticket," under the claims. It is not a lottery ticket at all.

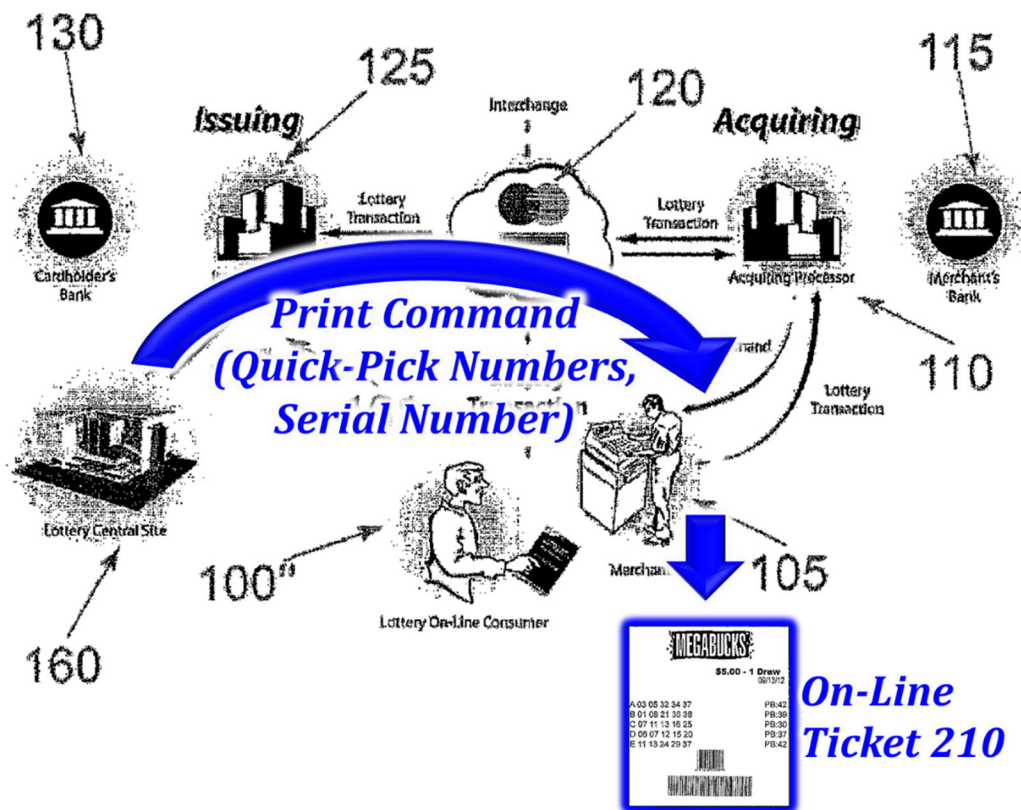
116. I disagree with Petitioner's first invalidity theory and Mr. Hutton's opinion for a second reason: The plastic hanging card 200 is not "presented by the customer for activation during the check-out process," as recited in the Challenged Claims. Irwin does not teach or suggest that the plastic hanging card 200 ever is activated.

117. As explained above (¶¶ 89-97 (p. 51)), Irwin discloses that, when the merchant 105 scans the plastic hanging card 200, the merchant 105 sends a quick-pick request (*red*) to the lottery central site 160:



*Irwin (EX1030), FIGS. 11 & 12*

And Irwin discloses that the lottery central site 160 assigns lottery numbers, a draw date, and a serial number to a new lottery ticket, stores this information in a database, and sends a print command to the merchant 105 to print a new ticket (*blue*):



Irwin (EX1030), FIGS. 11 & 14

See generally EX1030 col. 9:50-10:14.

118. Irwin has no disclosure to teach or suggest that the plastic hanging card 200 ever is activated in the Irwin system. The discussion in 9:50-10:14 discloses only that the plastic hanging card 200 is taken to a merchant or it is pulled from behind a counter and it is scanned. EX1030 col. 9:50-60. Irwin discloses no other role for the plastic hanging card 200.

119. Irwin's disclosure, however, shows that the lottery ticket 210 (FIG. 14) is activated. In Irwin's system, the central lottery site 160 assigns a draw date and a serial number to the lottery ticket 210 and logs the transaction:

The lottery's central site or complementary gaming system would then decode the quick-pick request, use a random number generator to generate a pseudorandom quick-pick, log the quick-pick transaction with a generated serial number on its database, and transmit a print command documenting the quick-pick and the assigned serial number to be printed on the merchant's printer at his or her location 105 and recorded at the central site at a later time if a complementary gaming system is used.

EX1030 col. 10:5-14. A POSITA would conclude that the lottery central site's logging of the lottery ticket's serial number and draw date represents an activation of the lottery ticket.

120. And Irwin discloses that the lottery central site 160 uses the lottery ticket's serial number to determine if the lottery ticket is a winner, if the ticket later is presented for validation:

The lottery central site would then extract the on-line ticket validation request, comparing the received serial number to a drawing database to determine if the scanned ticket's serial number is a winner or not and if it was previously cashed.

EX1030 col. 11:58-62.

121. Mr. Hutton's deposition testimony aligns with my conclusion that the plastic hanging card 200 is not activated in Irwin's system.

Q. What does the lottery central site do with this information [obtained from the scan of the plastic hanging card 200]?

A. The lottery central site validates it, that it's a -- first, it decodes it. It takes -- it knows what's in the lottery blog, and how to decode -- how to decode the lottery Blog. It decodes the lottery blog, figures out what it's being asked to do. In this case, it would be -- *sell a lottery ticket based on the information extracted from the product information.*

EX2051 at 53:13-24 (emphasis added).

122. For the foregoing reasons, I disagree with Petitioner's first invalidity theory and Mr. Hutton's opinion, that Irwin's disclosure of plastic hanging card 200 and processing operations performed when the plastic hanging card is scanned, teaches the subject matter of the Challenged Claims. Irwin's plastic hanging card 200 is not "presented by the customer for activation during the check-out process," as recited in the Challenged Claims. Irwin does not teach or suggest that the plastic hanging card 200 ever is activated.

**2. Analysis of Mr. Hutton's second invalidity theory that Irwin's preprinted passive ticket 224' is a "manufactured, pre-printed, random draw lottery ticket."**

123. With respect to Irwin's preprinted passive ticket 224', it is my opinion that it is not a "manufactured, pre-printed, random draw lottery ticket" and it is not "selected by a customer prior to initiation of a check-out process," as claimed.

124. Irwin discloses that passive game tickets are entered in a drawing from which tickets are drawn for prizes:

In yet another embodiment, a comparable method can be used to sell passive game tickets by street vendors. Traditionally these tickets are printed in advance with unique identifiers—e.g., numbers. Drawings are subsequently held picking the identifiers that correspond to specific prizes.

EX1030 col. 16:41-45. The passive game is akin to a raffle. Irwin discloses that passive game tickets can be either printed in real time or preprinted. *See* EX1030 col. 16:58-64 (tickets 224 printed in real time), 16:65-17:17 (preprinted tickets 224’).

125. It is my opinion that a POSITA would not regard the passive game ticket as a “manufactured, pre-printed, random draw lottery ticket,” under the claims, because the passive game is not a lottery.

126. A random draw lottery is a game in which numbers are randomly drawn from a set of all candidate numbers. For example, in the present-day Mega Millions lottery, five random numbers are selected that take values from 1 to 70, and a sixth random number, called the Mega Ball, is selected from values 1 to 25. EX2054. In the present-day Powerball lottery, five numbers are randomly selected having values between 1 and 69, and a sixth number (the Powerball”) is selected having a value between 1 and 26 for the red Powerball. EX2055.

127. In a random draw lottery, a lottery ticket’s numbers must match these randomly-selected numbers in some manner to qualify as a winning ticket. Typically, a lottery ticket wins a grand prize if the lottery ticket’s numbers match all

of the numbers randomly-drawn by the lottery. A lottery ticket can qualify for smaller prizes when a lottery ticket's numbers match a smaller set of the numbers randomly-drawn by the lottery. See EX2054, EX2056 (providing examples of modern lotteries). It can and often does occur that a random draw lottery yields no winner for a given prize. For this reason, popular lotteries can award enormous grand prizes; jackpot monies from one draw event that yields no grand prize winner can be rolled to a subsequent draw, which increases the value of the grand prize.

128. Mr. Hutton's description of lotteries aligns with this understanding:

In a random draw lottery, a player purchases a ticket for a lottery draw event that takes place in the future. Ex. 1001. The player can either select his or her own draw numbers or the draw numbers can be randomly selected by the system. The numbers on the player's tickets are then compared to the numbers randomly selected during the draw event to determine if there is a match and thus a winning ticket.

EX1003 ¶ 64.

129. A POSITA would not regard a passive game ticket as a “manufactured, pre-printed, random draw lottery ticket” because the lottery ticket is not for a random draw lottery. Irwin discloses that, rather than drawing numbers randomly, a passive game selects a winning ticket based on the tickets' identifiers. EX1030 col. 16:44-45 (“Drawings are subsequently held *picking the identifiers* that correspond to specific prizes.”) (emphasis added). The random draw game always has a winner because the identifiers are taken from the set of identifiers that correspond to

registered tickets. Thus, sale of preprinted passive tickets through street vendors does not teach the features of the Challenged Claims.

130. Mr. Hutton's description Irwin's passive game tickets aligns with this understanding:

Q. What's your understanding of a "passive game ticket"?

A. Are you familiar a raffle ticket?

Q. As a consumer?

A. Yes. A passive raffle ticket is a form of a passive game ticket. So a passive game ticket is essentially a -- a ticket that contains a -- some kind of unique number on it, most likely always shown, not hidden. There might be some hidden validation stuff somewhere.

But a passive game is essentially a game where the -- all the -- the tickets are preprinted and serialized. They're then sold. And, then, a drawing is held to determine which of those serial numbers is the winner, or -- or, you know, in cases of First, Second, Third prize, which of a number1 of tickets is the winner.

But it's passive in that there's no gener- -- everything is generated statically. The numbers are all on the tickets to start with, and you -- you know, you basically buy a ticket that has a serial number on it and if your serial number is picked, you win, so that's a passive game.

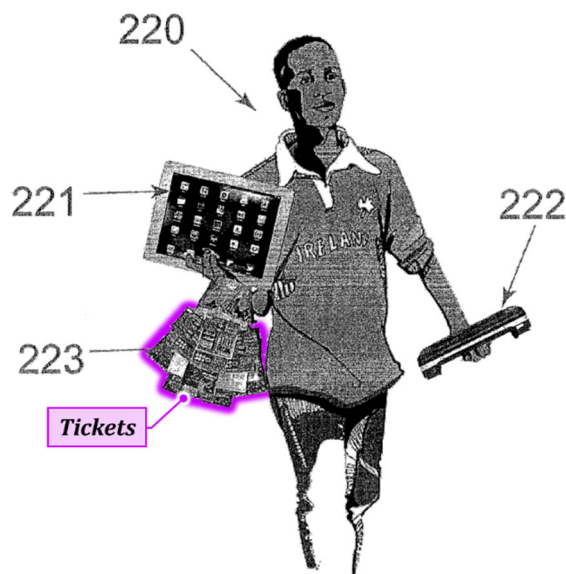
EX2051 at 69:7-70:8 (emphasis added). As explained in his declaration (EX1003 ¶ 64), however, a raffle does not involve a random drawing of numbers; instead, the drawing selects a winner from among the tickets that were sold.

131. For the foregoing reasons, I disagree with Petitioner's second invalidity theory and Mr. Hutton's opinion, that Irwin's disclosure of a preprinted passive ticket 224' teaches the subject matter of the Challenged Claims. Irwin's preprinted passive

ticket 224' is not a "manufactured, pre-printed, random draw lottery ticket," under the claims. It is not a lottery ticket at all.

132. I disagree with Petitioner's second invalidity theory and Mr. Hutton's opinion for a second reason: Irwin does not disclose that the preprinted passive ticket 224' "is selected by a customer prior to initiation of a check-out process," as recited in the Challenged Claims.

133. As Irwin discloses, the preprinted passive tickets 224' are sold by street vendors who do not work in brick and mortar retail locations but, instead, roam about with a computer 221, a portable printer 222, and an inventory of tickets 223 (*purple*):



*Irwin (EX1030), FIG. 16*

Irwin states:

While unusual in the United States, street vendors are a common sight in developing countries creating sales without the need for an established lottery infrastructure using brick and mortar locations.

Traditionally, these street vendors would roam with a limited inventory of instant tickets literally conducting street sales and paying small prizes on the spot.

EX1030 col. 12:46-52.

In one embodiment, the street vendor 220 (FIG. 16) is equipped with a tablet computer/communications device (e.g., Apple iPad) 221 as well as a portable battery powered printer (e.g., HP Officejet H470) 222, instant lottery tickets 223, and debit cards with no cash value loaded (not shown in FIG. 16).

EX1030 col. 13:19-24.

134. Irwin's disclosure, which describes a street vendor that [1] roams among different locations, [2] carries an inventory of tickets, and [3] conducts sales "on the spot," is inconsistent with the recitations that describe selecting a lottery ticket "prior to initiation of a check-out process" and presenting the ticket for activation "during the check-out process." As disclosed, the street vendor's sole role is to sell tickets. There is no hint or suggestion from Irwin's disclosure that the street vendor offers other merchandise for review in a conventional shopping experience that might occur in a brick and mortar retail environment. Thus, there is no suggestion that a customer selects merchandise before initiating a sales transaction with a street vendor.

135. Moreover, Irwin discloses that the street vendor carries the inventory of preprinted tickets 223 on his person. A POSITA naturally would conclude from Irwin's disclosure that the street vendor presents a passive game ticket 224' to a

customer when the customer requests a ticket. There is nothing in Irwin to suggest that a customer presents a selected card to the street vendor “during [a] check-out process.”

136. In forming my opinions, I considered Mr. Hutton’s analysis of these claim recitations. With respect to the timing features recited in the claims, namely that selection of a ticket occurs “prior to initiation of a check-out process” and presentation of the ticket occurs “during the check-out process,” Mr. Hutton states:

Irwin also discloses that such pre-printed cards can also be sold by “street vendors.” Id., 9:57-58, 12:44-46, 13:40-42, 15:65-16:19. Irwin also discloses that “preprinted passive tickets” are “sold through street vendors,” and a POSITA would understand that such tickets are selected by a customer and presented to the street vendor. Id., 16:65-17:1. A POSITA would also find it obvious that the street vendor could allow a customer to select and present the preprinted passive tickets, because that would allow the customer to choose which ticket to purchase, especially when the vendor may have different types of lottery tickets for sale.

EX1003 ¶ 104. Mr. Hutton does not explain, in his analysis, when the check-out process occurs so that the reader might understand which operations occur prior to initiation of the checkout process and which operation occur during the checkout process.

137. I disagree with the conclusions that Mr. Hutton has drawn. As explained, Irwin discloses that the street vendor conducts sales with consumers “on the spot.”

EX1030 col. 12:52. From this discussion, a POSITA would infer that the street

vendors' interaction with consumers are quick-hitting events. Irwin's disclosure suggests to a POSITA that a consumer initiates a sales transaction with a street vendor, requests the type of ticket that the consumer desires to buy, the consumer pays for the ticket, and the street vendor provides the ticket all in a single "on the spot" sales transaction. The street vendor sales scenario has no "check-out process" in the way a brick and mortar retail environment does. *See* EX1001 col. 2:52-55 (Customers can place a lottery ticket into a shopping cart and pay for the during the normal check-out process), 4:21-26 (same), clam 1 (a customer selects a lottery ticket "prior to initiation of a check-out process"). There is nothing in Irwin's disclosure (or Mr. Hutton's declaration) to suggest that customers somehow browse through a street vendor's ticket inventory before engaging in a sales transaction with the vendor himself.

138. Moreover, a POSITA would understand that, where preprinted passive games are concerned, there is no point to having a customer select a ticket prior to a sales transaction. In passive games, the tickets' serial number are printed in sequence. EX2051 at 60:6-10 (A "passive game is essentially a game where the *all the tickets are preprinted and serialized*, they're then sold, and a drawing is held to determine which of those serial numbers is the winner"). A POSITA would understand from Irwin's disclosure that the street vendor simply dispenses the tickets to consumers

in sequence as various consumers buy them. The tickets that are sold are placed into the passive game drawing.

139. I disagree with Petitioner's second invalidity theory and Mr. Hutton's opinion for a second reason: Irwin does not disclose that the preprinted passive ticket 224' "is selected by a customer prior to initiation of a check-out process," as recited in the Challenged Claims.

140. For the foregoing reasons, it is my opinion that Irwin does not render any claim of the '451 Patent obvious. Therefore, I disagree with Mr. Hutton's conclusions regarding Grounds 1 and 2.

**B. Grounds 3 and 4**

141. I have reviewed Petitioner's arguments and Mr. Hutton's opinions regarding obviousness over Szrek and Llach, and I disagree with them.

142. Mr. Hutton asserts that "a POSITA would have found it obvious to modify Szrek's system for activating lottery tickets to incorporate Llach's teachings of an intermediary transaction computer between Szrek's cash register and game provider system, as well as Llach's encryption and use of VPN for communications to and from the transaction computer." EX1003 ¶ 180. He alleges that a POSITA would have been motivated to do so for several reasons:

a. “it would allow Szrek’s system to have a centralized system for activating lottery tickets from different retailers and different locations, thereby allowing the system to be easily and cheaply extended;”

b. “a centralized intermediary allows for support for different game providers, such as different lottery companies,” which would reduce implementation costs;

c. “Llach discloses a number of features that its transaction computer can perform that would be desirable to a POSITA, including (1) the ability to communicate ‘with individual card issuers’ authorization systems 160 to effectuate activation or deactivation of the transaction cards” (Ex. 1006, [0030]), (2) the ability to communicate with “other entities” that may provide useful services, such as “third party payment management systems, third party audit systems, card issuer, affiliated entities, card vendor affiliated entities, redeeming merchants or redeeming merchant affiliated entities, financial institutions, such as banks and credit unions, or any other entity provided access by the stored value card transaction computer administrator;”

d. Szrek expressly teaches the references’ compatibility; and

e. Patent Owner entered the lottery ticket activation business by applying gift card activation systems for lottery ticket activation.

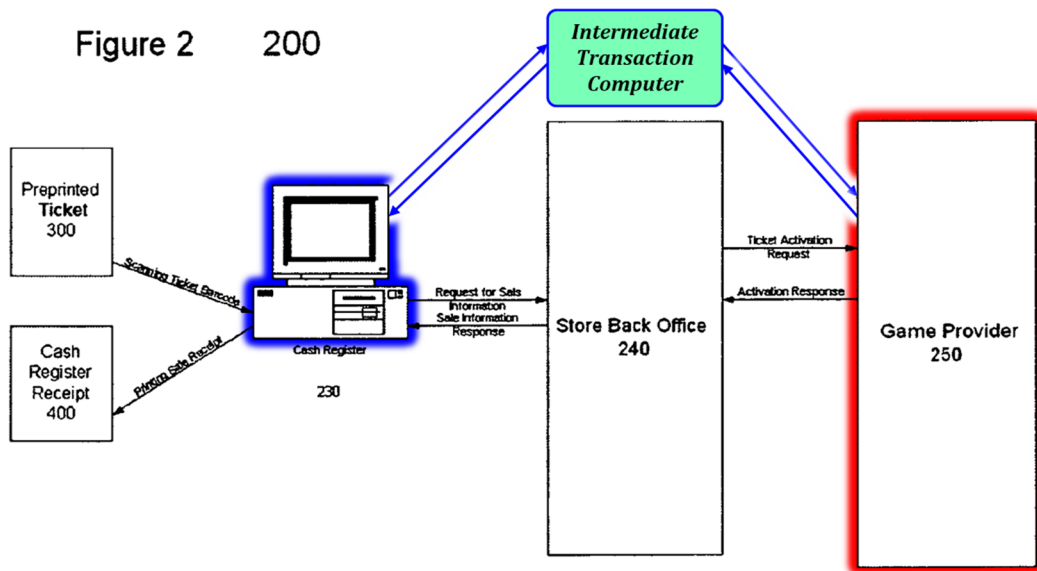
EX1003 ¶¶ 181-183. Mr. Hutton concludes by asserting that “the proposed combination would simply be the application of Llach’s known techniques for using a transaction computer to activate substrates to Szrek’s known system.” *Id.* ¶ 184. I disagree.

143. There is significant confusion over the nature of the modification proposed by Mr. Hutton. Mr. Hutton identifies the modification as follows:

180. In my opinion, a POSITA would have found it obvious to modify Szrek’s system for activating lottery tickets to incorporate Llach’s teachings of an intermediary transaction computer between Szrek’s cash register and game provider system, as well as Llach’s encryption and use of VPN for communications to and from the transaction computer.

EX1003 ¶ 180.

144. This modification describes an intermediary transaction computer (*bright green*) placed between Szrek’s cash register 230 (*blue*) and game provider system 250 (*red*) as shown below:



*Szrek (EX1005), FIG. 2 (annotated)*

145. But at his deposition, Mr. Hutton rejected this modification as representing his proposal:

MR. HAILS: And I'm going to bring up Szrek's figures.

BY MR. HAILS:

Q. In your opinion, [a POSITA] would have found it obvious to modify Szrek's system for activating lottery tickets to incorporate Llach's teachings of an intermediary transaction computer between Szrek's cash register and the game provider systems.

So I'd like to make sure I understand how that's going to work in the context of Figure 2.

You say you're going to add an intermediary transaction computer between the Cash Register 230 and the Game Provider System 250; is that correct?

A. Yes.

Q. Okay. So if I add a box to Szrek -- here we go -- I'd like to generate a -- yeah, pictorial representation of this.

So if I add a box, call it a transaction computer, and I put it with arrows connecting the cash register to the game provider, does that accurately represent the modification that would be performed to Szrek's system --

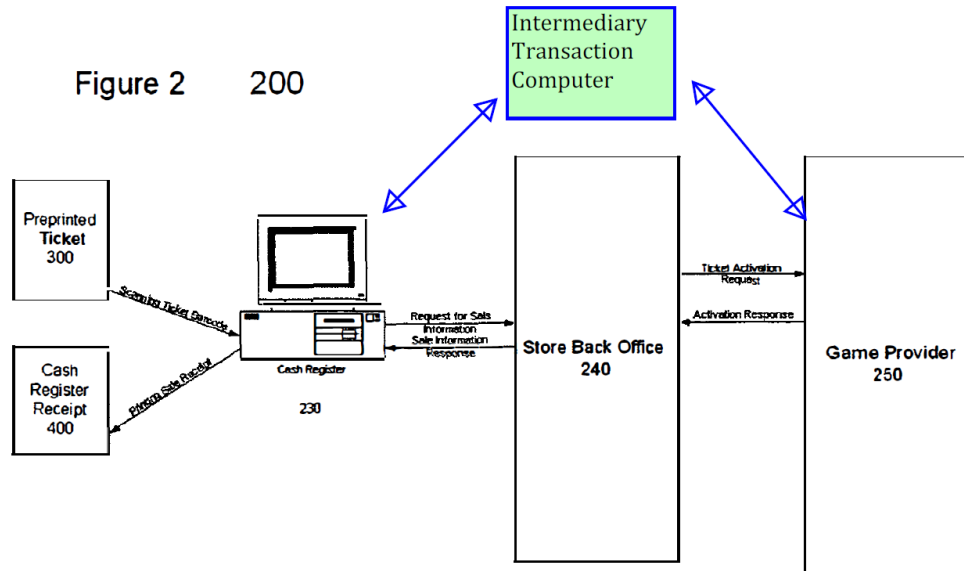
A. No.

Q. -- that's represented in paragraph 180?

A. No.

EX2051 at 102:12-103:18.

146. This deposition exchange refers to a representation of FIG. 2 that Mr. Hutton and Patent Owner's counsel developed during questioning, which is shown below:

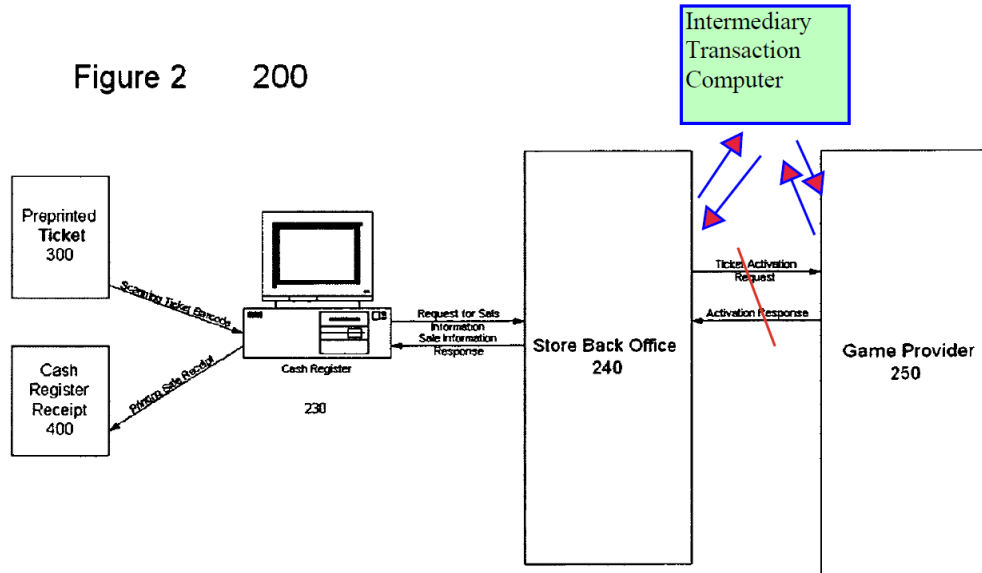


EX2050

The identification of the drawing as EX2050 occurred later in the deposition after confirming that it adequately represented the image that Mr. Hutton rejected in his testimony above. *See* EX2051 at 118:22-119:22, 128:12-18.

147. Mr. Hutton testified instead that the modification he proposed places an intermediary transaction computer between the store back office 240 and the game provider, as follows:

Figure 2 200



EX2049

EX2051 at 103:20-108:12.

148. I see no discussion of the EX2049 configuration, which Mr. Hutton identified as representing his proposed modification of Szrek, described in Mr. Hutton’s declaration. Mr. Hutton describes the intermediary transaction computer as placed “between Szrek’s cash register and game provider system.” EX1003 ¶ 180. Mr. Hutton’s declaration does not describe the intermediary transaction computer placed between the store back office and the game provider system, as mentioned in his deposition testimony. EX2051 at 103:20-108:12.

149. In the following analysis, unless otherwise noted, I analyze the prior art modification described in ¶ 180 of Mr. Hutton’s declaration, also shown in EX2050 and above in ¶ 144 (p. 75).

150. Szrek discloses a system for activating lottery tickets at a retail store. The store 110 includes lottery terminals 120, kiosks 130, and cash registers 230. EX1005 FIG. 1.

151. Szrek states that the cash registers 230 may communicate with a game provider 250 directly or indirectly. *Id.* col. 3:14-17, 4:22-25. Szrek does not disclose how direct communication between the cash register 230 and the game provider would occur. Szrek says only:

To carry out the present invention, it is assumed that an environment is provided where the cash register is capable of communicating with the game provider system (directly or indirectly)

*Id.* col. 3:14-17.

After the ticket identifier is obtained, an authorization request is sent to the game provider either directly from the cash register or indirectly via the store “back office”.

*Id.* col. 4:22-25.

152. Szrek does disclose how the cash register 230 communicates with a game provider 250 indirectly via a store back office 240. Here, Szrek states that the technique for activating lottery tickets sells the lottery ticket in the same way as any other in-store product:

This approach allows selling lottery product as any other in-store merchandise where the preprinted ticket barcode is scanned by the cash register, price information is retrieved either from the ticket barcode or from the store back office or from the game provider during ticket activation.

*Id.* col. 4:35-39. This reflects ordinary operations between a cash register and a back office computer in retail POS systems.

153. Traditionally, in retail POS systems, cash registers do not store information about the products that are sold by the retailer at which the POS system is installed. Information about products, product prices, retailer promotions and the like are stored in a central database that resides at a central computer, called a back office. There typically is a one-to-many relationship between the store back office and the cash registers that it supports, meaning that one store back office supports many cash registers. It is common in retail sales environments that there will be multiple cash registers in a single retail location, which allows the retailer to service more customers than would be possible in a single register environment.

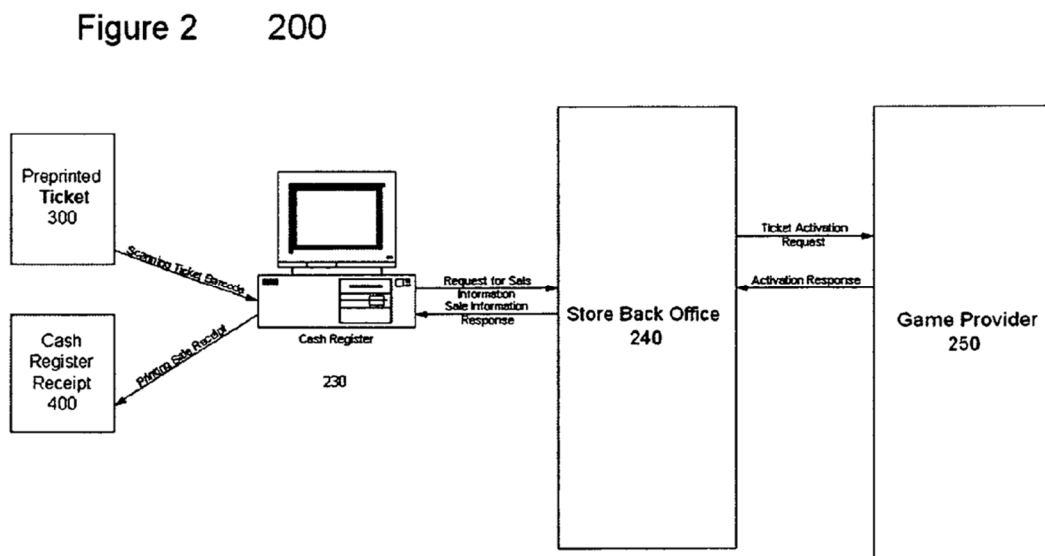
154. In these POS systems, product sales occur in a multi-step operation:

- a. A cash register scans a UPC barcode on a product that is being purchased,
- b. The cash register communicates a request to the store back office that identifies the scanned UPC barcode and requests a product description and price,
- c. The store back office searches a local database for product description information and price, using the UPC barcode as the basis for its search,

d. The store back office returns the product description and price of the product that was scanned to the cash register, and

e. The cash register updates its tally of the sales transaction using the product price, and it provides the received product description on a receipt.

155. Szrek illustrates this basic exchange between a cash register 230 and a store back office 240 in FIG. 2:



***Szrek (EX1005), FIG. 2***

Here, Szrek shows a request sent from the cash register 230 to the store back office 240 as a “request for sales information.” Szrek shows the response sent from the store back office 240 as a “sale information response.” A POSITA would recognize this description as an example of the classic cash register-to-store back office interaction that I describe above.

156. Szrek describes this functionality in col. 4:34-38:

This approach allows selling lottery product as any other in-store merchandise where the preprinted ticket barcode is scanned by the cash register, price information is retrieved either from the ticket barcode or from the store back office or from the game provider during ticket activation.

Retrieving price information from a store back office is a classic example of the retailer POS system described above.

157. Gilmore discloses a variant of this configuration, also. As discussed (§ V.D (p. 44)), Gilmore's POS system controller 11 stores a price book of merchandise available for purchase, including lottery tickets, which POS terminals 8 access upon scan of a token. *See, for example*, EX1029 [0019], [0041], [0059].

158. The presence of a store back office leads to several advantages in the management of a retail POS system. Having a centralized database of product description and price information simplifies the task of updating the retail POS system. When a product description or a product price changes, it is a relatively simple task to update a single centralized database at the store back office with the updated information. Retailers often offer sales promotions to encourage product sales, which change regularly; it is also a relatively simple task to update the back office's centralized database with information regarding new promotions. By contrast, the task of updating product descriptions, product prices, and new

promotions becomes more complicated in a system where there is no store back office and such information must be stored at individual cash register locations.

159. Having a store back office also simplifies the retailer's task to audit financial transactions conducted by the retailer POS system. It often occurs that a store back office logs sales transactions performed by the cash registers that it serves. The store back office's logs become the basis for the retailer to audit the financial transactions conducted by the cashiers at its cash registers. These logs also become the basis for the retailer to reports its sales to other teams within the retailers and to other entities, such as vendors, with whom the retailer interacts.

160. In the passage at col. 4:34-38, Szrek also describes that price information can be retrieved from the ticket barcode or from a game provider. Szrek explains that, to retrieve such information from a game provider, the cash register may issue its request for product description and price, and the store back office will transform this request into an activation request that is sent to a game provider 250:

After the barcode information has been scanned, cash register originates a transaction to the game provider requesting ticket activation. This is usually done by requesting the product type and price. This request is usually transformed into an activation request by the store back office software. The request is then sent to the game provider, who authorizes the activation and sends back lottery product description, price, and activation receipt identifier, usually with some security code. The store back office may append its own security code. On the cash register receipt, ticket price, product type, preprinted ticket identifier, activation identifier and security codes may be printed.

*Id.* col. 4:56-67. A POSITA would recognize this to be a convenient implementation for a retailer POS system that has a cash register and a store back office, but whose store back office does not store product information or price information for a lottery ticket in its local database.

161. There are several reasons:

a. First, it allows the cash register to process UPC scans of lottery tickets in the same way as it processes scans of another other merchandise. It allows the communication exchanges between the cash register and the store back office to adhere to the standard communication protocol that I described above (§ 154). The cash register may issue a request for product information and price for a lottery ticket in the same way as it issues requests for any other scanned merchandise.

b. Second, it allows the store back office to manage communication with the game provider to issue activation requests for scanned tickets. This simplifies implementation by having a single point of communication between the retailer's POS system and the game provider.

c. Third, it allows the store back office to develop a centralized log of all lottery activation transactions for the retailer as those lottery tickets are processed. This log will become the basis for reconciling activation transactions with the game provider during an auditing process.

162. In my opinion, a POSITA would not be motivated to add an intermediary transaction computer to the Szrek system as proposed in ¶ 180 of Mr. Hutton's declaration (EX2050, ¶ 144 (p. 75)) under either configuration disclosed by Szrek. Adding an intermediary transaction computer between a cash register 230 and a game provider 250 merely adds complexity, processing delays, and the possibility of processing errors to a ticket activation process.

163. Consider, first, Szrek's disclosure of a cash register 230 that communicates directly with a game provider 250. Direct communication between two devices, of course, allows the store's cash register to process ticket activation in the simplest, fastest way possible. An activation request is sent directly from the cash register to a game provider where it is processed. EX1005 col. 4:22-25 ("After the ticket identifier is obtained, an authorization request is sent to the game provider either directly from the cash register or indirectly via the store "back office.>"). As Mr. Hutton notes, a POSITA would have interest in avoiding processes that are "slower, more inefficient, and more difficult to implement" than other solutions. EX1003 ¶ 203. Activation requests are no exception. A POSITA would want to avoid adding unnecessary delay, inefficiency, or implementation complexity to an activation process that can be handled by a cash register that already can communicate directly with a game provider.

164. Consider, second, Szrek's disclosure of a cash register 230 that communicates indirectly with a game provider 250 using the store back office 240 of FIG. 2. Adding an intermediary transaction computer, as proposed, also adds unnecessary delay, inefficiency, and implementation complexity to an activation process that already can be handled by the store back office 240. A POSITA would be motivated to avoid an implementation that introduces delay, reduces efficiency, and increases complexity. Mr. Hutton seems to agree. *See* EX1003 ¶ 203 (it is beneficial to avoid slow, inefficient solutions that are difficult to implement).

165. Introducing an intermediary transaction computer in a manner that bypasses the store back office 240 (*see* EX2050, ¶ 144 (p. 75)) also causes the resultant system to lose the benefits conferred by a back office system 240. As explained (¶¶ 158-159), having a store back office provides benefits in a retail POS system by allowing the cash register to operate identically when lottery tickets and non-lottery merchandise is scanned and by creating a log of transactions, both lottery activation transactions and non-lottery purchase transactions, as the store back office processes cash register requests.

166. In the bypass configuration described in EX1003 ¶ 180, activation requests proceed from the cash register to the intermediary transaction computer. *See* EX1003 ¶ 182 ("Szrek also discloses that communications between POS terminals

and the game provider system can be done ‘indirectly,’ such as through an intermediary like that disclosed in Llach.”). Mr. Hutton’s declaration describes no communication that, in this configuration, proceeds through the store back office 240. By bypassing the store back office, Mr. Hutton’s proposed modification imposes several new requirements on the “indirect” configuration disclosed by Szrek:

a. First, it requires the cash register 230 to be programmed to interpret barcodes as they are scanned and to route them either to the store back office or to the new intermediary transaction computer based on whether the barcode refers to a lottery ticket or not. Under Mr. Hutton’s proposal, Szrek’s cash register can no longer operate in the usual manner. EX1005 col. 4:58-59 (A cash register “usually ... request[s] the product type and price.”). Now, Szrek’s cash register 230 must recognize the product type from the barcode scan so that it may determine whether to make a request of the store back office or to make a request of the intermediary transaction computer.

b. It also imposes on the cash register a requirement to create an appropriate log of activation transactions sent to the intermediary transaction computer. As I explained, a store back office typically creates a log of all requests that it receives from cash registers and fulfills, which forms the basis for internal

reporting and reconciliation with business partners. It is natural to pass lottery ticket activation requests through a store back office 240 because doing so allows the store back office to perform accounting and audit functions for the lottery ticket in the same way that it would do for other types of merchandise. Mr. Hutton agreed at his deposition that these are standard functions of a store back office. EX2051 at 81:20-86:5 (describing store back office auditing and reconciliation processes for instant tickets, quick-pick tickets, and phone cards). In the bypass configuration shown in EX2050 and ¶ 144 (p. 75), the store back office is no longer placed in the communication chain between the cash register and the game provider. The store back office has no opportunity to log activation transactions for its reports, auditing, and reconciliation functions; Mr. Hutton does not describe in his declaration how such functions would be performed.

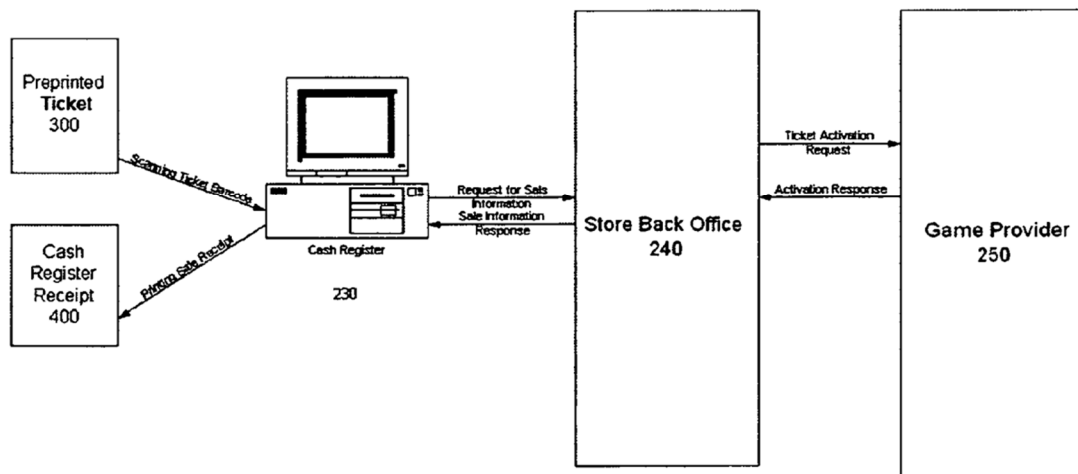
Thus, a POSITA would not be motivated to place an intermediary transaction computer between Szrek's cash register and its game provider because it increases implementation complexity of Szrek's "indirect" communication configuration.

167. Adding an intermediary transaction computer as proposed in ¶ 180 also complicates the task of reconciling activation transactions between Szrek's retailer and the entity that manages the game provider. In Szrek's two-party system, reconciliation merely requires the retailer and the lottery entity to develop their own

logs of activation transactions and compare them directly. In a three-party system as proposed by Mr. Hutton, reconciliation requires participation of three parties: the retailer, the entity that manages the intermediary transaction computer, and the lottery entity. Three logs of activation transactions must be developed, which may not possess common information, and they must be compared to each other during reconciliation. This configuration increases inefficiency and implementation complexity. Therefore, a POSITA would not be interested in making the modification as proposed in ¶ 180 of Mr. Hutton's declaration.

168. The configuration shown in EX2049 also increases processing delays, causes inefficiency, and increases implementation complexity to the Szrek system illustrated in FIG 2. Here, Szrek discloses that the store back office 240 already is capable of communicating with the game provider 250. As shown in FIG. 2, the store back office 240 communicates an activation request to the game provider 250, and it receives an activation response from the game provider 250:

Figure 2 200



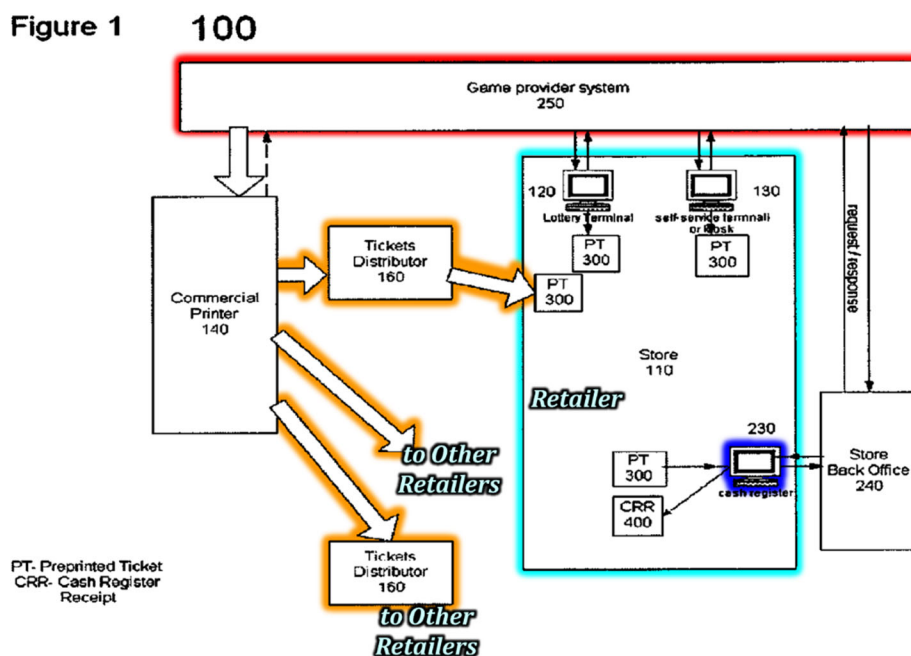
Szrek (EX1005), FIG. 2

See also EX1005 col. 4:56-64 (A cash register’s request for product type and price “is usually transformed into an activation request by the store back office software. The request is then sent to the game provider, who authorizes the activation and sends back lottery product description, price, and activation receipt identifier, usually with some security code.”). Interposing an intermediary transaction computer as shown in EX2049 increases processing delay, increases inefficiency, and increases implementation complexities by requiring the store back office’s activation request and the game provider’s activation response to traverse additional computing units unnecessarily. Moreover, it increases the burden to perform reconciliations as discussed in ¶ 167 because the EX2049 configuration involves a three-party system with three parties performing reconciliation. A POSITA would not motivated to avoid these unnecessary delays, inefficiencies, and complexities

when Szrek's store back office 240 already provides a fast, efficient, and simple system for activating Szrek's lottery tickets.

169. In reaching my opinions, I considered Mr. Hutton's stated reasons for modifying Szrek as he proposes. EX1003 ¶¶ 181-183 (*see* ¶ 142 above). I disagree with Mr. Hutton's reasoning, as explained below.

170. With respect to Mr. Hutton's assertion that the proposed modification "would allow Szrek's system to have a centralized system for activating lottery tickets from different retailers and different locations," I note that Szrek's system as disclosed already has a centralized system for activating lottery tickets from different retailers and different locations. Szrek discloses a central game provider 250 (red), which activates lottery tickets from different retailers and retail locations:



Szrek (EX1005), FIG. 1 (annotated)

a. A POSITA would recognize, from Szrek's disclosure, that the game provider 250 is a centralized processor for activating lottery tickets:

All tickets are "preloaded" in the game provider's system, and during ticket activation, the game provider system merely recognizes from the ticket identifier what transaction is activated (e.g. lotto, 6 specific boards known to the system and the player).

EX1005 col. 3:46-49.

After the barcode information has been scanned, cash register originates a transaction to the game provider requesting ticket activation. ... This request is usually transformed into an activation request by the store back office software. The request is then sent to the game provider, who authorizes the activation and sends back lottery product description, price, and activation receipt identifier, usually with some security code.

*Id.* col. 4:56-64.

In case of the ticket 300 of the present invention, this request will be transformed into transactional request to the game provider 250 who verifies if this Checkout Play 300 was already activated. If not, it will activate this ticket by marking a status or state of corresponding identifier or record in the computer memory or on the computer disk or it may even create a record with the corresponding identifier.

*Id.* col. 6:34-41. Thus, I disagree with Mr. Hutton's suggestion (EX1003 ¶ 181) that Szrek's system lacks "a centralized system for activating lottery tickets from different retailers and different locations" or that adding an intermediary transaction computer adds a centralized system to Szrek.

171. With respect to Mr. Hutton's assertion that the proposed modification provides "a centralized intermediary [that] allows for support for different game

providers, such as different lottery companies,” a POSITA would recognize that such capability is provided natively by POS systems without introduction of a third-party transaction computer. This conclusion is borne out by the disclosures of the asserted prior art:

a. Szrek, for example, describes that POS system already have the capability to activate multiple types of products, including multiple types of lottery products. Szrek describes application to lotteries and other games of chance:

The invention can be used for both lottery and other social games of chance tickets. An actual game ticket may be preprinted by the commercial printer, printed in the in-store kiosk, self-service terminal or on the standard gaming terminal. ... Tickets have a barcode or other means readable by a cash register or other equipment. The ticket is read at the cash register and activated.

EX1005 Abstract. And, elsewhere, Szrek discusses application activation of phone cards, random draw lottery tickets, and instant lottery tickets:

**Phone Cards:**

Stores sell merchandise at the cash register requiring some type of activation. The merchandise would not be functional till activated. For example, phone cards do not work unless they are sold and activated through the cash register in the store. In this case the sale of the card would be registered and authorization request, including phone card identifier, would be sent to the card issuer or his agent for the phone card activation. From cashier's point of view the sale of such phone card is similar to sales of any other merchandise, and at the same time the phone card is individually registered for the activation. In summary, the phone card was not functional, unless initially properly registered/activated through the cash register. Phone card registration may happen by sending registration request directly from the cash register to the phone service provider or indirectly via the store back

office, which may be connected to store chain network. Authorization may actually happen via direct or indirect connection in the store or store chain network to the phone card provider or his agent.

EX1005 col. 2:36-53.

**Draw Lotteries:**

The ticket can be preprinted according to player's selection, his favorite bet, or as a computer generated selections (quick pick). Tickets from commercial printer could be enveloped or covered by latex. From the player's point of view, the commercial printer's tickets are computer generated selections. ...

The ticket of the present invention does not have a play value until it is activated at the cash register or the lottery terminal. It may be sold or provided for free, with payment collected at activation time. Activation is done by scanning the ticket barcode or by entering the ticket identifier from the keyboard. The cash register, instead of printing a lottery ticket, will activate a ticket for the specific draw and print an activation receipt.

*Id.* col. 3:29-45.

**Instant Tickets:**

Similarly, instant tickets sales could be handled at POS with instant ticket ID registration to enable instant ticket sales control and integrated accounting.

EX1005 col. 7:9-11.

Thus, a POSITA would not agree that exporting these functions from a cash register to an intermediary transaction computer somehow adds support for different game providers or reduces implementation costs.

172. With respect to Mr. Hutton's third justification for adding an intermediary transaction computer, that it would be desirable to add '(1) the ability to

communicate ‘with individual card issuers’ authorization systems 160 to effectuate activation or deactivation of the transaction cards,’ (2) the ability to communicate with “other entities” that may provide useful services, such as “third party payment management systems, third party audit systems, card issuer, affiliated entities, card vendor affiliated entities, redeeming merchants or redeeming merchant affiliated entities, financial institutions, such as banks and credit unions, or any other entity provided access by the stored value card transaction computer administrator,” a POSITA would recognize that Mr. Hutton refers to functionality that already is provided in most POS systems.

a. As discussed, Szrek discloses a cash register that has functionality to sell merchandise that requires activation. The cash register sends an activation message to a phone card issuer for activation:

Stores sell merchandise at the cash register requiring some type of activation. The merchandise would not be functional till activated. For example, phone cards do not work unless they are sold and activated through the cash register in the store. In this case the sale of the card would be registered and authorization request, including phone card identifier, would be sent to the card issuer or his agent for the phone card activation. From cashier's point of view the sale of such phone card is similar to sales of any other merchandise, and at the same time the phone card is individually registered for the activation. In summary, the phone card was not functional, unless initially properly registered/activated through the cash register. Phone card registration may happen by sending registration request directly from the cash register to the phone service provider or indirectly via the store back office, which may be connected to store chain network. Authorization

may actually happen via direct or indirect connection in the store or store chain network to the phone card provider or his agent.

EX1005 col. 2:36-53. Thus a POSITA would recognize that POS systems natively possess ‘the ability to communicate ‘with individual card issuers’ authorization systems 160 to effectuate activation or deactivation of the transaction cards,’” as described by Mr. Hutton. A POSITA would not be motivated to add a third party intermediary system as proposed to provide functionality already possessed by a POS system.

b. A POSITA would recognize that POS systems natively possess “the ability to communicate with ‘other entities’ that may provide useful services.” For example, POS systems possess the ability to interface with third party payment management systems and financial institutions, such as banks and credit unions.. It was routine as of the priority date of the ’451 Patent, for POS systems to process various forms of payment—bank checks, credit cards, stored value cards, and the like—presented by consumers. *See, for example*, EX1006 at [0003] (discussion redemption of stored value cards by merchants). Similarly, POS systems possess the ability to communicate with third party audit systems. *See* EX1005 col. 7:9-11 (discussing integrated accounting); EX2051 at 81:20-86:5. POS systems also possess the ability to communicate with card issuer systems. *Id.* at col. 2:40-51 (a cash register sends an activation request to a “card issuer” for phone activation).

And, of course, it was conventional for components of a POS system, which is a redeeming merchant in Llach's system (EX1006 at [0013] (a redeeming merchant accepts a stored value card as tender for a purchase)), to communicate with other elements of the redeeming merchant's POS infrastructure. *See* EX1005 FIG. 2 (a cash register communicates with a store back office). Here, again, a POSITA would not be motivated to add a third party intermediary system as proposed to provide functionality already possessed by a POS system.

## **VIII. CONCLUSION**

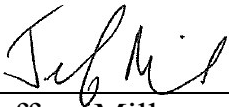
173. For the reasons set forth above, it is my opinion that the Challenged Claims are not invalid under Grounds 1-4.

174. 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.

175. I hereby declare that all statements made herein of my own knowledge are true and that all statements made on the 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.

Date: October 28, 2024

  
\_\_\_\_\_  
Jeffrey Miller