UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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ALLIANCE LAUNDRY SYSTEMS, LLC,
Petitioner,

v.

PAYRANGE LLC,
Patent Owner.

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PGR2025-00027
U.S. Patent No. 11,966,920

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**PETITION FOR POST-GRANT REVIEW**
**UNDER 35 U.S.C. § 321-329 AND 37 C.F.R. § 42.1-42.80, 42.200 *et seq.***

Mail Stop Patent Board
Patent Trial and Appeal Board
P.O. Box 1450
Alexandria, VA 22313-1450

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## PETITIONER'S EXHIBIT LIST

| Exhibit No. | Description | Publication Date (unless otherwise noted) | Type of Prior Art |
|---|---|---|---|
| 1001 | USPN 11,966,920 (the '920 Patent) (Patent submitted for Post-Grant Review) | December 18, 2013 (earliest possible priority date based on filing of provisional application) | N/A |
| 1002 | File History for USPN 11,966,920 | N/A | N/A |
| 1003 | Declaration of Dr. B. Clifford Neuman Under 37 C.F.R. § 1.68 in Support of Petition for Post-Grant Review of the '920 Patent | N/A | N/A |
| 1004 | *Curriculum Vitae* of Dr. B. Clifford Neuman | N/A | N/A |
| 1005 | USPN 10,210,501 ("*Low*") | July 25, 2013 | § 102(a), (d) |
| 1006 | USPN 9,898,884 ("*Arora*") | April 4, 2013 | § 102(a), (d) |
| 1007 | USPN 8,958,846 ("*Freeny*") | Aug. 23, 2006 | § 102(a), (d) |
| 1008 | USPN 8,255,323 ("*Casey*") | Aug. 28, 2012 (issuance date) | § 102(a)(1) |
| 1009 | PayRange's Statutory Disclaimer of USPN 11,481,772 claims 1-6, 8-10, and 12-20 | Filed on November 22, 2023 | N/A |
| 1010 | Redline comparison of Claim 1 of the '920 Patent to Claims 13 and 15 of the '920 Patent | N/A | N/A |
| 1011 | Redline comparison of claims of USPN 10,891,614 and corresponding claims of the '920 Patent | N/A | N/A |
| 1012 | USPN 3,457,391 ("*Yamamoto*") | July 22, 1969 (issuance date) | § 102(a)(1) |

| Exhibit No. | Description | Publication Date (unless otherwise noted) | Type of Prior Art |
|---|---|---|---|
| 1013 | USPN 3,931,497 ("*Gentile*") | Jan. 6, 1976 (issuance date) | § 102(a)(1) |
| 1014 | USPN 6,810,234 ("*Räsänen*") | Oct. 26, 2004 (issuance date) | § 102(a)(1) |
| 1015 | US Patent Pub. No. 2003/0172028 ("*Abell*") | Mar. 7, 2002 | § 102(a), (d) |
| 1016 | US Patent Pub. No. 2003/0130902 ("*Athwal*") | Nov. 4, 2002 | § 102(a), (d) |
| 1017 | PayRange Claim Chart for the '920 Patent, Attached as Exhibit J to PayRange's Amended Counterclaims in *Alliance Laundry Systems, LLC v. PayRange, Inc.*, No. 24-cv-733-MN, Dkt. 18, PageID.1307-1354 (D. Del., filed Oct. 4, 2024) | N/A | N/A |
| 1018 | Slip Opinion, *Linfo IP, LLC v. TrustPilot, Inc.*, 24-cv-2796, Dkt. 37 (S.D.N.Y. Jan. 3, 2025) | N/A | N/A |
| 1019 | Transcript, *Chemours Co. FC, LLC v. Daikin Indus., Ltd.*, 1:17-cv-01612, Dkt. 77, PageID.1319-1351 (D. Del. Jan. 3, 2019). | N/A | N/A |
| 1020 | Excerpted Copy of U.S. District Courts—Combined Civil and Criminal Federal Court Management Statistics-Profiles for the Reporting Period ending June 30, 2024, available at https://www.uscourts.gov/data-news/reports/statistical-reports/federal-court-management-statistics/federal-court-management-statistics-june-2024. | N/A | N/A |

| Exhibit No. | Description | Publication Date (unless otherwise noted) | Type of Prior Art |
|---|---|---|---|
| 1021 | US Patent Pub. No. 2018/0374076 ("*Wheeler*") | June 21, 2018 | N/A |
| 1022 | US Patent Pub. No. 2021/0056552 ("*Murray*") | Aug. 21, 2020 | N/A |
| 1023 | USPN 11,010,759 ("*Maeng*") | Sep. 11, 2018 | N/A |
| 1024 | USPN 309,219 ("*Fruen*") | Dec. 16, 1884 (issuance date) | N/A |
| 1025 | PayRange Claim Chart for the USPN 11,481,772, attached as Exhibit L to PayRange's Amended Counterclaims in *Alliance Laundry Systems, LLC v. PayRange, Inc.*, 24-cv-733-MN, Dkt. 18, PageID.1404-1416 (D. Del., filed Oct. 4, 2024) | N/A | N/A |

# I. INTRODUCTION

Alliance Laundry Systems LLC ("Petitioner") respectfully petitions for Post-Grant Review ("PGR") of Claims 1-20 of U.S. Patent No. 11,966,920 ("the '920 Patent," Ex. 1001). The '920 Patent includes twenty claims, including three independent claims. Petitioner respectfully requests that the Board institute trial for PGR of, and find unpatentable, Claims 1-20 ("the Challenged Claims") of the '920 Patent.

# II. MANDATORY NOTICE OF RELATED MATTERS (37 C.F.R. § 42.8(B)(2))

## A. Prior Proceedings: Patent Owner & Kiosoft

U.S. Patent No. 11,481,772 ("the '772 Patent"), the grandparent of the '920 Patent via Patent Application No. 17/654,732, was the subject of a petition for PGR filed by Kiosoft Technologies, LLC ("Kiosoft"). *See* PGR2023-00042. Shortly before the Board's institution decision was due, the proceedings were terminated due to settlement. *See id.*, Paper 9.

The dispute between Patent Owner[1] and Kiosoft included district court actions (which did not include the '772 or '920 Patents), and several PTAB proceedings, as shown below:

| **Patent Owner & Kiosoft Disputes** | | |
|---|---|---|
| Proceeding Number | Venue | Patent(s) at Issue |
| 20-cv-20970 | S.D. Florida | 9,134,994<br>9,659,296 |
| 20-cv-24342 | S.D. Florida | 10,719,833<br>10,891,608<br>10,891,614 |
| CBM2020-00026 | PTAB | 9,659,296 |
| IPR2021-00086 | PTAB | 9,659,296 |
| PGR2021-00077 | PTAB | 10,719,833 |
| PGR2021-00084 | PTAB | 10,891,608 |
| PGR2021-00093 | PTAB | 10,891,614 |
| PGR2022-00035 | PTAB | 11,074,580 |
| PGR2023-00042 | PTAB | 11,481,772 |
| PGR2023-00045 | PTAB | 11,488,174 |
| PGR2023-00050 | PTAB | 11,501,296 |

[1] Patent Owner changed its name from PayRange Inc. to PayRange LLC on October 28, 2024. *See Alliance Laundry Systems LLC v. PayRange Inc.*, No. 1:24-cv-00733-MN, Dkt. 31, PageID.1649 (D. Del. Dec. 5, 2024).

| | | |
|---|---|---|
| 23-2378 | Fed. Cir. | 9,134,994<br>9,659,296 |
| 23-2425 | Fed. Cir. | 9,134,994<br>9,659,296 |

PayRange asserted USPN 10,891,614 ("the '614 Patent"), the grandparent of the '772 Patent via two continuation applications, in litigation captioned *PayRange Inc. v. KioSoft Technologies, LLC et al.*, 1:20-cv-24342 (S.D. Fla.). KioSoft thereafter filed a Petition for Post Grant Review for the '614 Patent. PGR2021-00093. On December 14, 2022, a Final Written Decision ("FWD") was issued finding Claims 1-6, 8-10, 14-15, and 18-25 of the '614 Patent unpatentable under Section 101. PGR2021-00093, FWD, Paper 38.

**B. Prior Proceedings: Patent Owner & CSC ServiceWorks**

Patent Owner previously sued CSC ServiceWorks, Inc. ("CSC") for infringement of the '772 Patent (and others) in Delaware District Court: *PayRange, Inc. v. CSC ServiceWorks, Inc.*, 22-cv-502-MN (D. Del.); *see also* 23-cv-278-MN (D. Del.); 24-cv-279-MN (D. Del.). CSC thereafter filed a petition for IPR against Claims 1-6 and 8-20 of the '772 Patent. *See* IPR2023-01449. The next month, Patent Owner disclaimed Claims 1-6, 8-10, and 12-20 of the '772 Patent. *See* Ex. 1009; *see also* IPR2023-01449, Ex. 2017.

This Board granted institution of IPR against Claim 11 of the '772 Patent after finding that CSC's petition showed a reasonable likelihood of success in establishing unpatentability of Claim 11 of the '772 Patent and declining to discretionarily deny institution. *See id.*, Paper 14 at 2, 10–11.

The dispute between Patent Owner and CSC included district court actions and several other PTAB proceedings, as shown below:

| **Patent Owner & CSC Disputes** | | |
|---|---|---|
| Proceeding Number | Venue | Patent(s) at Issue |
| 22-cv-00502 | D. Delaware | 8,856,045<br>10,438,208<br>10,891,608 |
| 23-cv-00278 | D. Delaware | 8,856,045<br>10,438,208<br>10,891,608<br>11,481,772 |
| 24-cv-000279 | D. Delaware | 10,719,833<br>10,891,614<br>11,488,174 |
| IPR2023-01188 | PTAB | 10,891,608 |
| IPR2023-01187 | PTAB | 10,438,208 |
| IPR2023-01186 | PTAB | 8,856,045 |
| IPR2023-01449 | PTAB | 11,481,772 |

### C. Related Proceedings: Petitioner and Patent Owner

On June 20, 2024, Petitioner filed suit against Patent Owner for declaratory judgment of noninfringement of the ’920 Patent, the ’772 Patent, and related USPN 11,972,423 (“’423 Patent”): *Alliance Laundry Systems, LLC v. PayRange Inc.*, 24-cv-733-MN (D. Del., filed June 20, 2024) (“the Delaware Litigation”). Patent Owner counterclaimed for infringement of the ’920 Patent, the ’772 Patent, the ’423 Patent, and USPN 10,891,608 (“the ’608 Patent”). Petitioner subsequently filed a partial motion to dismiss Patent Owner’s counterclaims, which remains pending.

Contemporaneously herewith, Petitioner is filing a Petition for Post-Grant Review of Claims 1-20 of the ’423 Patent. Petitioner will soon be filing Petitions for *Inter Partes* Review against the ’772 and ’608 Patents.

Shortly after Petitioner filed its complaint for declaratory judgment of noninfringement in the District of Delaware, Patent Owner filed complaints for infringement of the ’920 Patent (and the ’772 and ’423 Patents) in the Western District of Texas against Card Concepts, Inc. (“CCI”) and Nayax Ltd. (“Nayax”). See *PayRange Inc. v. Card Concepts Inc.*, 6:24-cv-00339 (W.D. Tex., filed June 24, 2024); *PayRange Inc. v. Nayax Ltd.*, 24-cv-00340 (W.D. Tex., filed June 24, 2024). From the public docket, it appears that Nayax has not yet been served. On December 19, 2024, PayRange voluntarily dismissed its claims against CCI without prejudice.

*See PayRange Inc. v. Card Concepts Inc.*, 6:24-cv-00339, Dkt. 16 (W.D. Tex., Dec. 19, 2024).

## III. IDENTIFICATION OF CHALLENGES: 37 C.F.R. § 42.204(b))

Petitioner respectfully requests PGR and a determination that the Challenged Claims of the '920 Patent are unpatentable based on the grounds listed below. Per 37 C.F.R. § 42.6(c), copies of the references are filed herewith. In support of the proposed grounds of unpatentability, this Petition is accompanied by the Declaration of Dr. B. Clifford Neuman (Ex. 1003).

| Ground | 35 U.S.C. Basis | Challenged Claims | References |
|---|---|---|---|
| 1 | § 103 | 1-10, 12-20 | *Low* in view of *Arora* in further view of *Freeny* |
| 2 | § 103 | 11 | *Low* in view of *Arora* in further view of *Freeny* and *Casey* |
| 3 | § 101 | 1-20 | n/a |

*See also* Ex. 1003, ¶¶ 64–67.

## IV. BACKGROUND OF THE '920 PATENT AND THE PRIOR ART

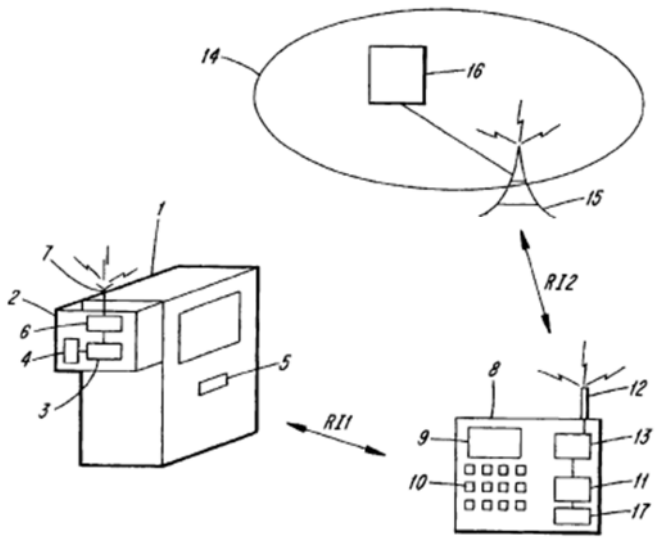
### A. The State of the Art Prior to December 2013

The '920 Patent states that "[v]ending machines…have been around for thousands of years." Ex. 1001, 1:51–52. The "first simple mechanical coin operated

vending machines were introduced in the 1880s." *Id.*, 1:53–54. Since at least the 1960's, alternative payment methods for vending machine transactions—such as credit cards—were in use. *See* Ex. 1003, ¶¶ 36–37; Ex. 1012. Vending machine payment over communication lines also existed before the invention of the Internet. Ex. 1003, ¶¶ 36-38; Ex. 1013.

Using a personal mobile device to conduct a vending machine transaction was also well-known. For example, *Räsänen* discloses conveying information between a vending machine and a mobile phone to conduct a transaction. *See* Ex. 1014; Ex. 1003, ¶¶ 39–40. *Räsänen* teaches that "a mobile telephone 8" comprises "a display 9," "a keyboard 10," and a "central processing unit [] 11." *See id.*; Ex. 1014, 3:50–65, Fig. 1, reproduced below:

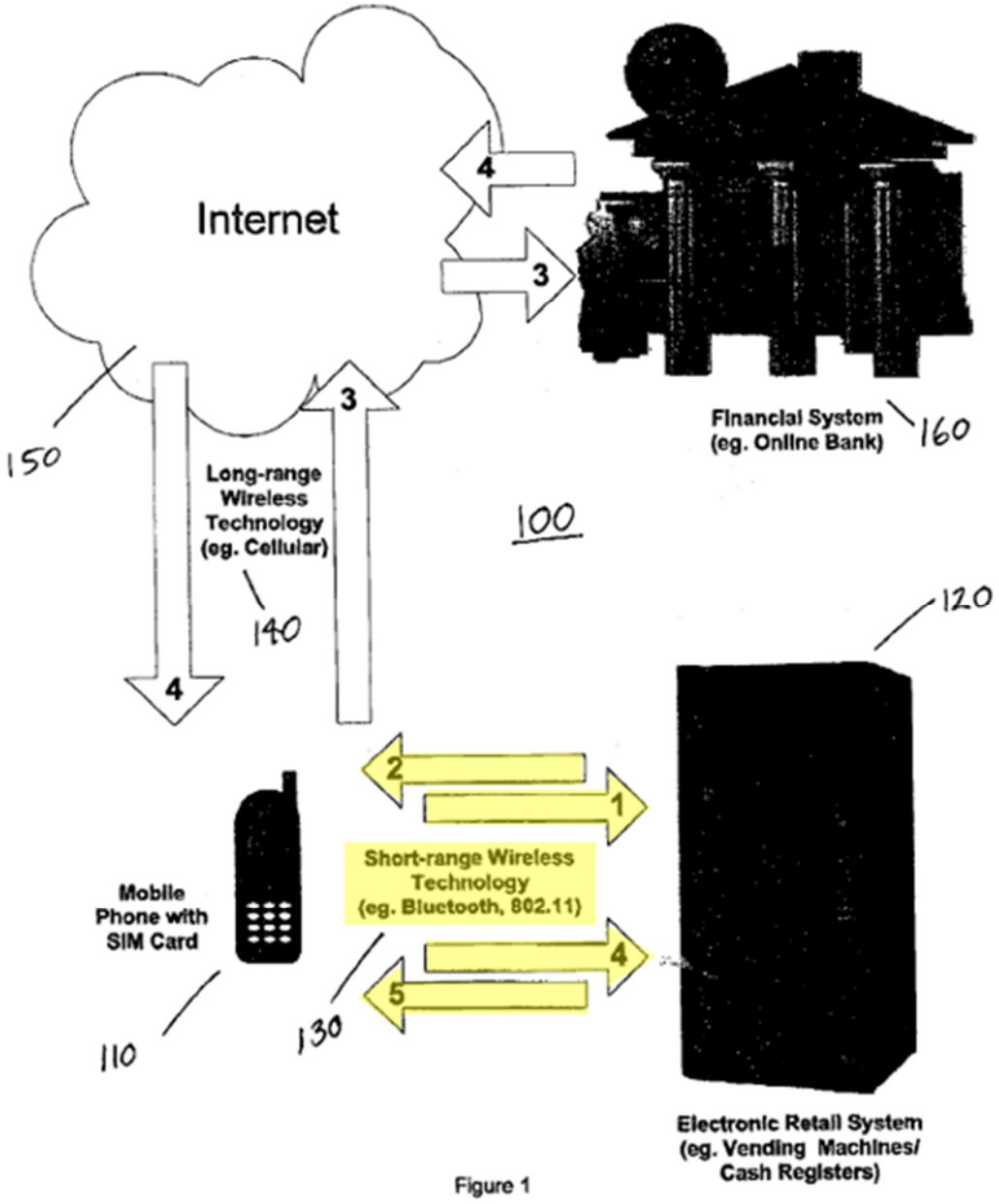
Fig. 1




Ex. 1014, Figure 1.

Using a mobile device to identify available vending machines based on proximity was also well-known. For instance, *Räsänen* teaches that communications over the local radio air interface protocol (RI1) are carried out over a small range. *Id.*, 3:46–49; *see also* Ex. 1003, ¶ 40. Mobile devices can then receive an alert when it is within range of the vending machine. *See id.*; Ex. 1014, 4:1–10; *see also* Ex. 1015; Ex. 1003, ¶¶ 41-42.

Enabling mobile payment to an offline vending machine was also introduced long before the '920 Patent. *Athwal* describes a method for transacting a payment using short-range communication that does not require the vending machine to be connected to a wireless network. Ex. 1003, ¶ 43; Ex. 1016, ¶¶ 19–22; *see also* Figure 1:




Ex. 1016, Figure 1 (annotated).

Using a mobile phone to provide the user interface for a vending machine transaction was also well-known. Ex. 1003, ¶ 44. *Räsänen* teaches downloading interface software instructions to the mobile phone, and that these downloadable instructions may provide the user with a list of available goods, the prices of the

goods, and an affordance that, when pressed, indicates conclusion of the transaction. *See id.*; Ex. 1014, 4:47–58.

### B. Overview of the Alleged Invention of the '920 Patent

The '920 Patent is entitled "Method and System for Presenting Representations of Payment Accepting Unit Events." Ex. 1001. The specification explains that, historically, vending machines or "payment accepting units" required "coins, bills, or cards," but "[a]s the number of people with Internet-connected mobile devices proliferates…[m]obile payment is a logical extension." *Id.*, 2:6—21; Ex. 1003, ¶ 45.

The '920 Patent discloses using a mobile device to "present[] representations of payment accepting unit events on a display." *Id.*; ¶ 46; Ex. 1001, Abstract. Figure 27A is a flowchart for presenting representations of payment accepting unit events. *Id.*, 5:46–48; Ex. 1003, ¶ 46. Figures 27A and 27B are shown below:

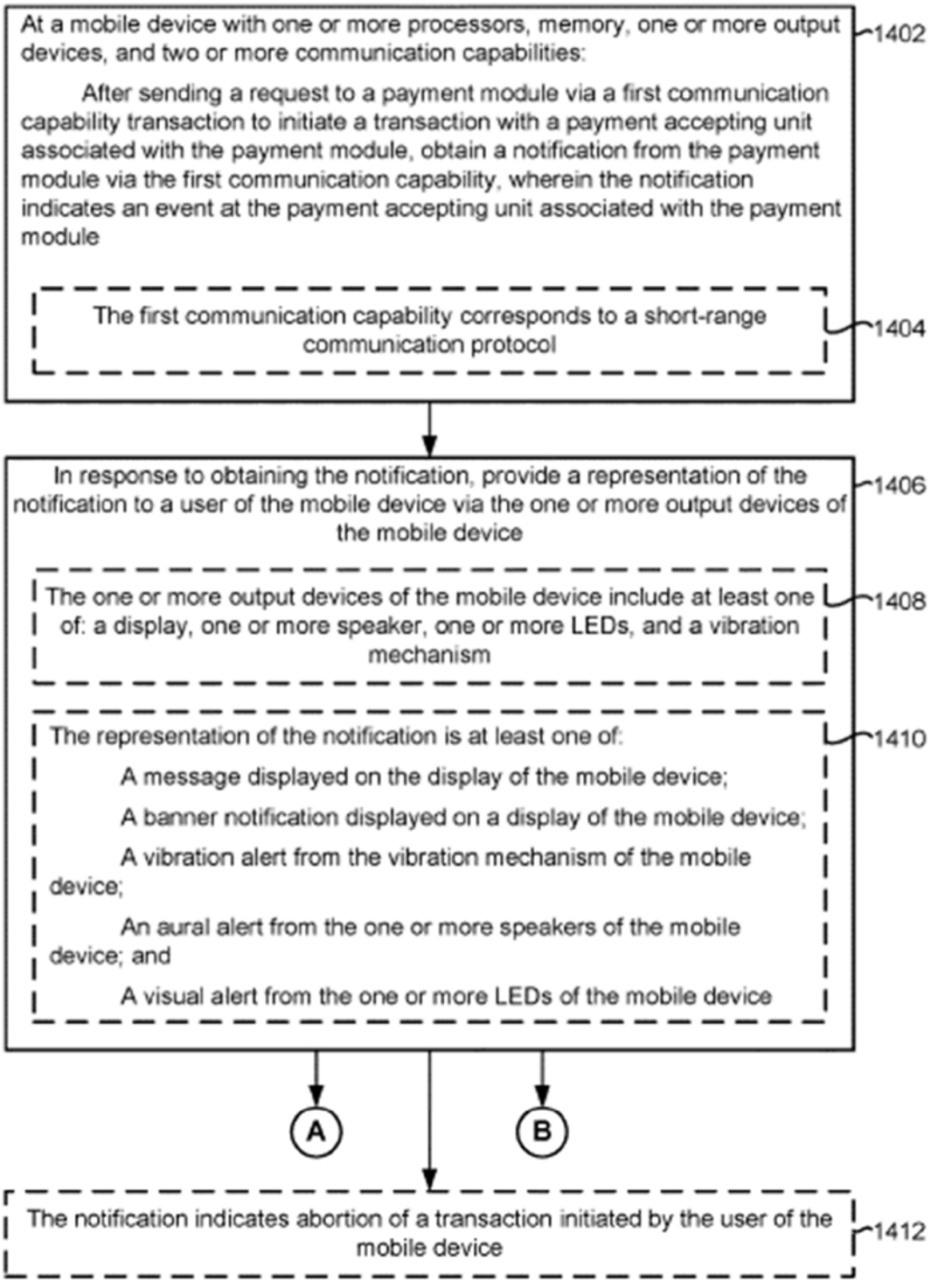

At a mobile device with one or more processors, memory, one or more output devices, and two or more communication capabilities:
After sending a request to a payment module via a first communication capability transaction to initiate a transaction with a payment accepting unit associated with the payment module, obtain a notification from the payment module via the first communication capability, wherein the notification indicates an event at the payment accepting unit associated with the payment module
1402
The first communication capability corresponds to a short-range communication protocol
1404
In response to obtaining the notification, provide a representation of the notification to a user of the mobile device via the one or more output devices of the mobile device
1406
The one or more output devices of the mobile device include at least one of: a display, one or more speaker, one or more LEDs, and a vibration mechanism
1408
The representation of the notification is at least one of:
A message displayed on the display of the mobile device;
A banner notification displayed on a display of the mobile device;
A vibration alert from the vibration mechanism of the mobile device;
An aural alert from the one or more speakers of the mobile device; and
A visual alert from the one or more LEDs of the mobile device
1410
A
B
The notification indicates abortion of a transaction initiated by the user of the mobile device
1412

**Figure 27A**

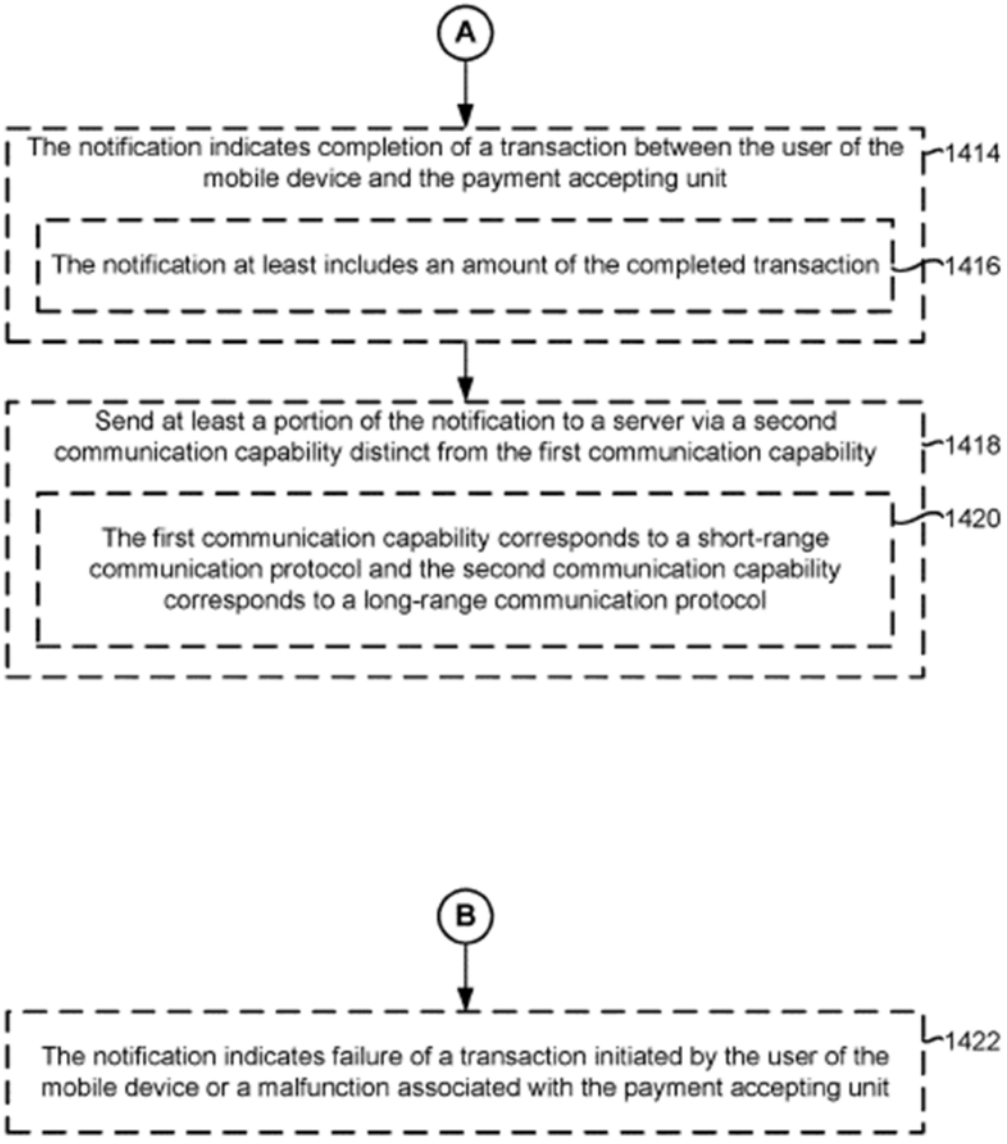



**Figure 27B**

Ex. 1001, Figures 27A, 27B.

The ’920 Patent specification explains that “in some implementations, the method 1400 is performed by the mobile device 150…or a component thereof (*e.g.*, the application 140).” *Id.*, 37:35–37. The mobile device sends a request to a payment module to initiate a transaction with a payment accepting unit. *Id*, 37:45–53. “After sending [the] request…the mobile device obtains (1402) a notification from the payment module via the first communication capability, where the notification indicates an event at the payment accepting unit associated with the payment module.” *Id.* Then, “the mobile device provides (1406) a representation of the notification to a user of the mobile device via the one or more output devices of the mobile device.” *Id.*, 38:6–9; *see also* Ex. 1003, ¶ 47.

### C. Summary of the ’920 Patent Prosecution History

The earliest patent application to which the ’920 Patent claims priority is U.S. Provisional Application No. 61/917,936, filed December 18, 2013 (“the ’936 Provisional”). Ex. 1001, p. 2. The application that issued as the ’920 Patent was filed on May 14, 2023. *Id.*, p.1.

The only Office Action on the merits for the ’920 Patent application rejected all pending claims under the obviousness-type double patenting over claims of USPN 9,659,296 (“the ’9,296 Patent”), the ’614 Patent, USPN 11,501,296 (“the 1,296 Patent”), the ’772 Patent, and provisionally over Application No. 17/973,507 (“the ’507 Application”). Ex. 1002, pp. 147–54. The Examiner remarked that “[t]he

only difference between the instant application and the '614 Patent is merely a labeling difference…. [A]ll the features of claims 1-20 are contained in claims 1-25 of the '614 Patent." *Id.*, p. 150. The same remark was made for the '772 Patent, the '1,296 Patent, and the '9,296 Patent. *Id.*, pp. 150–52. The Applicant filed a terminal disclaimer in response. *Id.*, pp. 175–76; *see also* Ex. 1003, ¶¶ 49-53.

### D. Priority Date of the Challenged Claims

For purposes of this Petition, Petitioner takes no position on the proper priority date for the Challenged Claims. Petitioner uses the earliest possible priority date claimed, December 18, 2013, for the invalidity grounds presented in this Petition. *See also* Ex. 1003, ¶ 21.

### E. The Challenged Claims

Claims 1-20 are challenged herein. Claim 1 recites:

> [1.P] A method of presenting representations of payment accepting unit events, comprising:
>
> [1.1] at a mobile device with one or more processors, memory, one or more output devices including a display, and one or more radio transceivers:
>
> [1.2] identifying one or more payment accepting units that are available to accept payment from a mobile payment application executing on the mobile device, [1.3] the identifying based at least in part on an identifier or location corresponding to the one or more payment accepting units, [1.4] wherein the one

or more payment accepting units are payment operated machines that accept payment for dispensing of products and/or services;

[1.5] displaying a user interface of the mobile payment application on the display of the mobile device, [1.6] the user interface being configured to display a visual indication of the one or more payment accepting units and [1.7] accept user input selecting an available payment accepting unit of the one or more payment accepting units;

[1.8] establishing via the one or more radio transceivers a wireless communication path including the mobile device and the available payment accepting unit of the one or more payment accepting units;

[1.9] after establishing the wireless communication path, enabling user interaction with the user interface of the mobile payment application to complete a transaction with the available payment accepting unit, [1.10] wherein the user interface includes a visual representation of the available payment accepting unit, [1.11] an indication of a balance, and [1.12] an affordance that, in response to a user input, indicates completion of the transaction;

[1.13] exchanging information with the available payment accepting unit via the one or more radio transceivers, in conjunction with the transaction; and

[1.14] after exchanging the information, displaying, on the display, an updated user interface of the mobile payment application to the user of the mobile device.

Independent Claims 13 and 15 specify identical limitations to Claim 1, but are presented in the form of a mobile device (Claim 13), and non-transitory computer storage readable medium (Claim 15). *See* Ex. 1010; Ex. 1003, ¶ 48. Claim 1 is thus representative of the other independent claims.

Dependent Claims 2, 10 and 16 recite additional limitations related to information that is displayed on the user interface.

Dependent Claims 3, 5, 6, 8, 18, and 19 recite additional limitations regarding the information that is exchanged.

Claim 4 depends from Claim 3 and recites that the mobile device includes a long-range transceiver which sends the amount of the completed transaction to the server.

Dependent Claim 7 recites the use of an accelerometer to detect when a user has departed and then to cancel the transaction.

Dependent Claim 9 recites transmitting a coupon.

Dependent Claim 11 recites that the user input is a swipe that causes the affordance to be slid.

Dependent Claims 12, 14 and 20 recite that the payment accepting units can be from a group of well-known and conventional machines such as, *e.g.*, a payment activated washer, payment activated dryer, or a parking meter.

Dependent Claim 17 recites the same elements as Claim 3, and further recites that the information at least includes an amount of the completed transaction, and the instructions further cause the mobile device to send at least the amount of the completed transaction to a server.

## V. SUMMARY OF THE ASSERTED PRIOR ART

### A. *Low*: U.S. Patent No. 10,210,501 (Ex. 1005)

U.S. Patent No. 10,210,501 to Low et al. ("*Low*") is titled "Electronic Payments to Non-Internet Connected Devices Systems and Methods." *Low* issued on February 19, 2019 from an application filed on July 25, 2013 and is therefore prior art to the '920 Patent under 35 U.S.C. §§ 102(a) and/or 102(d). *See* Ex. 1003, ¶ 54.

*Low* teaches using a consumer's wireless device to conduct transactions with unmanned devices such as vending machines. Ex. 1005, 1:16–20. The wireless device communicates with unmanned devices, which transmit a machine identifier to the wireless device. *Id*., 2:11–28. "[I]n some embodiments, multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from." *Id*., 2:11-28. The user then selects their desired items, makes a purchase, and the vending machine dispenses the purchased item(s). *Id*., 5:19–30. *See also* Ex. 1003, ¶ 55.

### B. *Arora*: U.S. Patent No. 9,898,884 (Ex. 1006)

U.S. Patent No. 9,898,884 to Arora et al. ("*Arora*") is titled "Method and System of Personal Vending." *Arora* issued on February 20, 2018 from an application filed on April 4, 2013 and is therefore prior art to the '920 Patent under 35 U.S.C. §§ 102(a) and/or 102(d). *See also* Ex. 1003, ¶ 56.

*Arora* teaches using a "personal electronic device" to utilize "a group of vending machines managed by a vending machine company[.]" Ex. 1006, Abstract. *Arora* displays to the consumer "either products or vending machines from a list of options provided via the user interface of the personal electronic device, wherein the list of options depends on the actual available inventory[.]" *Id*., Abstract. The systems and methods of *Arora* disclose tracking a consumer's purchase history and offering coupons to a consumer based upon the same. *Id*., 13:47–14:16; *Id*., Fig. 3;*see also* Ex. 1003, ¶ 57.

### C. *Freeny*: U.S. Patent No. 8,958,846 (Ex. 1007)

U.S. Patent No. 8,958,846 to Freeny, Jr. ("*Freeny*") is titled "Communication and Proximity Authorization Systems." *Freeny* issued on February 17, 2015 from an application filed August 23, 2006 and is therefore prior art to the '920 Patent under 35 U.S.C. §§ 102(a) and/or 102(d). *See also* Ex. 1003, ¶ 58.

*Freeny* discloses methods of transacting with a proximity service unit via a consumer's wireless device. Ex. 1007, Abstract. Moreover, Freeny discloses

a proximity authorization unit (which is a form of wireless device) that "can operate just like a smart card with the approved credit amount stored in the proximity authorization unit 2910 until transactions are authorized[.]" *Id*., 37:60–63. The customer's approved credit balance "can be checked at any time by the user of the proximity authorization unit[.]" *Id*., 38:3-5; *see also* Ex. 1003, ¶ 59.

### D. *Casey*: U.S. Patent No. 8,255,323 (Ex. 1008)

U.S. Patent No. to Casey et al ("*Casey*") is titled "Motion Based Payment Confirmation." *Casey* issued on August 28, 2012 and is therefore prior art to the '920 Patent under 35 U.S.C. § 102(a). *See also* Ex. 1003, ¶ 60.

*Casey* describes techniques for confirming a payment transaction on an electronic device that includes a touchscreen. Ex. 1008, Abstract. *Casey* discloses methods of using a touchscreen to select payment methods or confirm payment. *Id*., Fig. 5. In particular, a consumer may swipe their finger across a touchscreen to confirm payment. *Id*., 16:36–47, Fig. 5; *see also* Ex. 1003, ¶ 61.

## VI. CLAIM CONSTRUCTION: 37 C.F.R. § 42.204(B)(3)

### A. Applicable Law

The claim construction standard of *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) applies to this proceeding. *See also* Ex. 1003, ¶ 62.

### B. A Person Having Ordinary Skill in the Art

A person of ordinary skill in the art ("POSA") at the time of the earliest claimed filing date of the '920 Patent would have had an educational background of, or practical experience equivalent to, a bachelor's degree in electrical engineering, computer engineering, computer science, or equivalent training, and approximately three years of experience with electronic payment systems, vending machine technologies, or distributed network systems. Lack of work experience can be remedied by additional education, and vice versa. Ex. 1003, ¶¶ 20-26.

### C. Claim Term(s)

Petitioner submits that, for purposes of this Petition, the Board need not construe any claim terms to resolve the parties' disputes, and the claims should be given their ordinary and customary meaning. *See id.*, ¶ 63. Petitioner reserves the right to further clarify those ordinary and customary meanings, or to respond to any construction proposed by Patent Owner and/or offer one or more constructions in response to any constructions proposed by Patent Owner.[2]

[2] Petitioner does not concede that any Challenged Claim meets the statutory requirements of 35 U.S.C. § 112.

# VII. DETAILED EXPLANATION OF GROUNDS

## A. Ground 1: Claims 1–10 and 12–20 Are Rendered Obvious Under 35 U.S.C. § 103 Over *Low* in View of *Arora* in Further View of *Freeny*

### 1. Obviousness Standards and Analysis

Questions of obviousness under 35 U.S.C. § 103 are resolved based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; and (3) the level of skill in the art. *Graham v. John Deere Co.*, 383 U.S. 1, 17 (1966); *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 406 (2007). *See* Ex. 1003, ¶ 68.

#### a. Differences Between the Claimed Subject Matter and *Low*

*Low* teaches almost every element of independent Claims 1, 13, and 15. *See infra* §§ VII.A.2, VII.A.13, VII.A.15; Ex. 1003, ¶¶ 69-70. But *Low* does not explicitly disclose that the user interface of the purchase application 112 includes "a visual representation of the available payment accepting unit" and "a visual representation of…an indication of a balance," as recited in independent Claims 1, 13, and 15. *Id.*, ¶ 71.

However, *Arora*, which is in the same field of endeavor as *Low*— conducting a transaction at an unmanned machine with a user device (*Id.*, ¶ 72)—explicitly discloses a user interface including "a visual representation of the available payment accepting unit," and a POSA would have found it obvious to modify *Low* to include

this feature. *Id.*, ¶¶ 72–73, 79–90, 108–110; *infra* § VII.A.1.b–c. *Arora* discloses a personal electronic device 40 including "two different vending machines, 41 and 42" displayed on the screen of the personal electronic device 40. Ex. 1006, 13:47–49, Figure 3; Ex. 1003, ¶ 72.

In addition, *Freeny*, which is also in the same field of endeavor as *Low* (*Id.*, ¶¶ 74, 101), explicitly discloses a user interface including "a visual representation of…an indication of a balance," and a POSA would have found it obvious to modify *Low*/*Arora* to include this feature. *Id.*, ¶¶ 74, 79, 98–110; *infra* § VII.A.1.b–c. *Freeny* discloses a customer performing a "customer bank balance request after the customer is connected to their bank[,]" where an "approved credit amount" "can be checked at any time by the user of the proximity authorization unit." Ex. 1007, 9:32–35, 38:3–5; Ex. 1003, ¶ 74.

Additionally, *Low* does not explicitly disclose that its user device includes an accelerometer, "based on data from the accelerometer, determining whether the user is walking away from the available payment accepting unit[,] and in accordance with a determination that the user is walking away from the available payment accepting unit, canceling the wireless communication path," as recited in dependent Claim 7. *Id.*, ¶ 75.

However, *Arora* explicitly discloses a personal electronic device that includes an "accelerometer" (Ex. 1005, 26:65–27:6), and the location of a customer relative

to two vending machines 30, 31 may be determined through data from the accelerometer. *Id*., 13:28–35; Ex. 1003, ¶¶ 76–77. Because *Arora* determines whether the customer is walking away from the vending machine based on data from the accelerometer, a POSA would have found it obvious to cancel the wireless communication path between the personal electronic device and the vending machine to conserve resources. *Id.*, ¶ 77. Once motivated to modify the user interface of *Low* with the user interface of *Arora*, a POSA would be motivated to modify *Low*/*Arora* to include this feature. *Id.*, ¶¶ 91–97, 108–110.

*Low* in view of *Arora* in further view of *Freeny* also teaches all the elements of challenged dependent Claims 2-10, 12, 14, and 16-20. *Id.*, ¶ 78; *see infra* §§ VII.A.3-12, 14, 16-20.

**b. Obviousness Rationale for Why a POSA Would Have Modified *Low* with *Arora* and *Freeny* to Arrive at the Claimed Subject Matter**

In view of the collective teachings of *Low*, *Arora*, and *Freeny*, it would have been obvious to a POSA to include in the user interface of the purchase application 112 of *Low* any suitable graphical user interface elements that would be "convenient…to permit user 102 to select, purchase, and dispense products for sale at a vending machine 120," (Ex. 1005, 3:57–60) including a visual representation of the available payment accepting unit, as taught by *Arora* and a visual representation of an indication of a balance, as taught by *Freeny*. Ex. 1003, ¶¶ 79, 108–110.

**(1) Modifying *Low* with *Arora***

A POSA would have found it obvious to modify *Low* with *Arora* based on, at a minimum, the express teachings in *Low*. *Id.*, ¶ 80. *Low*'s disclosure that "[u]ser device 110 may further include one or more identifiers 136 which may be implemented, for example, as…other appropriate data used for authentication/identification of vending machine 120" (Ex. 1005, 6:16–22), and that "the user may utilize a user device to…receive locations of available NICMs" and "directions, map coordinates, and/or a GPS location of desired NICM" (*id.*, 9:14–23) indicates that *Low*, to the extent it does not explicitly do so, provides—under the former, more rigid "TSM" standard—a teaching, suggestion, or motivation to a POSA to modify the user interface to include "a visual representation of the available payment accepting unit," such as that taught by *Arora*. Ex. 1003, ¶ 81; *see KSR*, 550 U.S. at 407, 419. A POSA would understand that providing a visual representation of the available payment accepting unit (i.e., "icons or photographs, 41 and 42 [that] are representative of two actual machines," as taught by *Arora*, Ex. 1006, 13:49–51) would make the user interface of *Low* more "convenient," for example, if the user was illiterate or a non-native speaker of whichever language the purchase application 112 was in. Ex. 1003, ¶¶ 82-83.

In addition to *Low's* express teachings, there are a variety of other rationales for why a POSA would have been motivated to modify the user interface of *Low* to

include a visual representation of the available payment accepting unit as taught by *Arora*. *Id.*, ¶ 84.

*First*, modifying *Low's* user interface to include the machine icon interface elements 41, 42 taught by *Arora*'s user interface reflects a simple combination of prior art elements (i.e., *Low*'s user interface lacking a visual representation of the available payment accepting unit with *Arora*'s user interface that includes the machine icons 41, 42) to yield predictable results. *Id.*, ¶ 85. This is because a POSA would understand that presenting machine icons 41, 42 of *Arora*'s user interface on the user interface of the purchase application 112 of *Low* would predictably allow a user to easily identify the machine they wish to purchase from. *Id.*; *see KSR*, 550 U.S. at 416.

*Second*, replacing a portion of *Low's* user interface with the portion of *Arora*'s user interface that includes the machine icons 41, 42 represents a simple substitution of one known element for another to obtain predictable results, because a POSA would understand that presenting machine icons on the user interface of the purchase application of *Low* would predictably allow a user to easily identify the machine they wish to purchase from. Ex. 1003, ¶ 86; *see KSR*, 550 U.S. at 417.

*Third*, both *Low* and *Arora* disclose user devices (i.e., user device 110 of *Low* and personal electronic device 40 of *Arora*) configured to complete a transaction at a payment accepting unit in proximity to the user of the user device. Ex. 1005, 3:20–

23; Ex. 1006, 13:47–52; Ex. 1003, ¶ 87. Therefore, implementing a visual representation of the available payment accepting unit, as taught by *Arora*, on the user interface of the user device of *Low* represents use of a known technique to improve similar devices in the same way. *Id.*; *see KSR*, 550 U.S. at 417.

The foregoing rationales are exemplary in nature and additional rationales may equally apply as discussed in additional detail in the Declaration of Petitioner's expert Dr. Neuman. Ex. 1003, ¶¶ 88–90; *see KSR*, 550 U.S. at 417, 421.

Once motivated to modify the user interface of *Low* with the user interface of *Arora*, a POSA would further be motivated to modify the user device of *Low* to include an accelerometer and cancel the wireless communication path between the user device and the vending machine if data from the accelerometer indicates that the user device was walking away from the vending machine, as taught by *Arora*. Ex. 1003, ¶ 91. A POSA would have found it obvious to modify *Low* with *Arora* in this manner because, as just one example, such a modification would represent use of a known technique to improve similar devices in the same way with a reasonable expectation of success. *Id.*, ¶ 92; *see KSR*, 550 U.S. at 417. Additionally, a near-field communication is, by definition, limited by the distance at which it can transmit information. Ex. 1003, ¶ 93. Thus, the vending machine could only communicate with the user device at a certain range, further motivating a POSA to cancel the communication path between the vending machine and user device if data from the

accelerometer indicated that the user was walking away from the vending machine to conserve resources. *Id.*, ¶¶ 94–97.

**(2) Modifying *Low/Arora* with *Freeny***

A POSA would have found it obvious to modify *Low/Arora* with *Freeny* based on, at a minimum, the express teachings in *Low*. *Id.*, ¶ 98. *Low* teaches that "user device 110 may request funding source information…[which] may include a funding card and/or a user account." *Id.*, ¶ 99; Ex. 1005, 10:34–38. The funding source information is used by the payment provider server 440 to "check[] for adequate funds and charg[e] the account/funding card." *Id.*, 11:64–66. These teachings indicate that *Low*, to the extent it does not explicitly do so, provides—under the former, more rigid "TSM" standard—a teaching, suggestion, or motivation to a POSA to modify the user interface to include "a visual representation of…an indication of a balance" (i.e., an "approved credit amount") that "can be checked at any time by the user of the proximity authorization unit," as taught by *Freeny*. Ex. 1007, 38:1–5; Ex. 1003, ¶ 99; *see KSR*, 550 U.S. at 419. A POSA would understand that providing a visual representation of an indication of a balance would make the user interface of *Low* more "convenient," for example, by providing the user with information regarding available funds to purchase items at the vending machine 120. Ex. 1003, ¶ 100. This would allow the user to make informed purchasing decisions, such that when the payment provider server 440 "check[s] for adequate funds and

charg[es] the account/funding card" (Ex. 1005, 11:64–66), the user has confidence that the transaction will be accepted. Ex. 1003, ¶ 100.

In addition to *Low's* express teachings, there are a variety of other rationales for why a POSA would have been motivated to modify the user interface of *Low/Arora* to include a visual representation of an indication of a balance as taught by *Freeny*. *Id.*, ¶ 101.

*First*, modifying the user interface of *Low/Arora* with *Freeny*'s user interface that includes an "approved credit amount" that "can be checked at any time by the user of the proximity authorization unit," represents a combination of prior art elements to yield predictable results. Ex. 1003, ¶ 102. A POSA would understand that presenting the "approved credit amount" of *Freeny*'s user interface on the user interface of the purchase application of *Low/Arora* would predictably inform a user of the funds that are available to purchase items from the machine. *Id.*; *see KSR*, 550 U.S. at 416.

*Second*, replacing a portion of the user interface of *Low/Arora* with the portion of *Freeny*'s user interface that includes the "approved credit amount" represents a simple substitution of one known element for another to obtain predictable results, because a POSA would understand that presenting the "approved credit amount" of *Freeny*'s user interface on the user interface of the purchase application of

*Low/Arora* would predictably inform a user of the funds that are available to purchase items from the machine. Ex. 1003, ¶ 103; *see KSR*, 550 U.S. at 417.

*Third*, both *Low/Arora* and *Freeny* disclose user devices (i.e., user device 110 of *Low*, as modified by *Arora*, and wireless device 40 of *Freeny*) configured to complete a transaction at a payment accepting unit (i.e., vending machine 120 of *Low* and vending machine system 738 of *Freeny*) in proximity to the user of the user device. Ex. 1005, 3:20–23; Ex. 1007, 9:60–10:2. Therefore, implementing a visual representation of an indication of a balance as taught by *Freeny*, on the user interface of the user device of *Low*, as modified by *Arora*, represents use of a known technique to improve similar devices in the same way. Ex. 1003, ¶ 104; *see KSR*, 550 U.S. at 417.

Again, the foregoing rationales are exemplary in nature and additional rationales may equally apply as discussed in additional detail in the Declaration of Petitioner's expert Dr. Neuman. Ex. 1003, ¶¶ 105–107; *see KSR*, 550 U.S. at 417, 421.

#### c. Obviousness Rationale for How a POSA Would Have Modified *Low* with *Arora* and *Freeny* to Arrive at the Claimed Subject Matter

Once motivated to modify *Low* with *Arora*, and *Low/Arora* with *Freeny*, a POSA would have (i) readily understood how to do so with a reasonable expectation of success and (ii) found it obvious and routine to implement any modifications

needed to make those combinations work. Ex. 1003, ¶ 108. For example, a POSA would have understood that the user interface of the purchase application 112 of *Low* could display a variety of information based on the nature of graphical user interfaces and *Low*'s teachings that the "purchase application 112 may be implemented as a downloadable application having a user interface" or "a web browser configured to view information available over the Internet[.]" Ex. 1005, 3:57–4:2; Ex. 1003, ¶ 109. A POSA would have understood that modifying the purchase application 112, e.g., by modifying the software corresponding to the purchase application 112 or modifying the website that the purchase application 112 accesses, would be a simple and routine task to display whichever graphical user interface elements are desired, including "a visual representation of the available payment accepting unit" and "a visual representation of…an indication of a balance." *Id.*, ¶ 110.

**2. Claim 1**

**a. [1.P] A method of presenting representations of payment accepting unit events**

*Low* discloses "systems and method[s] for an electronic payment to a non-Internet connected device." Ex. 1005, Abstract. *Low* teaches that the user device 110 includes a purchase application 112, which provides "a convenient interface to permit user 102 to select, purchase, and dispense products for sale at a vending

machine 120." *Id.*, 3:49–60. Thus, to the extent the preamble is found to be limiting, it is taught by *Low*. Ex. 1003, ¶ 111.

**b. [1.1] at a mobile device with one or more processors, memory, one or more output devices including a display, and one or more radio transceivers:**

*Low* teaches "a user device 110" that includes "one or more processors, memories, and other appropriate components for executing instructions." Ex. 1005, 3:26–32. The "user device 110 may be implemented as…a smart phone." *Id.*, 3:40–44. *Low* similarly describes a "user device 410," highlighted in yellow in Figure 4 (reproduced below). *Id.*, 11:11–13. The user device 410 includes a display:

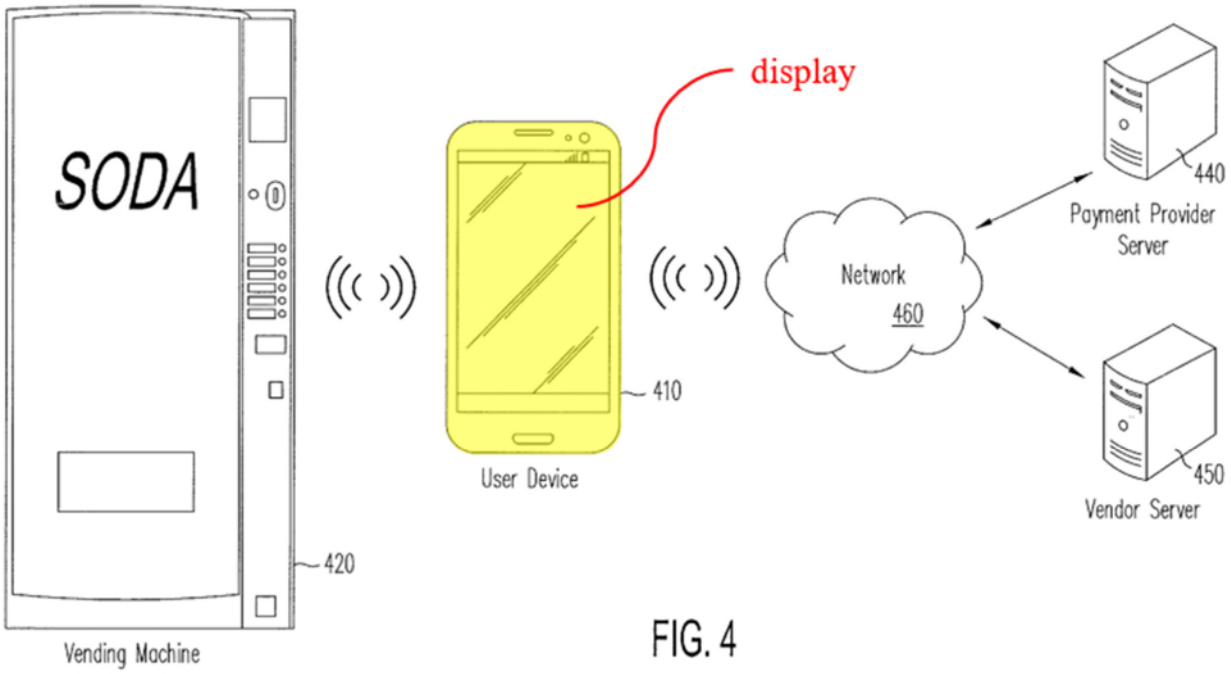
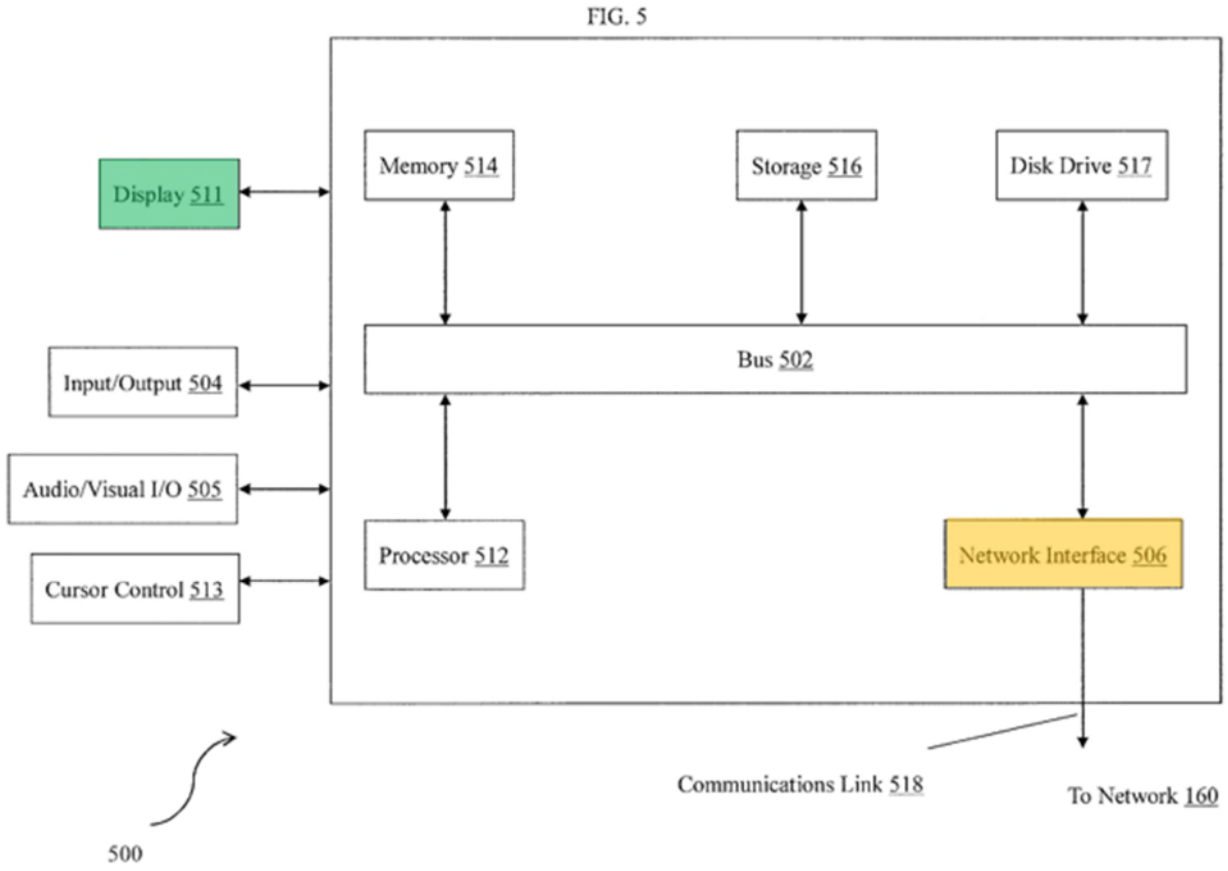



FIG. 4

Ex. 1005, Figure 4 (annotated).

*Low* teaches that user device 110/410 can be "implemented as computer system 500," which includes a "display 511" (shown in green below) and a "transceiver or network interface 506" (shown in orange below) that "transmits and receives signals between computer system 500 and other devices, such as another user device, a merchant server, or a payment provider server via network 560." *Id*., 12:39–56.



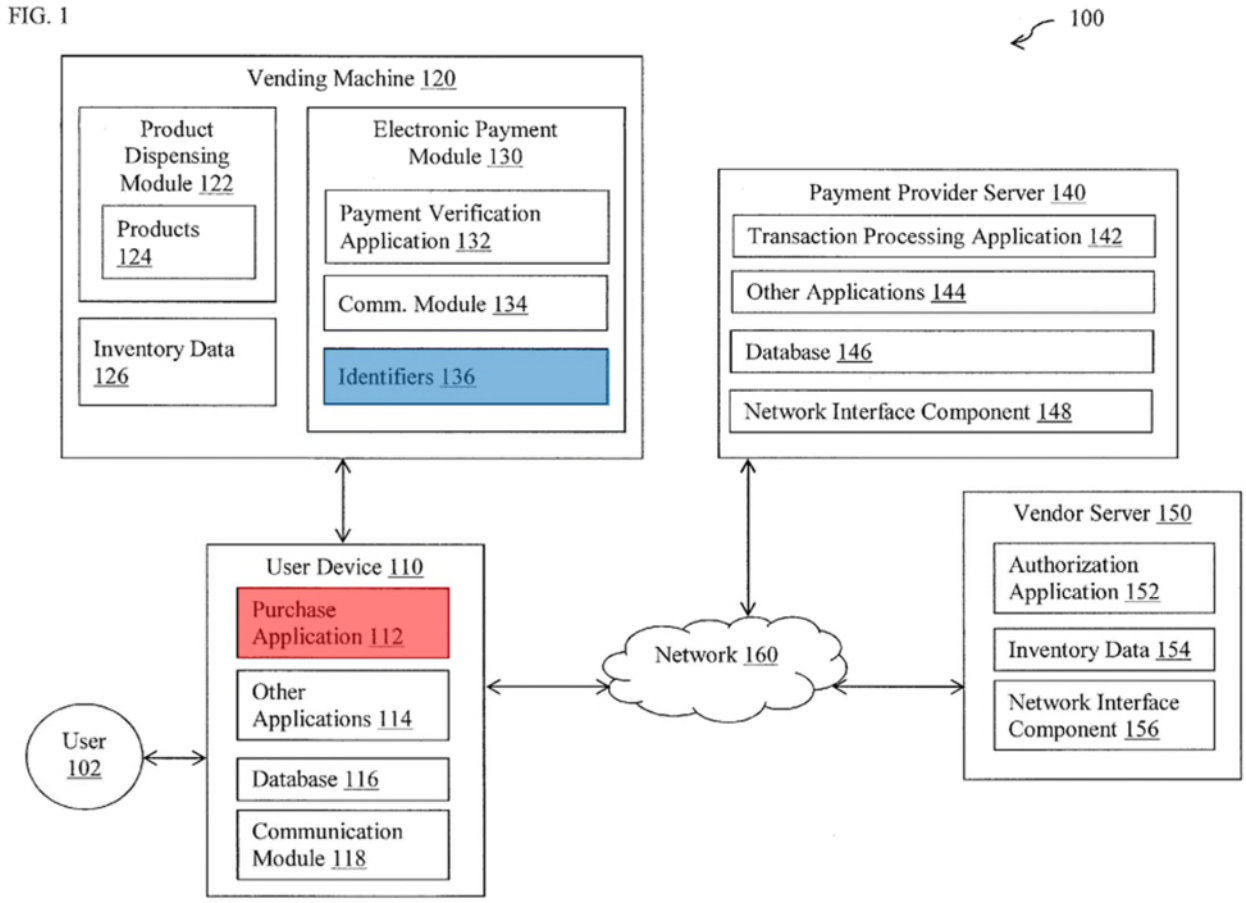

Ex. 1005, Figure 5 (annotated).

Thus, *Low* teaches at a mobile device (user device 110/410) with one or more processors (e.g., processor 512), memory (e.g., memory 514), one or more output

devices including a display (e.g., display 511), and one or more radio transceivers (e.g., transceiver or network interface 506). Ex. 1003, ¶¶ 112–114.

**c. [1.2] identifying one or more payment accepting units that are available to accept payment from a mobile payment application executing on the mobile device**

*Low* teaches that "[u]ser device 110 may further include one or more identifiers 136 which may be implemented, for example, as…data associated with hardware of vending machine 120…or other appropriate data used for authentication/identification of vending machine 120[.]" Ex. 1005, 6:16–21. *Low* further teaches that "the user may utilize a user device to access payment provider server 140 and receive locations of available [non-Internet connected machines] NICMs," and "can further receive directions, map coordinates, and/or a GPS location of desired NICM." *Id.*, 9:16–23; *see also id.* 2:26–28. The purchase application 112 is shown in blue and the identifiers 136 are shown in red in annotated Figure 1 of *Low*:




Ex. 1005, Figure 1 (annotated).

Thus, *Low* teaches identifying (e.g., via identifiers 136) one or more payment accepting units (e.g., NICMs, such as vending machine 120) that are available to accept payment from a mobile payment application (e.g., purchase application 112) executing on the mobile device (e.g., user device 110). Ex. 1003, ¶¶ 115–16.

**d. [1.3] the identifying based at least in part on an identifier or location corresponding to the one or more payment accepting units**

As set forth above, *Low* teaches that "[u]ser device 110 may further include one or more identifiers 136 which may be implemented, for example, as…data

associated with hardware of vending machine 120…or other appropriate data used for authentication/identification of vending machine 120." Ex. 1005, 6:16–21. "The non-Internet connected machine (NICM) transmits a machine identifier to the user device." *Id*., 2:16–20, 9:16–23. Thus, *Low* teaches the identifying based at least in part on an identifier (e.g., machine identifier, such as the identifiers 136) or location (e.g., "receive locations of available NICMs," "GPS location of desired NICM") corresponding to the one or more payment accepting units (i.e., NICMs, such as vending machine 120). Ex. 1003, ¶¶ 117–18.

**e. [1.4] wherein the one or more payment accepting units are payment operated machines that accept payment for dispensing of products and/or services**

*Low* teaches that "vending machine 120 may be a vending machine, kiosk, terminal, or other device for dispensing items that are purchased." Ex. 1005, 4:57–59. Thus, *Low* teaches wherein the one or more payment accepting units (i.e., vending machine 120) are payment operated machines that accept payment for dispensing of products and/or services (e.g., "dispensing items that are purchased"). Ex. 1003, ¶¶ 119–20.

**f. [1.5] displaying a user interface of the mobile payment application on the display of the mobile device**

*Low* teaches "[p]urchase application 112 may be used, for example, to provide a convenient interface to permit user 102 to select, purchase, and dispense products

for sale at a vending machine 120." Ex. 1005, 3:57–60. A "menu is…displayed on the user device, and the user selects desired item(s) for purchase." *Id*., 2:24–25. Thus, *Low* teaches displaying a user interface (e.g., "interface") of the mobile payment application (e.g., purchase application 112) on the display (e.g., display 511) of the mobile device (e.g., user device 110). Ex. 1003, ¶¶ 121–22.

**g. [1.6] the user interface being configured to display a visual indication of the one or more payment accepting units**

*Low* teaches that a NICM "transmits a machine identifier to the user device." Ex. 1005, 2:16–20. *Low* further teaches that the user device may "receive a machine identifier from identifiers 136." *Id*., 8:66–9:2. "[M]ultiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from." *Id*., 2:26–28. A POSA would understand that the user device 110 is configured to display the available machines such that the user is able to interact with the display to select the one or more machines from which to make a purchase. Ex. 1003, ¶ 123. Thus, *Low* teaches the user interface (e.g., "interface") being configured to display (e.g., "such that the user is able to select one or more machines to purchase from") a visual indication of the one or more payment accepting units (e.g., "machine identifier"). *Id*., ¶ 124.

**h. [1.7] the user interface being configured to…accept user input selecting an available payment accepting unit of the one or more payment accepting units**

*Low* teaches that a NICM "transmits a machine identifier to the user device." Ex. 1005, 2:16–20. *Low* further teaches that "***multiple machines*** may send their unique identifiers, ***such that the user is able to select one or more machines to purchase from***." *Id*., 2:26–28 (emphasis added). A POSA would understand that the user device 110 is configured to display the available machines such that the user is able to interact with the display to select the one or more machines from which to make a purchase. Ex. 1003, ¶ 125. Thus, *Low* teaches the user interface (e.g., "interface") being configured to accept user input selecting an available payment accepting unit of the one or more payment accepting units. *Id.*, ¶ 126.

**i. [1.8] establishing via the one or more radio transceivers a wireless communication path including the mobile device and the available payment accepting unit of the one or more payment accepting units**

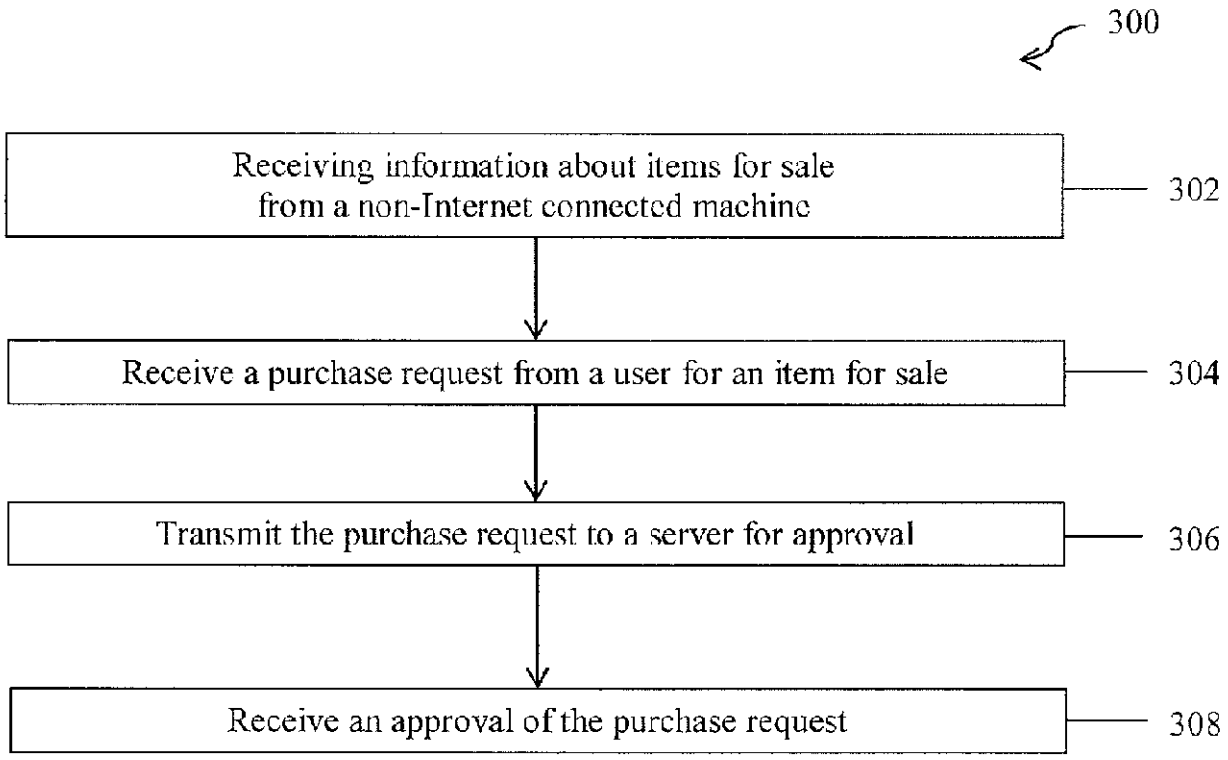
*Low* teaches that a user device that "communicates with a non-Internet connected unmanned device/machine via wireless communication, such as Bluetooth or NFC (Near Field Communication) means[.]" Ex. 1005, 2:11–16, 2:38–39. *Low* teaches that the user device 110 may receive inventory data 154 from a vending machine 120 "using an Internet connection of user device 110 ***after a short range communication link is established*** between user device 110 and vending

machine 120." *Id*., 8:24–28 (emphasis added). Thus, *Low* teaches establishing via the one or more radio transceivers (e.g., "transceiver or network interface 506") a wireless communication path (e.g., "communication link is established," "device[s] are paired") including the mobile device (e.g., user device 110) and the available payment accepting unit of the one or more payment accepting units (e.g., NICMs, such as vending machine 120). *Id*., ¶¶ 127–28.

**j. [1.9] after establishing the wireless communication path, enabling user interaction with the user interface of the mobile payment application to complete a transaction with the available payment accepting unit**

*Low* teaches that the user device 110 may receive inventory data 154 (e.g., purchasable products at vending machine 120) from a vending machine 120 "using an Internet connection of user device 110 ***after a short range communication link is established*** between user device 110 and vending machine 120." Ex. 1005, 8:24–28 (emphasis added), 8:22–24. Referring to Figure 3 of *Low* (reproduced below), "a flowchart illustrating a method for use by a user device for an electronic payment to a non-Internet connected device" is shown. *Id*., 10:1–3.

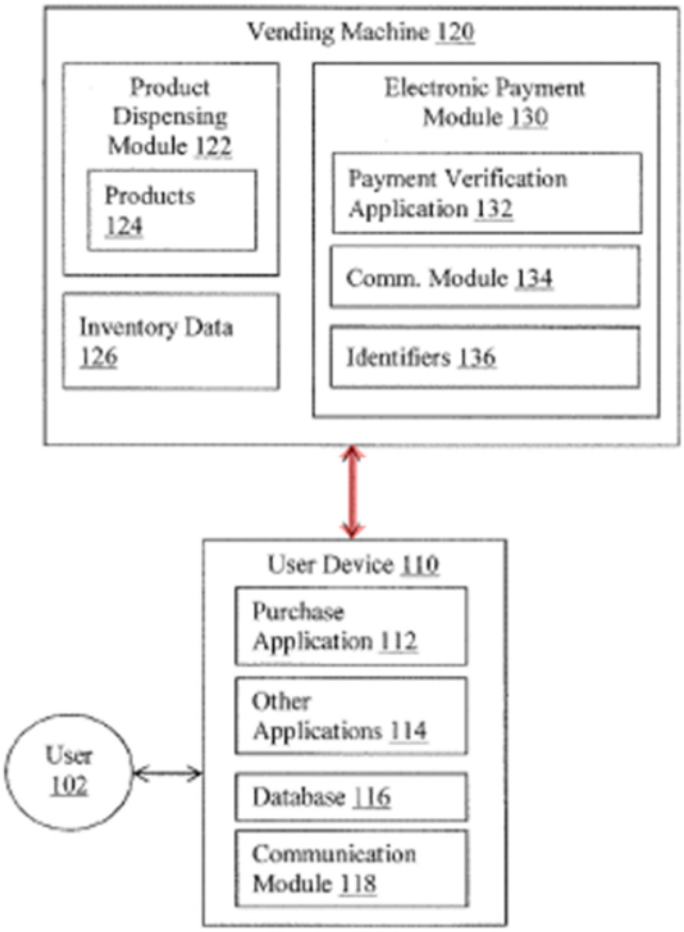
FIG. 3




Ex. 1005, Figure 3.

Furthermore, a POSA would understand the bi-directional arrow (shown in red below) between the user device 110 and the vending machine 120 of Figure 1 of *Low* reflects an established communication path between the user device 110 and the vending machine 120, as shown in the excerpt of Figure 1 below. Ex. 1003, ¶¶ 129–30.

FIG. 1




Ex. 1005, Figure 1 (excerpted/annotated).

Thus, *Low* teaches after establishing the wireless communication path (e.g., "communication link is established," "device[s] are paired"), enabling user interaction with the user interface of the mobile payment application (e.g., purchase application 112) to complete a transaction with the available payment accepting unit (e.g., "a method for use by a user device for an electronic payment to a non-Internet connected device," as shown in Figure 3 of *Low*). Ex. 1003, ¶ 131.

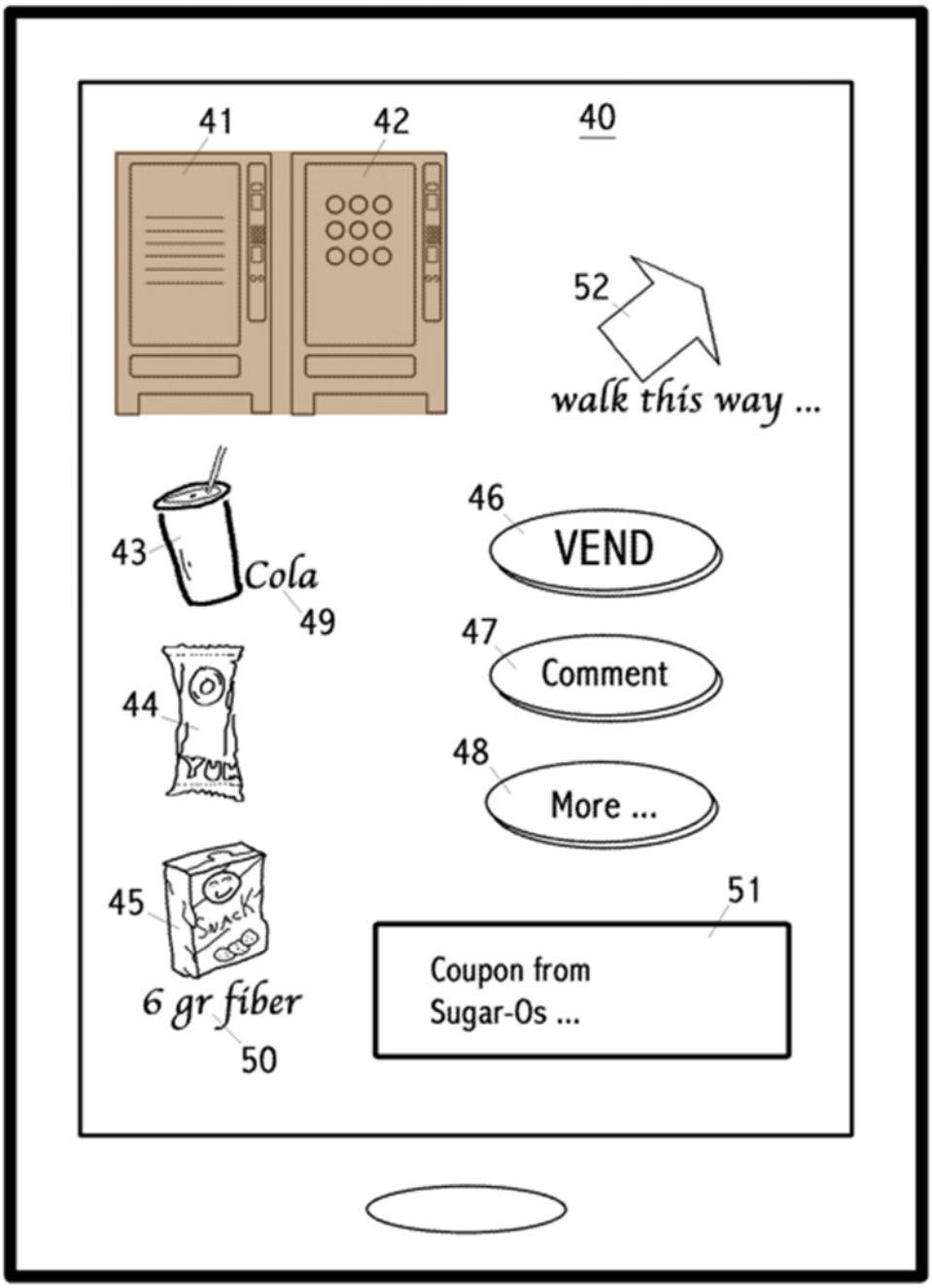
**k. [1.10] wherein the user interface includes a visual representation of the available payment accepting unit**

*Low* teaches that a NICM "transmits a machine identifier to the user device." Ex. 1005, 2:16–20; 2:26–28. *Low* further teaches that the user device 110 may "receive a machine identifier from identifiers 136." *Id*., 8:66–9:2. *Low* teaches that the user device may "receive locations of available NICMs." *Id*., 9:16–21. A POSA would understand that the purchase application 112 of *Low* includes a user interface including a visual representation of one or more payment accepting units because *Low* teaches that "the user is able to select one or more machines to purchase from," which selection would necessarily occur by virtue of the user making the selection through the user interface of the purchase application 112. Thus, *Low* teaches wherein the user interface (i.e., "interface") includes a visual representation of the available payment accepting unit (i.e., a POSA would understand that *Low's* teaching that "the user is able to select one or more machines to purchase from" means the user interface of the user device 110 displays a visual representation of the available machine). Ex. 1003, ¶¶ 132–34.

However, to the extent Patent Owner may argue that *Low* does not explicitly teach "wherein the user interface includes a visual representation of the available payment accepting unit," *Arora* does, and a POSA would have found it obvious to modify the user interface of *Low* to include a visual representation of one or more

payment accepting units, as taught by *Arora*, with a reasonable expectation of success. *Id.*, ¶ 135; *see supra* at § VII.A.1. Figure 3 of *Arora* (reproduced below) "shows an exemplary screen on a personal electronic device, 40" including "two different vending machines, 41 and 42[,]" shown in brown below. Ex. 1003, ¶ 136; Ex. 1006, 13:47–49, Figure 3. *Arora* further teaches that "the icons or photographs, 41 and 42 are representative of two actual machines co-located with a customer and owner of the personal electronic device, whose screen is shown, 40," and "the customer selects which machine she wishes to use by touching icon 41 or 42." *Id.*, 13:49–54; Ex. 1003, ¶ 136.

Fig. 3




Ex. 1006, Figure 3 (annotated).

Petitioner has explained why and how a POSA would modify *Low* with *Arora*. *See supra* § VII.A.1. Thus, *Low* in view of *Arora* teaches wherein the user interface

(e.g., *Low's* user interface of the user device 110) includes a visual representation of the available payment accepting unit (e.g., *Low's* user interface modified to include visual representations of one or more payment accepting units, such as the visual representations of the "two different vending machines, 41 and 42," as taught by *Arora*). Ex. 1003, ¶¶ 137–38.

**l. [1.11] the user interface includes a visual representation of…an indication of a balance**

*Low* teaches that "user device 110 may request funding source information," which "may include a funding card and/or a user account." Ex. 1005, 10:34–38. *Low* further teaches that "user device 410 may communicate the purchase request to payment service provider 440," which "may validate the funding source, ***such as by checking for adequate funds*** and charging the account/funding card." *Id*., 11:56–66 (emphasis added). A POSA would understand that *Low's* teachings of the user device requesting funding source information including a funding card and/or a user account and the server validating that there are adequate funds to complete the transaction strongly implies that the user interface includes a visual representation of an indication of a balance. Ex. 1003, ¶ 139. Thus, *Low* in view of *Arora* teaches the user interface (e.g., "interface" of *Low*) includes a visual representation of an indication of a balance (e.g., "funding source information" of *Low*). *Id.*, ¶ 140.

However, to the extent Patent Owner may argue that *Low* in view of *Arora* does not explicitly teach "the user interface includes a visual representation of an indication of a balance," *Freeny* does, and a POSA would have found it obvious to modify *Low/Arora* with the visual representation of an indication of a balance, such as taught by *Freeny*, with a reasonable expectation of success. *Id.*, ¶ 141; *see supra* § VII.A.1. *Freeny* teaches a customer performing a "customer bank balance request after the customer is connected to their bank." Ex. 1007, 9:32–35. An approved credit amount "can be checked at any time by the user of the proximity authorization unit." *Id*., 38:3–5. A POSA would understand that displaying an approved credit amount and credit balance constitutes a visual representation of an indication of a balance. Ex. 1003, ¶ 142; *see CSC ServiceWorks*, IPR2023-01449, Paper 14 at *25–26.

Petitioner has explained why and how a POSA would modify *Low/Arora* with *Freeny*. *See supra* § VII.A.1. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches the user interface (e.g., *Low*'s user interface of the user device 110) includes a visual representation of an indication of a balance (e.g., *Low*'s user interface modified to include the approved credit amount and credit balance as taught by *Freeny*). Ex. 1003, ¶¶ 142–43.

**m. [1.12] the user interface includes a visual representation of…an affordance that, in response to a user input, indicates completion of the transaction**

Insofar as the Board interprets this limitation as being satisfied by a user interface such as a "Pay" button, consistent with Patent Owner's infringement contentions in the related district court litigation,[3] *Low* teaches this limitation. *Id.*, ¶ 144. *Low* teaches the "user selects a payment button or option on the user device, which communicates the payment request to a payment provider." Ex. 1005, 2:46–49. "After processing, the payment provider may approve the payment request," "transmit a purchase authorization to the user device," and "[t]he user device may then communicate the purchase authorization to the machine, which may…dispense the purchased items(s) associated with the transaction number." *Id.*, 2:49–62. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches the user interface (e.g., *Low's* user interface of the user device 110) includes a visual representation of an affordance (e.g., "payment button or option on the user device") that, in response to a user input (e.g., "the user selects a payment button or option on the user device"), indicates completion of the transaction (e.g., "the user selects a payment button or option on the user device, which communicates the payment request to a payment

[3] *See* Ex. 1017 at 10.

provider," resulting in the purchased item(s) being dispensed). Ex. 1003, ¶¶ 145–46.

Insofar as the Board interprets this limitation as requiring an affordance that, in response to a user input, indicates *completion* of the transaction—as opposed to how Patent Owner is applying it in the district court litigation, as indicating *initiation* of the transaction—*Low* also teaches this limitation. *Id.*, ¶ 147. *Low* discloses that "database 146 may include cross-promotional products and/or preferences for use in upselling products, for example, displaying a message to user 102 ***after purchasing a drink*** such as, 'Would you like chips with your drink.'" Ex. 1005, 7:34–39 (emphasis added). A POSA would understand that the message displayed to user 102 would be displayed on the user interface of the user device 110 only after the purchased drink transaction is completed. Ex. 1003, ¶ 148; *see also id.*,149. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches the user interface (e.g., *Low's* user interface of the user device 110) includes a visual representation of an affordance (e.g., message displayed to user) that, in response to a user input (e.g., "the user selects a payment button"), indicates completion of the transaction (e.g., the message "Would you like chips with your drink" is only displayed after the purchased drink transaction is complete). *Id.*, ¶ 150.

**n. [1.13] exchanging information with the available payment accepting unit via the one or more radio transceivers, in conjunction with the transaction**

*Low* teaches that "[e]lectronic payment module 130 includes generally a payment verification application 132, communication module 134, and identifiers 136 necessary to effectuate and verify and electronic payment of products 124." Ex. 1005, 5:54–57. "Payment verification application 132…may receive an approval of a payment from user device 110, verify the approval, and dispense items purchased from products 124 using product dispensing module 122." *Id*., 5:66–6:3. *Low* teaches that this information is exchanged via the "communication module 134 [which is] adapted to communicate with user device 110" via "wireless short range communication devices including microwave, radio frequency, infrared, Bluetooth, and near field communication devices." *Id*., 6:9–15. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches exchanging information (e.g., information such as approval of payment) with the available payment accepting unit via the one or more radio transceivers (e.g., "wireless short range communication devices"), in conjunction with the transaction (e.g., approval of payment). Ex. 1003, ¶¶ 151–52.

**o. [1.14] after exchanging the information, displaying, on the display, an updated user interface of the**

**mobile payment application to the user of the mobile device**

*Low* teaches user device 110 may "display to user 102 . . . lists of products 124," and "[i]nventory data 126 may . . . adjust viewable inventory levels of products 124 for display to user 102." Ex. 1005, 8:31–33, 9:8–11. A POSA would understand that after a product 124 is purchased at a vending machine 120, the user device 110 displays an updated inventory level of products 124 to account for that purchased product (i.e., displaying one less item available). *Id.*, ¶ 153. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches after exchanging the information, displaying, on the display (i.e., display 511), an updated user interface (i.e., "adjust[ed] viewable inventory") of the mobile payment application (i.e., purchase application 112) to the user of the mobile device (i.e., user device 110). Ex. 1003, ¶ 154. Additionally or alternatively, at a minimum, a POSA would understand *Low* as teaching a user device 110 having a user interface that would revert to its initial, pre-transaction state following the completion of the transaction so that the user device 110 could be utilized to complete a subsequent transaction, likewise representing an updated user interface. *Id.*, ¶¶ 155–56.

### 3. Claim 2

*Low* discloses that "database 146 may include cross-promotional products and/or preferences for use in upselling products, for example, displaying a message

to user 102 ***after*** purchasing a drink such as, 'Would you like chips with your drink.'" Ex. 1005, 7:3–39 (emphasis added). A POSA would understand that the message displayed to user 102 would be displayed on the user interface of the user device 110. Ex. 1003, ¶¶ 157–58. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 2, i.e., wherein the updated user interface of the mobile payment application includes at least one of: a message displayed on the display of the mobile device (e.g., "displaying a message to user 102 after purchasing a drink such as, 'Would you like chips with your drink'"); a banner notification displayed on a display of the mobile device; and/or a visual alert from one or more light-emitting diodes (LEDs) of the mobile device. *Id.*, ¶ 159.

**4. Claim 3**

*Low* teaches that payment provider server 140 includes a database 146, which "include[s] information associated with the ***transaction history*** processing" described in *Low*. Ex. 1005, 7:22–24 (emphasis added). A POSA would understand this information indicates completion of a transaction (i.e., the transaction history is a record of one or more completed transactions) and is exchanged between the user device 110 and the vending machine 120 and ultimately sent to the payment provider server 140 (*id*., 4:45–48). Ex. 1003, ¶¶ 160–61; *see also id.*, ¶¶ 162–63. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 3, i.e., wherein the information indicates completion of the transaction (e.g., "transaction

history") between the user of the mobile device (e.g., user device 110) and the available payment accepting unit (e.g., vending machine 120). *Id.*, ¶ 164.

**5. Claim 4**

*Low* teaches that the user device 110 includes a communication module 118, which "may include a DSL (e.g., Digital Subscriber Line) modem, a PSTN (Public Switched Telephone Network) modem, an Ethernet device, a broadband device, a satellite device and/or various other types of wired and/or wireless network communication devices." Ex. 1005, 4:48–54. *Low* also teaches user device 110 transmits to payment provider server 140 "a purchase request including…***product price***," and that payment provider server 140 includes a database 146, which "include[s] information associated with the transaction history processing" described in *Low*. Ex. 1005, 6:3–8, 7:22–24 (emphasis added). Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 4, i.e., wherein the mobile device includes a long-range transceiver (e.g., communication module 118) and the information at least includes an amount of the completed transaction (e.g., product price, transaction history), and the method further comprises: sending at least the amount of the completed transaction to a server via the long-range transceiver (e.g., user device 110 transmits to payment provider server 140 product price and transaction history). Ex. 1003, ¶¶ 165–69.

### 6. Claim 5

*Low* teaches that "the user device transmits the purchase request to a server for approval," which "may determine if there are any restrictions and/or limitations corresponding to the user account and may take appropriate actions as desired." Ex. 1005, 10:41–54. A POSA would understand that *Low's* disclosure of a server determining whether there are any restrictions and/or limitations, including whether there are adequate funds for the transaction, encompasses a scenario where the transaction is aborted (e.g., because of a restriction and/or limitation on the user account or inadequate funds). Ex. 1003, ¶¶ 170–72. Similar to how the user device 410 transmits a payment authorization to the vending machine 420, a POSA would understand that *Low* contemplates the user device 410 transmitting information indicating an abortion of the transaction (e.g., "tak[ing] appropriate actions as desired," Ex. 1005, 10:41–54) to the vending machine 420 in a similar manner. *Id.*, ¶ 173. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 5, i.e., wherein the information indicates abortion of the transaction initiated by the user of the mobile device (e.g., "determin[ing] if there are any restrictions and/or limitations corresponding to the user account and [taking] appropriate actions as desired"). *Id.*, ¶ 174.

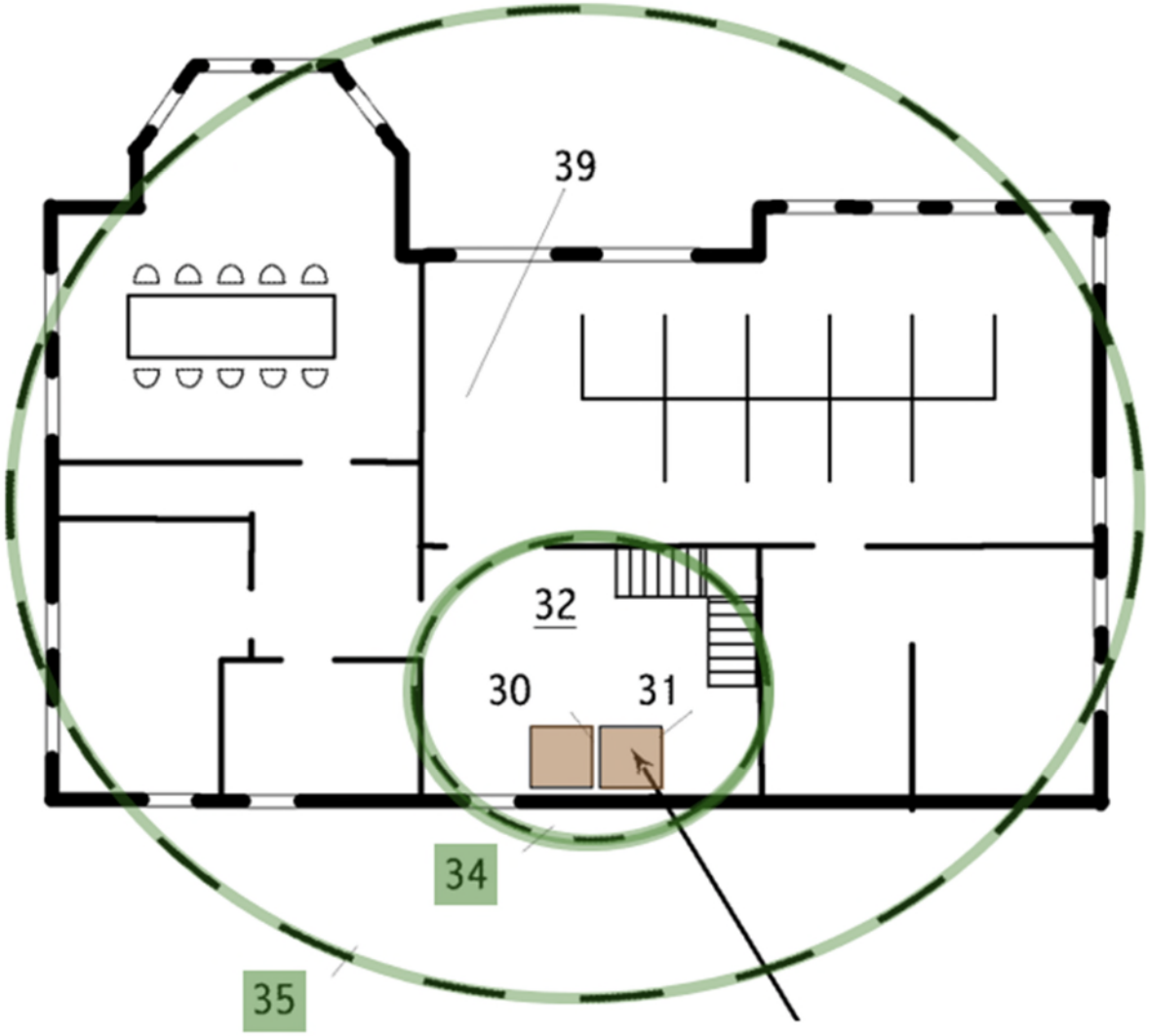
### 7. Claim 6

*Low* teaches that "the user device transmits the purchase request to a server for approval," which "may determine if there are any restrictions and/or limitations corresponding to the user account and may take appropriate actions as desired." Ex. 1005, 10:41–54. A POSA would understand that *Low*'s disclosure of a server determining whether there are any restrictions and/or limitations encompasses a scenario where the transaction fails (e.g., because of a restriction and/or limitation on the user account or inadequate funds). Ex. 1003, ¶¶ 175–77. Similar to how the user device 410 transmits a payment authorization to the vending machine 420, a POSA would understand that *Low* contemplates the user device 410 transmitting information indicating a failure of the transaction (e.g., "tak[ing] appropriate actions as desired") to the vending machine 420 in a similar manner. *Id*., ¶ 178. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 6, i.e., wherein the information indicates failure of the transaction initiated by the user of the mobile device (e.g., "determine[ing] if there are any restrictions and/or limitations corresponding to the user account and [taking] appropriate actions as desired") or a malfunction associated with the available payment accepting unit. *Id.*, ¶ 179.

### 8. Claim 7

*Arora* discloses two vending machines 30, 31 (brown annotations) that define multiple transaction distances therefrom, including a "within sight" distance 34 and a "potential buyer" distance 35 (green annotations). Ex. 1006, 12:34–13:5, Figure 1 (excerpt reproduced below).

Fig. 1



Ex. 1006, Fig. 1 (excerpted/annotated).

*Arora* further discloses a personal electronic device that includes an "accelerometer" (*id*., 26:65–27:6), and the location of the customer relative to the vending machines 30, 31 may be determined through "[i]nertial guidance [which] may use an accelerometer…in the customer 17's personal electronic device 18." *Id*., 13:28–35. Because *Arora* describes determining the location and trajectory of the user device through "inertial guidance," including whether the user is walking away from the vending machine, a POSA would have found it obvious to cancel the communication link between *Low's* user device and vending machine if the inertial guidance indicated that the user was walking away from the vending machine to, among other things, conserve resources. *Id.*, ¶¶ 180–86.

Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 7, i.e., wherein the mobile device includes an accelerometer (i.e., "accelerometer" of *Arora*) and the method further comprises: based on data from the accelerometer, determining whether the user is walking away from the available payment accepting unit (e.g., *Arora*'s teachings of determining customer location based on "[i]nertial guidance [which] may use an accelerometer…in the customer 17's personal electronic device 18"); and in accordance with a determination that the user is walking away from the available payment accepting unit, canceling the wireless communication path (e.g., a POSA armed with *Low* would have been

motivated to cancel the wireless communication path between the user device 110 and the vending machine 120 to conserve resources if it was determined that the user device 110 was moving away from the vending machine 120, as taught by *Arora*). *Id.*, ¶ 187–88.

**9. Claim 8**

To the extent "availability of the available payment accepting unit" means locations or operations of available payment accepting units, *Low* discloses this. *Id.*, ¶¶ 189–90. For example, *Low* discloses the electronic payment module 130 (that is within the vending machine) includes a communication module 134 that "may include various types of wired and/or wireless short range communication devices including microwave, radio frequency, infrared, Bluetooth, and near field communication devices." Ex. 1005, 6:9–16, Fig. 1. "Identifiers" are then used (also shown in Figure 1 as being within the vending machine), including an "identifier" for a "vending machine 120." *Id.*, Fig. 1, 6:17–31. Thus, *Low* in view of *Arora* in further view of *Freeny* discloses "information" that reflects "availability of the available payment accepting unit to conduct a transaction" (i.e., sending information about an "identifier" for a "vending machine 120"). Ex. 1003, ¶ 190.

To the extent "availability of the available payment accepting unit" means inventory data on a payment accepting unit, this is also disclosed by *Low*. *Id.*, ¶ 191. For example, *Low* discloses that "[i]nventory data 154 may be received from

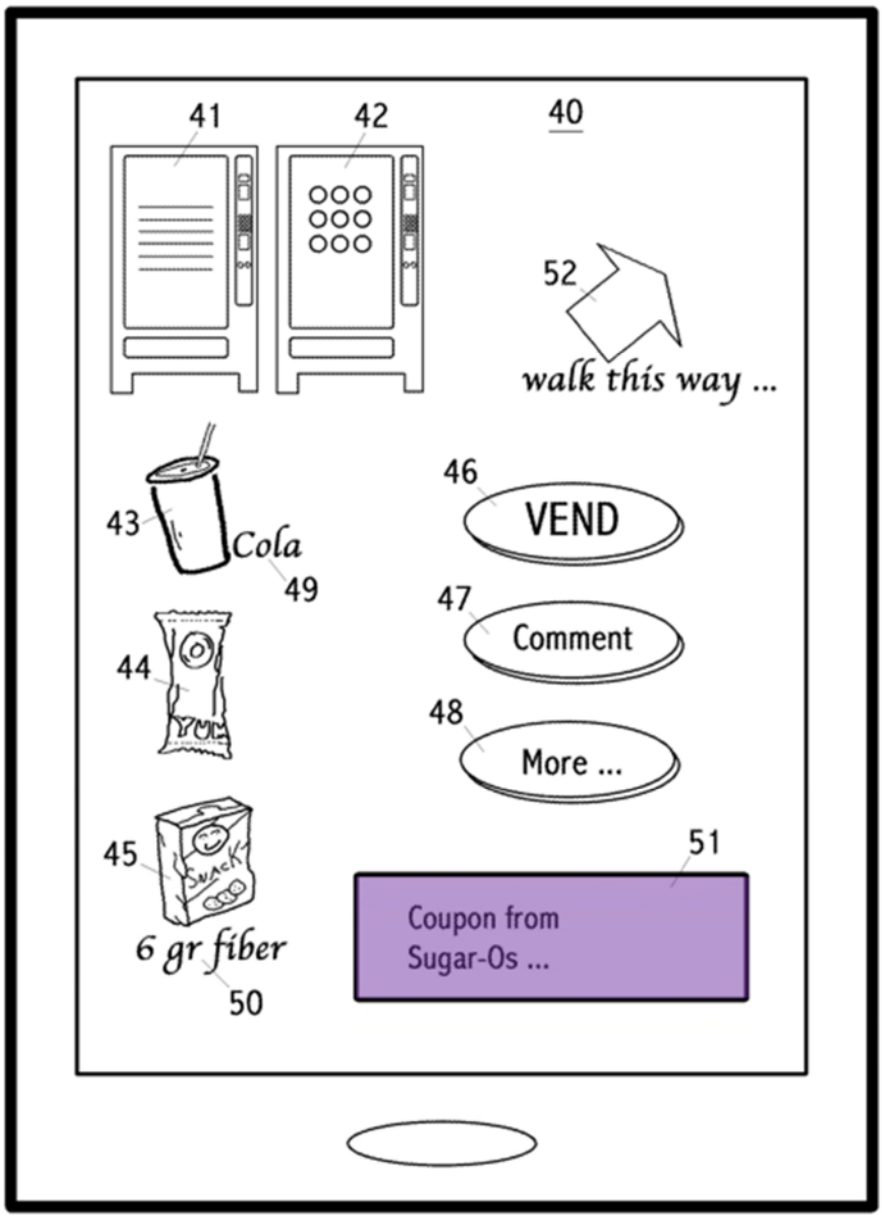
vending machine 120, for example using an Internet connection of user device 110 after a short range communication link is established between user device 110 and vending machine 120." Ex. 1005, 8:24–28. "Inventory data 154 may correspond generally to data of purchased and ***purchasable products*** at vending machine 120," including "***current stocks of products 124***, sold out products of products 124, purchase demands and/or rates of products 124, or other desired data." *Id*., 8:22–36 (emphasis added). A POSA would understand the inventory data including "purchasable products at vending machine" and "current stocks of products" reflects availability of the vending machine to conduct a transaction. Ex. 1003, ¶ 192. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 8, i.e., wherein the information reflects availability of the available payment accepting unit to conduct a transaction (e.g., "purchasable products at vending machine" and "current stocks of products" transmitted to user device). *Id.*, ¶¶ 190, 193.

**10. Claim 9**

*Arora* teaches a transaction which utilizes "an incentive or promotion, such as a coupon, sale or discount, points, contest entry, ability to vote, games or other products, services or features" that is communicated "from the vending company to the customer" for display in box 51 on the display of the user's electronic device 40. Ex. 1006, 5:35–38, 14:5–9. As shown in Figure 3 of *Arora*, a coupon 51 (shown in

purple) is received on the user interface of the user's electronic device 40 that is targeted to the user of the mobile device based on the transaction:

Fig. 3




Ex. 1006, Figure 3 (annotated); *see also id.*, 13:47–14:16; Ex. 1003, ¶¶ 194–95.

Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 9, i.e., in addition to exchanging the information, receiving, via the one or more radio transceivers, a coupon (e.g., coupon 51) that is targeted to the user of the mobile device based on the transaction. *Id.*, ¶ 196.

**11. Claim 10**

*Low* teaches that "[i]nventory data 154 may be received from vending machine 120, for example using an Internet connection of user device 110 after a short-range communication link is established between user device 110 and vending machine 120," and the inventory data "may be utilized with user device 110 to display to user 102." Ex. 1005, 8:24–28, 5:41–42. A POSA would understand that the user device 110 receiving and displaying the inventory data 154 of the particular vending machine 120 indicates that the wireless communication path has been established with the vending machine 120, as the inventory data 154 could not be received unless the wireless communication path had successfully been established. Ex. 1003, ¶¶ 197–99. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 10, i.e., wherein the user interface of the mobile payment application, after establishing the wireless communication path, indicates that the wireless communication path has been established with the available payment accepting unit (e.g., by displaying the inventory data on the user device). *Id.*, ¶ 200.

### 12. Claim 12

*Low* teaches that "vending machine 120 may be a vending machine, kiosk, terminal, or other device for dispensing items that are purchased." Ex. 1005, 4:57–59. Thus, *Low* in view of *Arora* in further view of *Freeny* teaches all limitations of Claim 12, i.e., wherein the payment operated machines include a payment activated washer, a payment activated dryer, a vending machine (e.g., vending machine 120), a parking meter, a toll booth, an arcade game, a kiosk (e.g., "kiosk"), a photo booth, or a ticket dispensing machine. Ex. 1003, ¶¶ 201–03.

### 13. Claim 13

#### a. [13.P] A mobile device

To the extent the preamble is found to be limiting, *Low* teaches a mobile device (e.g., user device 110). *See supra* § VII.A.2.a; Ex. 1003, ¶¶ 204–05.

#### b. [13.1] one or more radio transceivers

*Low* teaches this limitation. *See supra* § VII.A.2.b; Ex. 1003, ¶¶ 206–07.

#### c. [13.2] one or more output devices including a display

*Low* teaches this limitation. *See supra* § VII.A.2.b; Ex. 1003, ¶¶ 208–10.

#### d. [13.3] one or more processors

*Low* teaches this limitation. *See supra* § VII.A.2.b; Ex. 1003, ¶ 211–12.

**e. [13.4] memory storing one or more programs to be executed by the one or more processors, the one or more programs comprising instructions for**

*Low* teaches "a user device 110" that includes "one or more processors, memories, and other appropriate components for executing instructions such as program code and/or data stored on one or more computer readable mediums to implement the various applications, data, and steps described herein." Ex. 1005, 3:26–32, Figure 5 (showing memory 514). Thus, *Low* teaches this limitation. Ex. 1003, ¶¶ 213–14.

**f. [13.5] identifying one or more payment accepting units that are available to accept payment from a mobile payment application executing on the mobile device**

*See supra* § VII.A.2.c; Ex. 1003, ¶ 215.

**g. [13.6] the identifying based at least in part on an identifier or location corresponding to the one or more payment accepting units**

*See supra* § VII.A.2.d; Ex. 1003, ¶ 216.

**h. [13.7] wherein the one or more payment accepting units are payment operated machines that accept payment for dispensing of products and/or services**

*See supra* § VII.A.2.e; Ex. 1003, ¶ 217.

**i. [13.8] displaying a user interface of the mobile payment application on the display of the mobile device**

*See supra* § VII.A.2.f; ; Ex. 1003, ¶ 218.

**j. [13.9] the user interface being configured to display a visual indication of the one or more payment accepting units**

*See supra* § VII.A.2.g; Ex. 1003, ¶ 219.

**k. [13.10] and accept user input selecting an available payment accepting unit of the one or more payment accepting units**

*See supra* § VII.A.2.h; Ex. 1003, ¶ 220.

**l. [13.11] establishing via the one or more radio transceivers a wireless communication path including the mobile device and the available payment accepting unit of the one or more payment accepting units**

*See supra* § VII.A.2.i; Ex. 1003, ¶ 221.

**m. [13.12] after establishing the wireless communication path, enabling user interaction with the user interface of the mobile payment application to complete a transaction with the available payment accepting unit**

*See supra* § VII.A.2.j; Ex. 1003, ¶ 222.

**n. [13.13] wherein the user interface includes a visual representation of the available payment accepting unit**

*See supra* § VII.A.2.k; Ex. 1003, ¶ 223.

**o. [13.14] an indication of a balance**

*See supra* § VII.A.2.l; Ex. 1003, ¶ 224.

**p. [13.15] and an affordance that, in response to a user input, indicates completion of the transaction**

*See supra* § VII.A.2.m; Ex. 1003, ¶ 225.

**q. [13.16] exchanging information with the available payment accepting unit via the one or more radio transceivers, in conjunction with the transaction**

*See supra* §VII.A.2.n; Ex. 1003, ¶ 226.

**r. [13.17] after exchanging the information, displaying, on the display, an updated user interface of the mobile payment application to the user of the mobile device**

*See supra* § VII.A.2.o; Ex. 1003, ¶ 227.

**14. Claim 14**

*Low* in view of *Arora* in further view of *Freeny* teaches this limitation for the same reasons stated *supra* § VII.A.12; Ex. 1003, ¶¶ 228–30.

**15. Claim 15**

**a. [15.P] A non-transitory computer readable storage medium storing one or more programs, the one or more programs comprising instructions, which, when executed by a mobile device with one or more processors, one or more output devices including a display, and one or more radio transceivers, cause the mobile device to perform operations comprising**

*Low* teaches "a user device 110" that includes "one or more processors, memories, and other appropriate components for executing instructions such as program code and/or data stored on one or more computer readable mediums to implement the various applications, data, and steps described herein." Ex. 1005, 3:26–32. The "user device 110 may be implemented as…a smart phone." *Id.*, 3:40–44. *Low* teaches that software, "such as program code and/or data, may be stored on

one or more machine readable mediums, including non-transitory machine readable medium." *Id*., 13:54–57.

*Low* similarly describes a "user device 410," highlighted in yellow in Figure 4 (reproduced below). *Id*., 11:11–13; Ex. 1003, ¶¶ 231–32. The user device 410 includes a display:

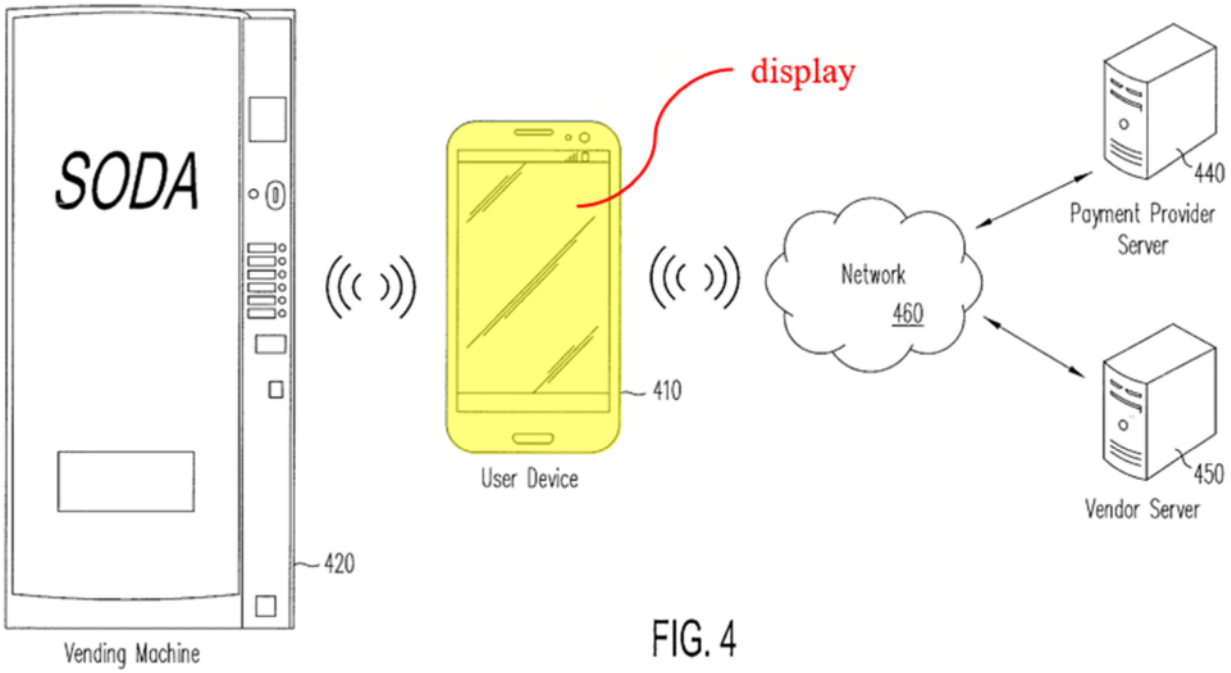
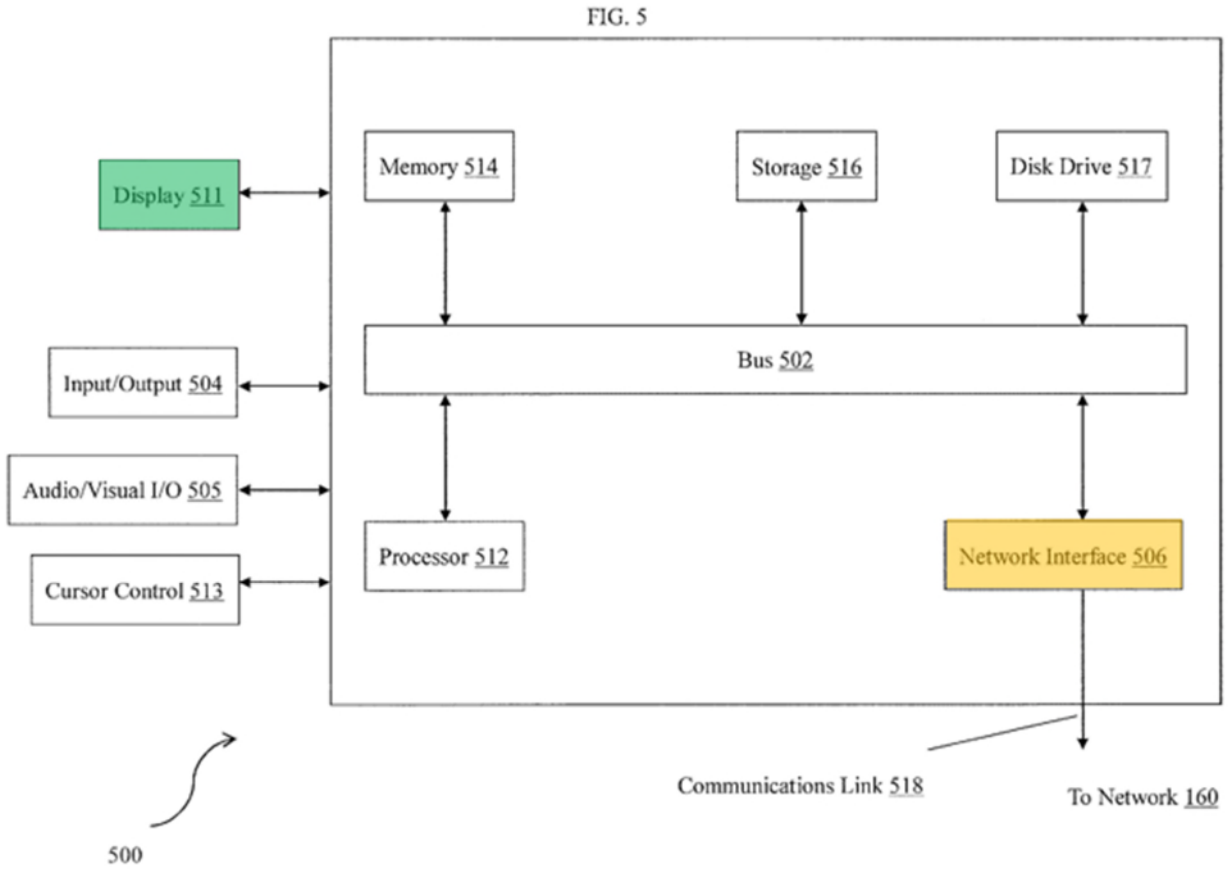



FIG. 4

Ex. 1005, Figure 4 (annotated).

*Low* teaches that user device 110, 410 can be "implemented as computer system 500," which includes a "display 511" (shown in green below) and a "transceiver or network interface 506" (shown in orange below) that "transmits and receives signals between computer system 500 and other devices, such as another

user device, a merchant server, or a payment provider server via network 560." Ex. 1005, 12:52–56.




Ex. 1005, Figure 5 (annotated).

Thus, to the extent the preamble is found to be limiting, *Low* teaches this limitation. Ex. 1003, ¶¶ 231–34.

**b. [15.1] identifying one or more payment accepting units that are available to accept payment from a mobile payment application executing on the mobile device**

*See supra* § VII.A.2.c; Ex. 1003, ¶ 235.

**c. [15.2] the identifying based at least in part on an identifier or location corresponding to the one or more payment accepting units**

*See supra* § VII.A.2.d; Ex. 1003, ¶ 236.

**d. [15.3] wherein the one or more payment accepting units are payment operated machines that accept payment for dispensing of products and/or services**

*See supra* § VII.A.2.e; Ex. 1003, ¶ 237.

**e. [15.4] displaying a user interface of the mobile payment application on the display of the mobile device**

*See supra* § VII.A.2.f; Ex. 1003, ¶ 238.

**f. [15.5] the user interface being configured to display a visual indication of the one or more payment accepting units**

*See supra* § VII.A.2.g; Ex. 1003, ¶ 239.

**g. [15.6] and accept user input selecting an available payment accepting unit of the one or more payment accepting units**

*See supra* § VII.A.2.h; Ex. 1003, ¶ 240.

**h. [15.7] establishing via the one or more radio transceivers a wireless communication path including the mobile device and the available payment accepting unit of the one or more payment accepting units**

*See supra* § VII.A.2.i; Ex. 1003, ¶ 241.

**i. [15.8] after establishing the wireless communication path, enabling user interaction with the user interface**

**of the mobile payment application to complete a transaction with the available payment accepting unit**

*See supra* § VII.A.2.j; Ex. 1003, ¶ 242.

**j. [15.9] wherein the user interface includes a visual representation of the available payment accepting unit**

*See supra* § VII.A.2.k; Ex. 1003, ¶ 243.

**k. [15.10] the user interface includes a visual representation of…an indication of a balance**

*See supra* § VII.A.2.l; Ex. 1003, ¶ 244.

**l. [15.11] the user interface includes a visual representation of…an affordance that, in response to a user input, indicates completion of the transaction**

*See supra* § VII.A.2.m; Ex. 1003, ¶ 245.

**m. [15.12] exchanging information with the available payment accepting unit via the one or more radio transceivers, in conjunction with the transaction**

*See supra* § VII.A.2.n; Ex. 1003, ¶ 246.

**n. [15.13] after exchanging the information, displaying, on the display, an updated user interface of the mobile payment application to the user of the mobile device**

*See supra* § VII.A.2.o; Ex. 1003, ¶ 247.

**16. Claim 16**

*Low* in view of *Arora* in further view of *Freeny* teaches this limitation for the same reasons stated *supra* § VII.A.3. Ex. 1003, ¶¶ 248–51.

#### 17. Claim 17

*Low* in view of *Arora* in further view of *Freeny* teaches this limitation for the same reasons stated *supra* §§ VII.A.4, 5. Ex. 1003, ¶¶ 252–56.

#### 18. Claim 18

*Low* in view of *Arora* in further view of *Freeny* teaches this limitation for the same reasons stated *supra* § VII.A.6. Ex. 1003, ¶¶ 257–61.

#### 19. Claim 19

*Low* in view of *Arora* in further view of *Freeny* teaches this limitation for the same reasons stated *supra* § VII.A.7. Ex. 1003, ¶¶ 262–65.

#### 20. Claim 20

*Low* in view of *Arora* in further view of *Freeny* teaches this limitation for the same reasons stated *supra* § VII.A.12. Ex. 1003, ¶¶ 266–68.

### B. Ground 2: Claim 11 is Rendered Obvious Under 35 U.S.C. § 103 Over *Low* in View of *Arora* in Further View of *Freeny* and *Casey*

#### 1. Obviousness Standards and Analysis

*See supra* § VII.A.1; Ex. 1003, ¶ 68.

##### a. Differences Between the Claimed Subject Matter and *Low*

*Low* teaches almost every element of dependent Claim 11. *See supra* § VII.A.2; Ex. 1003, ¶ 270. *Low* teaches "[c]omputer system 500 includes…. an input/output (I/O) component 504 that processes a user action, such as selecting keys from a keypad/keyboard, selecting one or more ***buttons or links, etc.***," (Ex. 1005,

12:39–46 (emphasis added)) and "the user selects a ***payment button or option*** on the user device" (*id*., 2:46–49 (emphasis added)). Ex. 1003, ¶ 270. However, *Low* does not explicitly disclose "the user input is a swipe that causes the affordance to be slid," as recited in Claim 11. *Id.*, ¶ 271. However, *Casey*, which is in the same field of endeavor as *Low*— conducting a transaction at an unmanned machine with a user device (Ex. 1003, ¶ 272)—explicitly discloses a slide bar 182 whereby "a user may drag the slide bar to the left to the decline position 186 to decline the payment or the user may drag the slide bar 182 to the right to the confirmation position 188 to confirm the payment transaction." *Id.*; Ex. 1008, 13:44–51.

**b. Obviousness Rationale for Why a POSA Would Have Modified *Low* with *Arora*, *Freeny*, and *Casey* to Arrive at the Claimed Subject Matter**

In view of the collective teachings of *Low*, *Arora*, *Freeny*, and *Casey* it would have been obvious to a POSA to include in the user interface of the purchase application 112 of *Low* any suitable graphical user interface elements that would be "convenient…to permit user 102 to select, purchase, and dispense products for sale at a vending machine 120," (Ex. 1005, 3:57–60) including a graphical user interface element that can be slid in response to a user input of a swipe, as taught by *Casey*. Ex. 1003, ¶ 273. Petitioner has already articulated why a POSA would modify *Low* with *Arora* and *Freeny*. *See supra* § VII.A.1; Ex. 1003, ¶ 274.

A POSA would have found it obvious to modify *Low/Arora/Freeny* with *Casey* because, as just one example, a graphical user interface element that can be slid in response to a user input of a swipe represents one of a finite number of identified, predictable solutions, with a reasonable expectation of success. *Id.*, ¶ 275; *see KSR*, 550 U.S. at 421. A POSA would understand that the user interface of *Low* can include any suitable graphical user interface elements responsive to any suitable user inputs, such as taps, swipes, or other gestures. *Id.*, ¶ 276. *Casey* presents a POSA with one of a finite number of identified, predictable solutions, i.e., a slide bar 182 whereby "a user may drag the slide bar to the left to the decline position 186 to decline the payment or the user may drag the slide bar 182 to the right to the confirmation position 188 to confirm the payment transaction." Ex. 1008, 13:44–51; Ex. 1003, ¶ 277.

#### c. Obviousness Rationale for How a POSA Would Have Modified *Low* with *Arora*, *Freeny*, and *Casey* to Arrive at the Claimed Subject Matter

Petitioner has already articulated how a POSA would modify *Low* with *Arora* and *Freeny*. *See supra* § VII.A.1.c; Ex. 1003, ¶ 278. Once motivated to modify *Low/Arora*/*Freeny* with *Casey*, a POSA would have (i) readily understood how to do so with a reasonable expectation of success and (ii) found it obvious and routine to implement any modifications needed to make those combinations work. *Id.*, ¶ 279. For example, a POSA would have understood that the user interface of the

purchase application 112 of *Low* could display a variety of graphical user interface elements responsive to any suitable user input. *Id.*, ¶ 280. A POSA would have understood that modifying the purchase application 112, e.g., by modifying the software corresponding to the purchase application 112 or modifying the website that the purchase application 112 accesses, would be a simple and routine task to display whichever graphical user interface elements are desired, including an affordance configured to receive a user input, wherein "the user input is a swipe that causes the affordance to be slid," as recited in Claim 11. Ex. 1003, ¶ 281.

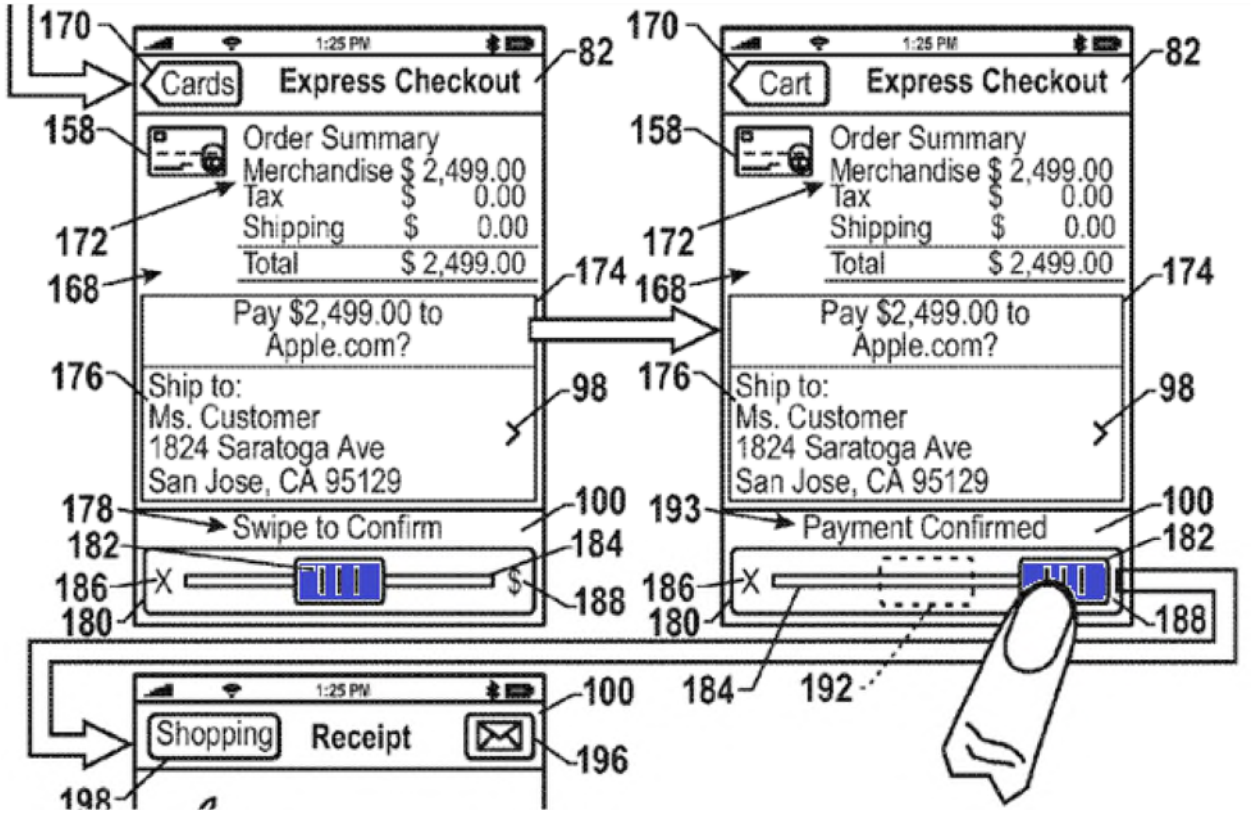
**2. Claim 11**

Claim 11 recites: "The method of claim 1, wherein the user input is a swipe that causes the affordance to be slid." As to claim 1, *see supra* § VII.A.2. As to the remainder of claim 11, in the related district court litigation, Patent Owner has argued that a "sliding" limitation for the related '772 Patent is satisfied by a "Pay" button with no sliding functionality. *See* Ex. 1025 at 14 (Patent Owner arguing a "Pay" button is equivalent to an affordance that slides and stating "the differences between the pressed button and a swiped affordance would be regarded by a POSITA to be insubstantial").

To the extent Patent Owner's interpretation is correct, *Low* teaches this limitation. Ex. 1003, ¶¶ 282–83. *Low* teaches "[c]omputer system 500 includes…an input/output (I/O) component 504 that processes a user action, such as selecting keys

from a keypad/keyboard, selecting one or more ***buttons*** or links, etc.," (Ex. 1005, 12:39–46) and "the user ***selects*** a ***payment button or option*** on the user device" (*id*., 2:46–49). Insofar as the Board interprets this limitation as being satisfied by a graphical user interface element that slides, a POSA would understand that *Low* contemplates that any suitable user action is acceptable, and a user input swiping a graphical user interface element that slides is just one example of an acceptable input that was well known in the art at the time of the '920 Patent. Ex. 1003, ¶ 278.

To the extent the Board disagrees with Patent Owner's interpretation that pressing a pay button is equivalent to "sliding," *Casey* teaches wherein the user input is a swipe that causes the affordance to be slid. *Id.*, ¶ 284. *Casey* discloses a slide bar 182 (shown in blue below) whereby "a user may drag the slide bar to the left to the decline position 186 to decline the payment or the user may drag the slide bar 182 to the right to the confirmation position 188 to confirm the payment transaction." Ex. 1008, 13:44–51.




Ex. 1008, Figure 5 (excerpted/annotated).

Thus, *Low* in view of *Arora* in further view of *Freeny* and *Casey* teaches wherein the user input is a swipe that causes the affordance to be slid (e.g., "button" of *Low* or *Low*'s teaching that any suitable user action is acceptable, and a user input swiping a graphical user interface element that slides is just one example of an acceptable input that was well known in the art at the time of the '920 Patent, as demonstrated by *Casey*). Ex. 1003, ¶¶ 285–86.

### C. Ground 3: Claims 1-20 Are Unpatentable Under 35 U.S.C. § 101

#### 1. Patent Owner Should Be Collaterally Estopped from Arguing That Claims 1-6, 8-10, 13, and 15-19 are Not Invalid Under § 101

##### a. Legal Standard: Collateral Estoppel

It is well established that collateral estoppel applies to AIA proceedings before the Board. *See, e.g.*, *Google LLC v. Hammond Dev. Int'l, Inc.*, 54 F.4th 1377, 1381 (Fed. Cir. 2022). Collateral estoppel applies where: (1) the issue is identical to one decided in the first action; (2) the issue was actually litigated in the first action; (3) resolution of the issue was essential to a final judgment in the first action; and (4) [the party against whom collateral estoppel is being asserted] had a full and fair opportunity to litigate the issue in the first action. *Id.* "[C]ollateral estoppel may apply even if the patent claims 'use slightly different language to describe substantially the same invention,' so long as 'the differences…do not materially alter the question of invalidity." *Id.*; *see also Nestle USA, Inc. v. Steuben Foods, Inc.*, 884 F.3d 1350, 1352 (Fed. Cir. 2018).

##### b. The Board Previously Found Most of the Challenged Claims of the '614 Patent Invalid Under § 101

In the '614 PGR, the Board found most of the challenged claims invalid under Section 101. The Board found that claim 1 recites the concept of identifying a merchant and enabling completion of a purchase from the merchant, which is a commercial interaction. PGR2021-93, FWD, at *17, *19. The Board further

determined that there were no additional elements that integrate the judicial exception into a practical application. *Id.*, at *35. The Board also determined that claim 1 "simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, and is thus patent ineligible under § 101." *Id.*, at *43. The Board found no substantive differences between claim 1 and independent claims 14 and 20 and also found these claims patent ineligible. *Id.*, at *44.

The Board also found that dependent claims 2-6, 8-10, 21, and 23-25 of the '614 Patent do not add meaningful limitations to the judicial exception and are thus patent ineligible. *Id.*, at *44–46. The Board concluded that Petitioner had not articulated with particularity why dependent claims 7, 11–13, 16, and 17 of the '614 Patent are patent ineligible and therefore found that Petitioner had not met its burden on those claims. *Id.*, at *46–49.

**c. Challenged Claims 1-6, 8-10, 13-19 of the '920 Patent are Invalid Because They Are Materially Identical to the Corresponding Invalidated Claims of the '614 Patent**

Most of the Challenged Claims of the '920 Patent are materially identical to the claims of the '614 Patent that the Board has already found ineligible for patenting, as shown below:

| Invalidated ’614 Patent Claim[4] | Materially Identical ’920 Patent Claim |
|---|---|
| **1** | **1** |
| 2 | 2 |
| 3 | 3 |
| 4 | 4 |
| 5 | 5 |
| 6 | 6 |
| 8 | 8 |
| 9 | 9 |
| 10 | 10 |
| **14** | **13** |
| 18 | 14 |
| **20** | **15** |
| 21 | 16 |
| 23 | 17 |
| 24 | 18 |
| 25 | 19 |

*See* Ex. 1011 (redline comparison); *see also* PGR2021-93, FWD, at *43–49.

**Independent Claims.** As discussed in Section IV.E *supra*, independent claims 1, 13, and 15 of the ’920 Patent are substantively identical. The same was true in the ’614 PGR, where the Board found “no substantive differences between the independent claims for purposes of [its] patent eligibility analysis,” and invalidated independent claims 14 and 20 for the same reasons as claim 1. *See id.*, at *44.

4 **Bolded** claims are independent.

Independent claim 1 of the ’920 Patent is actually ***broader*** than claim 1 of the ‘614 Patent because it removes the “in proximity to the mobile device” element from limitation [1.2], and the requirement that the user input be configured to “(i) receive selection … and (ii) trigger payment” from limitation [1.7]. *See* Ex. 1011. Limitation [1.3] is also broader because it allows the identifying to be based on any generic “identifier or location,” whereas the ’614 Patent required that the identifying be based on the narrower “detecting predefined radio messages.” *See id.* Because limitations [1.2], [1.3], and [1.7] are merely broadened versions of the corresponding limitations of the ’614 Patent, the Board’s prior findings apply equally. *See, e.g.*, *Google*, 54 F.4th at 1381; *IronSource Ltd. v. Digital Turbine Inc.*, PGR2022-00053, Paper 58 at *15-16 (PTAB Mar. 12, 2024) (applying prior findings where the later claims are broader than the corresponding challenged claims).

The only elements that claim 1 of the ’920 Patent adds to claim 1 of the ’614 Patent are that the “[1.10] user interface includes a visual representation of the available payment accepting unit, [1.11] an indication of a balance, and [1.12] an affordance that, in response to a user input, indicates completion of the transaction.” *See id.* These limitations merely describe how the user interacts with the generic user interface to perform the abstract idea and do not integrate the abstract idea into a practical application or recite an inventive concept. *See, e.g.*, PGR2021-93, FWD at *19, *34, *41–43. For instance, these limitations do not specify ***how*** the user

interface displays the available payment accepting unit, or the user's balance, or ***how*** the user interface accepts input from the user, or even ***what*** the generic "affordance" is. *See, e.g., id.*; *see also infra*, § VII.C.2. Thus, these limitations do not materially alter the question of patentability and collateral estoppel should still apply. *See Soverain Software LLC v. Victoria's Secret Direct Brand Mgmt., LLC*, 778 F.3d 1311, 1319 (Fed. Cir. 2015).

Furthermore, even if the Board were to find that these limitations raise a new issue of validity, collateral estoppel still applies to the Board's findings regarding all materially identical limitations of the '920 Patent. *See, e.g., Keysight Techs., Inc. v. Centripetal Networks, LLC*, IPR2023-00446, Paper 30, at *21 (PTAB Aug. 5, 2024).

**Dependent Claims.** Most of the challenged dependent claims are also materially identical to invalidated dependent claims of the '614 Patent. *See, e.g.*, Ex. 1011; PGR2021-93, FWD, at *49. In addition, claim 22 of the '614 Patent is broader than claim 17 of the '920 Patent. *See* Ex. 1011. Collateral estoppel also obviates the need for the Board to revisit any argument that claims 2-6, 8-10, or 14, 16-19 add meaningful limitations or are inventive. *See, e.g., Nestle*, 884 F.3d at 1352.

#### d. The Other Elements of Collateral Estoppel Also Apply

The issue of patent eligibility as to Claims 1-6, 8-10, 14, 18, and 20-25 was "actually litigated" and "essential to a final judgment" in the '614 PGR. *See Google*, 54 F.4th at 1381. And Patent Owner chose not to file a request for rehearing or an appeal following the Board's issuance of a FWD. *See Uniloc USA, Inc. v. Motorola Mobility LLC*, 52 F.4th 1340, 1349 (Fed. Cir. 2022). Accordingly, all collateral estoppel factors are satisfied here.

#### e. Collateral Estoppel Does Not Apply against Petitioner as to Dependent Claims 7 and 11

The Board found that the prior petitioner had not met its burden to show that claims 7 and 12 of the '614 Patent were invalid. *See* PGR2021-93, FWD at *45–49. But Petitioner here was not a party in that proceeding. Thus, collateral estoppel does not apply against Petitioner because it did not have an opportunity to litigate the issue. *Mendenhall v. Cedarapids, Inc.*, 5 F.3d 1557, 1569 (Fed. Cir. 1993). Petitioner herein shows why claims 7 and 11 of the '920 Patent are invalid.

### 2. Even if the Board Does Not Apply Collateral Estoppel, the Challenged Claims are Invalid Under § 101

The Board can (and should) decide this issue based on collateral estoppel. However, should it instead consider the eligibility of the Challenged Claims anew, Petitioner shows below why the Challenged Claims are ineligible.

**a. Legal Standard: Section 101**

Step 1 of the test for patent-eligibility addresses whether the claimed invention falls into at least one of the four categories of patentable subject matter recited in 35 U.S.C. § 101. *See* MPEP § 2106.03; 2024 Guidance Update on Patent Subject Matter Eligibility, 89 Fed. Reg. 137 (July 17, 2024) ("2024 Guidance"). Step 2 applies the Supreme Court's two-part framework described in *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012) and *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014). *See id.*; MPEP § 2106.04.

**b. Claim 1, Step 1**

Claim 1 requires: "[a] method of presenting representations of payment accepting unit events." Ex. 1001, 47:7–8. Thus, claim 1 falls within the process category and the Section 101 inquiry moves to Step 2A. *See* 2024 Guidance; PGR2021-93, FWD, at *14.

**c. Claim 1, Step 2A, Prong One**

Claim 1 is directed to the abstract idea of identifying a merchant and enabling completion of a purchase from the merchant, which can be performed by a human in the mind or via oral, or written communication with a merchant. *See* Ex. 1001. This concept, which was found to be an abstract idea in the '614 PGR, is similar to other concepts the Federal Circuit has held to be an abstract idea. *See* PGR2021-93, FWD, at *17–19 (citing cases); *see also Universal Secure Registry LLC v. Apple*

*Inc.*, 10 F.4th 1342, 1349 (Fed. Cir. 2021) (enabling transaction using time-varying code); *In re AuthWallet, LLC*, 2022-1842, 2023 WL 3330298, at *3 (Fed. Cir. May 10, 2023) (authorizing transaction requests and applying discounts and benefits to transaction).

Claim 1 is directed to nothing more than using well-understood, routine, conventional elements to perform the abstract idea. *See* PGR2021-93, FWD, at *17.

Limitation [1.1] recites that the method of claim 1 is performed at a well-understood, routine, and conventional mobile device having conventional one or more processors, memory, one or more output devices including a display, and one or more radio transceivers. *See, e.g.*, Ex. 1001, 8:62–9:30, 12:30–13:40, 10:36–39.

Limitations [1.2] and [1.3] are directed to a customer using the generic mobile device to identify a merchant (i.e., a "payment accepting unit") for purchasing goods based on an identifier or its location. This can be done completely in the mind of the customer. *See, e.g.*, *cxLoyalty, Inc. v. Maritz Holdings Inc.*, 986 F.3d 1367, 1377 (Fed. Cir. 2021). Limitation [1.4] recites that the one or more payment accepting units are generic "payment operated machines that accept payment for dispensing of products and/or services." *See* Ex. 1001, 9:30–42. "[M]erely limiting the field of use of the abstract idea to a particular…environment"—such as here, where the environment is a generic mobile phone and payment accepting unit—"does not

render the claims any less abstract." *Smart Sys. Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364, 1373 (Fed. Cir. 2017).

Limitation [1.5] recites a conventional and generic "user interface of the mobile payment application" for performing a purchase. *See* Ex. 1001, 2:5–15. Limitation [1.6] recites that the user interface displays "a visual indication of the one or more payment accepting units" and limitation [1.7] allows the user interface to accept generic "user input selecting an available payment accepting unit." Limitation [1.9] further specifies that the user interface enables user interaction to complete a transaction. Limitation [1.10] recites that the user interface displays a visual indication of the available payment accepting unit. Limitation [1.11] recites that the user interface displays the user's balance. Limitation [1.12] recites that the user interface accepts input from the user via an "affordance" to complete the transaction.

The specification describes that each of these functions are performed using known, generic technology, such as an iPhone 5. *See id.*, 21:3; *id.*, 36:14–25; *id.*, 7:13–18; *id.*, 37:9–12; *id.*, 38:50–52; *id.*, 47:39–41. *See Int'l Bus. Machs. Corp. v. Zillow Grp., Inc.*, 50 F.4th 1371, 1380 (Fed. Cir. 2022).

In addition, the claimed user interface merely "takes the place of the human acting as an intermediary," communicating with the customer and the merchant, and therefore does not render the claim non-abstract. *cxLoyalty*, 986 F.3d at 1377. For

instance, the claimed functions are akin to a customer seeing one or more merchants (limitations [1.6], [1.10]), selecting a merchant (limitations [1.7], [1.9]), seeing the amount of money the customer has in their pocket or that is owed (limitation [1.11]), and allowing the transaction to proceed (limitation [1.12]). These functions are therefore directed to the abstract idea of identifying a merchant and enabling completion of a purchase with that merchant. *See, e.g.*, PGR2021-93, FWD, at *17–19; *Ex Parte Latoya H. James*, 2018-005345, 2019 WL 2763407, at *7–8 (PTAB June 21, 2019) ("*Ex Parte James*"). Patent Owner's claiming of generic features to perform this abstract idea does not constitute patentable subject matter. *See, e.g.*, *id.*

Limitation [1.8] recites generic radio transceivers to perform the abstract task of communicating between the mobile device and the payment accepting unit. *See* Ex. 1001, 9:42–10:20, 13:40–14:33, 15:53–65.

Limitation [1.13] recites the generic task of transmitting information regarding a transaction using generic radio transceivers, and limitation [1.14] recites displaying or showing a generic "updated user interface" to the customer. Put together, these limitations are directed to a merchant communicating with a customer about a transaction, implemented on generic and conventional technology. *See, e.g.*, *In re Elbaum*, 2021-1719, 2021 WL 3923280, at *2 (Fed. Cir. Sept. 2, 2021).

Moreover, while the claims here require tangible components, "the recited components merely provide a generic environment in which to carry out the abstract

idea[.]" *In re TLI Comm'ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016). Furthermore, the Board has already found that nearly identical claims are directed to an abstract idea, PGR2021-93, FWD, at *17-19, and claim 1 is highly analogous to claims considered in other cases that the Board has found to be directed to an abstract idea. *See, e.g.*, *Square, Inc. v. Unwired Planet, LLC*, CBM2014-00156, Paper 40, at *30 (PTAB, Dec. 22, 2015) ("*Square*"); *Ex Parte James*, 2019 WL 2763407, at *7–*9.

Claim 1 is therefore directed to the abstract idea of identifying a merchant and enabling completion of a purchase from the merchant. *See, e.g., id.*

**d. Claim 1, Step 2A, Prong Two**

"A claim that integrates a judicial exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception." 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 53 (Jan. 7, 2019) ("2019 Guidance").

Nothing in Claim 1 integrates the abstract idea into a practical application that imposes a meaningful limit on the abstract idea. Other than the abstract idea, Claim 1 recites only generic elements: (1) a mobile device; (2) an application executing on the mobile device; (3) a payment accepting unit; and (4) a user interface. *See supra* § VII.C.2.c. When considering nearly identical elements in the '614 PGR, the Board

found that the first three elements are "merely used as a tool to perform an abstract idea on computers and do not integrate the exception into a practical application, and claim 1 does not require [] technical solutions[.]" PGR2021-93, FWD, at *35; *see supra* § VII.C.1. These elements are identical in the '920 Patent and, accordingly, the same analysis applies. *See id.*

Moreover, the additional user interface elements in claim 1 of the '920 Patent that were not recited in claim 1 of the '614 Patent do not change the analysis because the elements recite using generic technology to perform the abstract idea. *See supra* § VII.C.2.c; *see also, e.g.*, *Ex Parte James*, 2019 WL 2763407, at *11. These limitations do not place a meaningful limit on the abstract idea, but rather use conventional mechanisms for implementing the abstract idea. *See id.*, at *14. This is insufficient to rise to a practical application. *See id.*; *Square*, *30–31.

**e. Claim 1, Step 2B**

Because claim 1 is directed to the abstract idea of identifying a merchant and enabling completion of a purchase from the merchant, the claim must add "significantly more" to be patent-eligible and cannot merely add "conventional or obvious features." *Mayo*, 566 U.S. at 77; 2019 Guidance, 56.

Here, claim 1 merely applies the abstract idea with a well-understood, routine, and conventional wireless mobile device. *See supra* § VII.C.2.c–d. The conventional mobile device uses well-known, routine, and conventional elements to

carry out the abstract idea. *See id.*; Ex. 1003, ¶¶ 287–320. These elements fail to add significantly more than the abstract idea and therefore cannot provide an inventive concept. *Id.*; *see, e.g., Mortgage Grader, Inc. v. First Choice Loan Services Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016).

In the '614 PGR, the Board found that the additional elements (i.e., recited mobile device, application, user interface, and payment accepting unit), "are no more than generic components." PGR2021-93, FWD, at *38. The Board further found that the claims recited a generalized user interface that was not sufficiently innovative to provide an inventive concept. *Id.* Accordingly, the Board found that claim 1 simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception, and is thus patent ineligible. *Id.* at 43. These elements are identical in claim 1 of the '920 Patent and therefore do not provide an inventive concept. *See supra* § VII.C.1.c.

The addition of limitations [1.10]-[1.12], which are not present in claim 1 of the '614 Patent, also do not render claim 1 inventive. These limitations merely recite the abstract idea of communicating generic information regarding a transaction using a well-known, generic and conventional "user interface". *See supra* § VII.C.2.c; Ex. 1003, ¶¶ 314–17; *Ex Parte James*, 2019 WL 2763407, at *15. Furthermore, the '920 Patent does not describe this generic technology as improving the underlying

technology. *See, e.g., GREE, Inc. v. Supercell Oy*, 855 Fed. App'x, 740, 742–43 (Fed. Cir. 2021); Ex. 1003, ¶¶ 288, 293–96, 299, 305–310, 312–317.

The combination of elements of claim 1 also does not provide an inventive concept. Taken as a whole, the steps of using a generic mobile phone to identify some information, display some information on the user interface of the mobile phone, accept user input via the user interface, and process and incorporate that user input, and then generally communicate with one or more other generic devices was well-understood, routine, and conventional, and is not "significantly more" than the ineligible concept. *See, e.g., buySAFE, Inc. v. Google, Inc.*, 765 F.3d 1350, 1355 (Fed. Cir. 2014); Ex. 1003, ¶¶ 291–99.

Thus, claim 1 is patent ineligible under § 101.

**f. Independent Claims 13 and 15**

The Board may evaluate a representative claim when other claims are "substantially similar and linked to the same abstract idea." *Content Extraction & Transmission LLC v. Wells Fargo Bank, Nat. Ass'n*, 776 F.3d 1343, 1348 (Fed. Cir. 2014). As discussed in Section IV.E, independent claims 13 and 15 recite substantially the same limitations as claim 1. *See* Ex. 1010. There is no distinction between these claims for Section 101 purposes because they recite the same concept and the Board should therefore treat claim 1 as representative of the other independent claims, as it did in the '614 PGR. *See Voter Verified, Inc. v. Election*

*Sys. & Software LLC*, 887 F.3d 1376, 1384-85 (Fed. Cir. 2018); PGR2021-93, FWD, at *43–44. Accordingly, independent claims 13 and 15 recite patent-ineligible subject matter for the same reasons as claim 1. *See also* Ex. 1003, ¶¶ 321–24

**g. Dependent Claims 2-6, 8-10, 14, and 16-19**

As discussed in § VII.C.1.b *supra*, the Board previously found that dependent claims of the ’614 Patent that correspond to claims 2-6, 8-10, 14, and 16-19 of the ’920 Patent did not add meaningful limitations to the judicial exception and that the claimed subject matter was therefore patent ineligible. PGR2021-93, FWD, at *44–46. The same result should follow here. But even setting aside the ’614 PGR, these dependent claims are not patent eligible.

Claims 2 and 16 recite that the updated user interface displays or includes a message, banner notification, or visual alert from an LED. Ex. 1001, 47:48–55, 50:10–18. Claim 3 recites that the information exchanged indicates completion of the transaction. *Id.*, 47:56–58. Claim 8 recites that the information displayed reflects availability of the available payment accepting unit. *Id.*, 48:13–16. Neither the claims nor the specification provide additional information regarding the claimed messages, notifications, or visual alerts, beyond that “appropriate technology may be used” and providing generic sample notifications and messages in Figures 26A through 26D (shown below). *See id.*, 13:45–50, 38:5–43; Ex. 1003, ¶ 325.

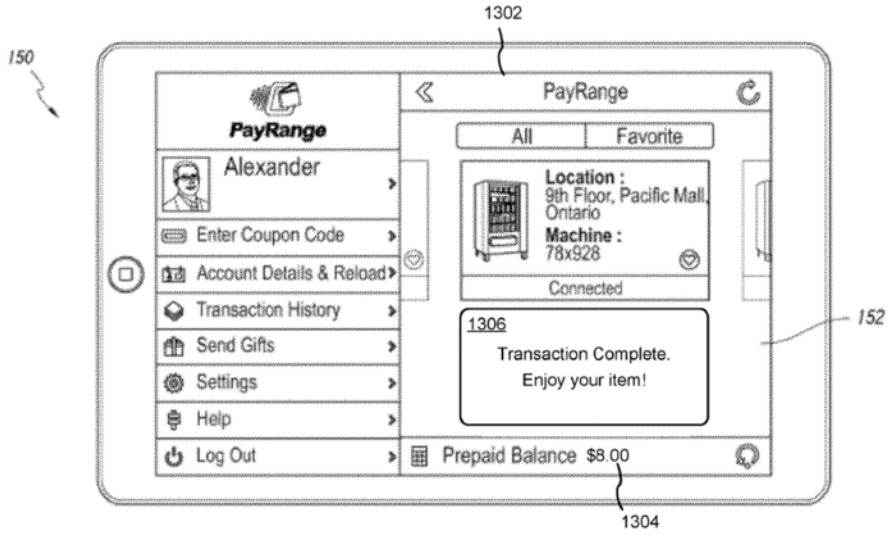



**Figure 26A**

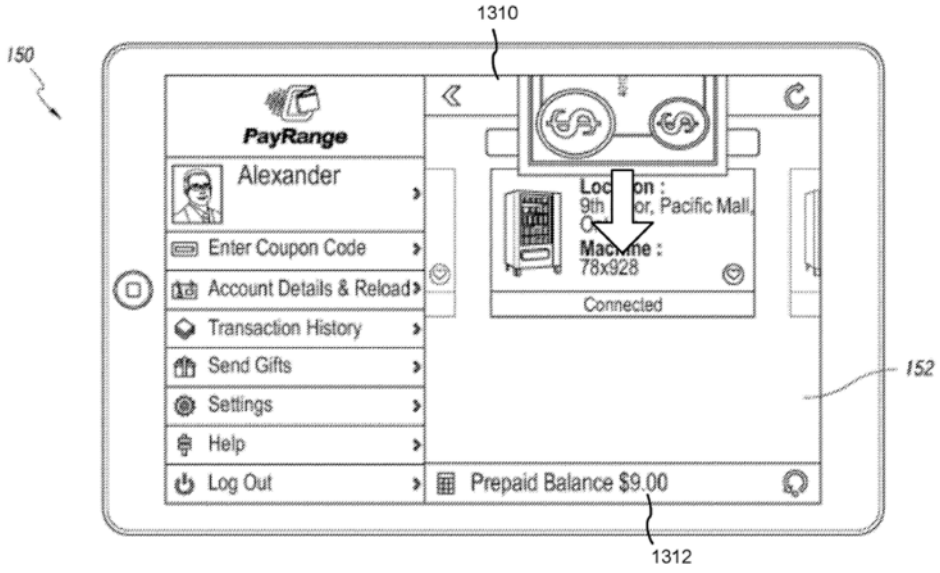



**Figure 26B**

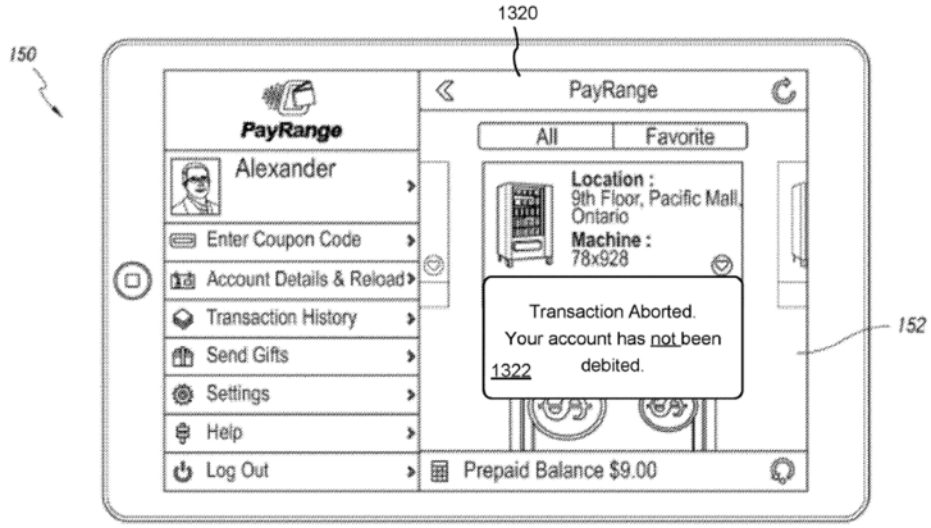



**Figure 26C**

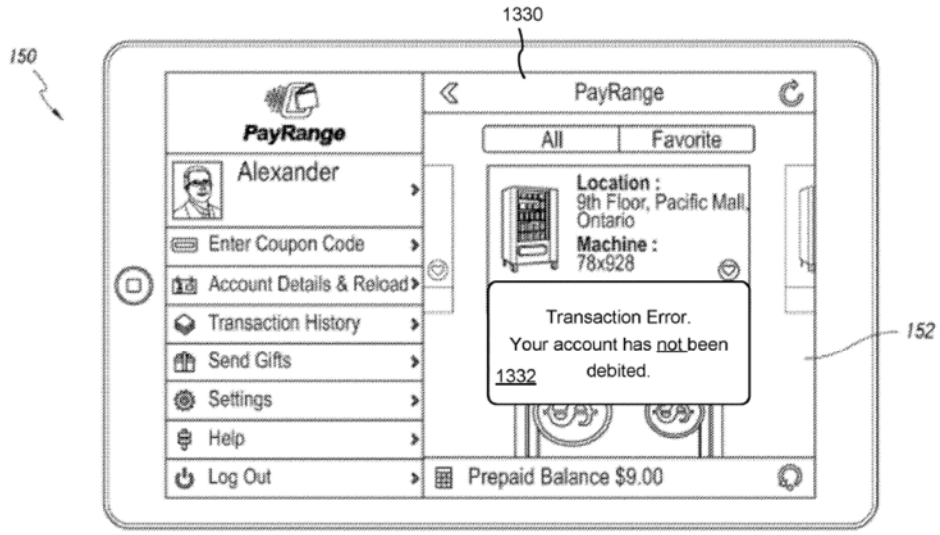



**Figure 26D**

Claim 4 recites that the mobile device includes a long-range transceiver which sends the amount of the completed transaction to the server. Ex. 1001, 47:59–64.

Claim 17 recites the same elements as claim 3 and recites that the information includes an amount of the completed transaction, and the instructions further cause the mobile device to send at least the amount of the completed transaction to a server. *Id.*, 50:19–28. These limitations are akin to the limitation in *Ex Parte James* directed to receiving transaction data from a remote bank computer server system, which was found to be patent ineligible. 2019 WL 2763407, at *16; *see also* Ex. 1003, ¶ 326.

Claims 5 and 18 recite that the information exchanged indicates abortion of the transaction. Ex. 1001, 47:65–67, 50:29–31. Claims 6 and 19 recite that the information exchanged indicates failure or malfunction. *Id.*, 48:1–5, 50:32–36. Claim 10 recites a generic notification that a conventional communication path has been established. *Id.*, 48:22–26. None of these claims improve the technology used to exchange information and each of these claims could be performed by a merchant delivering the same information verbally. *See Ex Parte James*, 2019 WL 2763407, at *6–8; Ex. 1003, ¶ 327, 329; PGR2021-93, at *44–45.

Claim 9 recites nothing more than using a conventional mobile device to transmit a coupon, an inherently abstract financial instrument. Ex. 1001, 48:17–21; Ex. 1003, ¶ 328. *See, e.g., In re AuthWallet*, 2023 WL 3330298 at *3–*4 (applying a coupon abstract); *cxLoyalty, Inc.*, 986 F.3d at 1377 (applying rewards points abstract); PGR2021-93, FWD, at *46.

Claim 14 recites that the payment accepting units can be from a group of well-known and conventional machines such as, *e.g.*, a payment activated washer, payment activated dryer, or a parking meter. Ex. 1001, 49:10–14. But specifying well-known and generic "payment accepting units" is not inventive. *See, e.g.*, PGR2021-93, FWD, at *46; *Elec. Power Grp, LLC v. Alstom S.A.*, 830 F.3d 1350, 1354 (Fed. Cir. 2016); Ex. 1003, ¶ 330.

Accordingly, claims 2-6, 8-10, 14, and 16-19 of the '920 Patent do not recite eligible subject matter.

**h. Dependent Claims 7, 11-12, and 20**

Claim 7 recites the use of an accelerometer to detect when a user has departed and then to cancel the transaction. Ex. 1001, 48:5–13. This step is no different than ending a transaction when a customer walks out of a store. Further, using a standard accelerometer inherent to a mobile device to detect movement was already well-known. *See, e.g.*, *id.*, 8:62–9:30, 11:21-25; Ex. 1006, 13:28–35; Ex. 1008, 7:61–8:3; Ex. 1003, ¶¶ 331–33; *see, e.g.*, *Ex Parte James*, 2019 WL 2763407, at *16.

Claim 11 recites that the user input is a swipe that causes the affordance to be slid. Ex. 1001, 48:27-28. But the '920 Patent specification describes only a generic "swipe-to-pay" and "affordance." *See, e.g.*, *id.*, 7:13–18, 37:9–12, 38:50–52, 47:39–41; *GREE*, 855 F. App'x at 742. And the use of a "swipe" on a generic user interface of a mobile phone to complete a transaction was well-known, routine, and

conventional at the time of the invention. Ex. 1003, ¶¶ 334–36. Finally, courts have found that "swiping" to effect a transaction is akin to a user "swiping" a credit card or handing a merchant money—actions that, even when combined with other generic and well-known information is not inventive. *See* Ex. 1018 at *13, *Linfo IP, LLC v. TrustPilot, Inc.*, 24-cv-2796, slip. op., Dkt. 37 (S.D.N.Y. Jan. 3, 2025) (enabling interaction with a user interface via a slider is a basic computer function).

Claims 12 and 20 do not have a direct corresponding claim in the '614 Patent only because the independent claims from which they depend (claiming a method and a computer readable medium) did not have a similar dependent claim in the '614 Patent. But the limitation these claims add—the inclusion of "a payment activated washer, a payment activated dryer, a vending machine, a parking meter, a toll booth, an arcade game, a kiosk, a photo booth, or a ticket dispensing machine"—does correspond to claim 18 in the '614 Patent and claim 14 of the '920 Patent. *See, e.g.*, Ex. 1011 (depending from an independent "mobile device" claim). Claims 12 and 20 are non-inventive for the same reasons discussed with regard to claim 14, above. *See also* Ex. 1003, ¶ 337.

Accordingly, all of the dependent claims of the '920 Patent that have not already had a materially identical claim found invalid in the '614 PGR should likewise be found unpatentable.

## VIII. DISCRETIONARY DENIAL SHOULD NOT PRECLUDE INSTITUTION

### A. Discretionary Denial Under the *Fintiv* Factors is Not Warranted

The Board considers the six *Fintiv* Factors when considering discretionary denial. *See Apple Inc. v. Fintiv, Inc.*, IPR2020-00019, Paper 11 (PTAB Mar. 20, 2020) (precedential) ("*Fintiv*"); *see also* "Interim Procedure for Discretionary Denials in AIA Post-Grant Proceedings with Parallel District Court Litigation," dated June 21, 2022 ("Interim Guidance"). The *Fintiv* factors weigh against discretionary denial here.

**Factor 1** supports institution because Petitioner will request a stay of the Delaware Litigation and there is a significant likelihood that the district court will stay the case if PGR is instituted. Courts in the District of Delaware routinely grant motions to stay when IPRs or PGRs have been instituted. *See, e.g., Ethicon LLC v. Intuitive Surgical, Inc.*, 17-871, 2019 WL 1276029, at *3 (D. Del. Mar. 20, 2019); *see also* Ex. 1019, *Chemours Co. FC, LLC v. Daikin Indus. Ltd.*, 1:17-cv-01612, Dkt. 77, at 29:1-32:24 (D. Del. Jan. 3, 2019). This weighs against discretionary denial. *Fintiv* at *6–7.

**Factor 2** supports institution because the Delaware Litigation is at a very early stage. No trial date has been set, and based on recent statistics, it is unlikely that the Delaware Litigation would reach trial before March 2027. *See* Ex. 1020 (federal

statistics noting a median time of 32.9 months from filing to trial in the District of Delaware for civil cases for the 12-month period ending June 2024). By contrast, the Board's statutory FWD deadline in this proceeding will be approximately July 2026. This factor supports institution.

**Factor 3** strongly favors institution because the Delaware Litigation is in a very early stage. Petitioner's partial motion to dismiss is pending; Petitioner has not yet even answered Patent Owner's counterclaims. No discovery requests have been exchanged, no case schedule has been entered, and there is no timeline for claim construction proceedings. *See* Delaware Litigation, Dkts. 21–28, 30. This strongly favors institution. *See Fintiv* at 9–10.

Finally, under the Interim Guidance, "the PTAB will not discretionarily deny institution of an IPR or PGR in view of parallel district court litigation where a petitioner stipulates not to pursue in a parallel district court proceeding the same grounds as in the petition or any grounds that could have reasonably been raised in the petition." Interim Guidance at 7. Consistent with the Interim Guidance, Petitioner stipulates that, if the instant PGR is instituted, it will not pursue against the '920 Patent in the parallel district court proceeding the same grounds as in this petition or any grounds that could have reasonably been raised in this petition. *Id.* at 7.

**Factor 4** supports institution in view of the stipulation above. Moreover, this Petition challenges all of the claims of the '920 Patent, including certain claims (2-3, 5-8, 11, 16, and 18), which Patent Owner is not asserting against Petitioner in the Delaware Action. These non-overlapping claims, and challenges thereto, weigh in favor of institution.

**Factor 5** weighs slightly in favor of discretion, as the parties to this proceeding are the same as the Delaware Litigation. However, the Board frequently declines to exercise its discretion to deny when, "[a]lthough factor 5 weighs in favor of denial due to similarity of parties, when balanced with factors 1-4, there is no indication of inefficiencies or duplication of efforts between the PTAB and the district court." *Sony Group Corp. v. Inmusic Brands, Inc.*, IPR2023-00294, 2023 WL 5167545, at *6 (PTAB July 25, 2023).

**Factor 6** strongly supports institution because Petitioner has strong grounds of invalidity under Section 103, and as to its Section 101 challenge, most of the Challenged Claims are materially identical (or even broader) to claims of Patent Owner's '614 Patent, which the Board has already found unpatentable under Section 101. The Challenged Claims are also broader than claims of Patent Owner's '772 Patent, which Patent Owner disclaimed in the face of the Board's FWD concerning the '614 Patent. There is a strong likelihood that the Board will likewise find the Challenged Claims invalid under all, or at least one, Ground.

The Board should not discretionarily deny institution under *Fintiv.*

### B. Discretionary Denial Under *General Plastic* is Not Warranted

The Board considers the factors set forth in *General Plastic* in evaluating whether discretionary denial is warranted in view of prior challenges to a patent. *See General Plastic Industrial Co. v. Canon Kabushiki Kaisha*, IPR2016-01357, Paper 19 (PTAB Sept. 6, 2017). But here, the '920 Patent issued on April 23, 2024 and has not, to Petitioner's knowledge, been challenged in any PGR or IPR proceeding. Accordingly, *General Plastic* does not warrant discretionary denial here.

### C. Discretionary Denial Under 35 U.S.C. § 325(d) is Not Warranted

Under § 325(d), discretionary denial is only warranted when the same, or substantially the same, prior art or arguments were previously presented to the Office in a proceeding pertaining to the challenged patent. *See, e.g., Advanced Bionics, LLC v. MED-EL Elektromedizinishe Gerate* Gmbh, IPR2019-01469, Paper 6, at *7 (PTAB Feb. 13, 2020). The factual inquiry is guided by six *Becton Dickinson* factors, which in this case, weigh in favor of institution. *Becton, Dickinson & Co. v. B. Braun Melsungen AG*, IPR2017-01586, Paper 8 (PTAB Dec. 15, 2017).

#### 1. Factors (a) and (c)

*Becton, Dickinson* Factors (a) and (c) consider "(a) the similarities and material differences between the asserted art and the prior art involved during examination" and "(c) the extent to which the asserted art was evaluated during

examination, including whether the prior art was the basis for rejection." *Id.* at *17. Neither factor supports discretionary denial here.

During prosecution, the '920 Patent faced only a non-statutory double-patenting rejection based on the '614 Patent, the '772 Patent, and others. *See supra* § IV.C. Only four references were discussed by the Examiner during prosecution. The first two, discussed in the August 16, 2023 Office Action (but not the basis of a rejection) were *Wheeler* (U.S. Pub. No. 2018/0374076) and *Murray* (U.S. Pub. No. 2021/0056552). *See* Ex. 1002, pp.152–54. Neither of these even qualify as prior art to the '920 Patent because their earliest effective filing date post-dates the earliest possible priority date for the '920 Patent. *See* Exs. 1021, 1022. In the Notice of Allowance, the Examiner mentioned two other references (*Maeng* and *Giordano*) and then stated that they were "deemed relevant but failed to teach or suggest the above noted limitations." Ex. 1002, pp. 4040. *Maeng* also would not be prior art to the '920 Patent. Ex. 1023.

*Low*, *Arora*, *Freeny*, and *Casey* were submitted as part of an IDS containing more than four hundred references. Ex. 1002, pp. 2541–57. The Examiner signed this IDS as "considered" just over a month after it was submitted, and shortly after the Christmas and year-end holidays. Ex. 1002, pp. 4054–70. Thus, while *Low*, *Arora*, *Freeny*, and *Casey* may technically constitute the "same art" under Factor (a), this does not weigh meaningfully against institution, as the Examiner "merely

signed the [IDS] without explaining why he disagreed with the [prior art at issue]." *Apple Inc. v. Seven Networks, LLC*, IPR2020-00285, Paper 10, at *30 (PTAB July 28, 2020); *Samsung Elecs. Co. v. Power2B, Inc.*, IPR2021-01190, Paper 11, at *19 (PTAB Jan. 6, 2022).

Factor (c) strongly favors institution, as *Low*, *Arora*, *Freeny*, and *Casey* were not substantively evaluated (either alone or in combination) during examination, and were instead only listed in an IDS. *See, e.g.*, *Lyft, Inc. v. RideShare Displays, Inc.*, IPR2021-01602, Paper 7, at *14–15 (PTAB Apr. 11, 2022).

Nor does the Examiner's terse statement that limitations [1.3] and [1.5]-[1.7] "provide meaningful limitations that transforms the abstract idea into patent eligible" justify discretionary denial. *See* Ex. 1002, pp. 4039–40. The Examiner provided no basis or support for this statement. And to the extent this statement was based on the Examiner's discussion of *Maeng* and *Giordano*, the Examiner erroneously confused the search for an inventive concept with a non-obviousness determination. *See* MPEP § 2106.05; *see also cxLoyalty*, 986 F.3d at 1378; PGR2021-92, FWD. at *37–39.

**2. Factors (b) and (d)**

Factors (b) and (d) consider "(b) the cumulative nature of the asserted art and the prior art evaluated during examination" and "(d) the extent of the overlap between the arguments made during examination and the manner in which the

Petitioner relies on the prior art or Patent Owner distinguishes the prior art." The combination of *Low*, *Arora*, *Freeny*, and *Casey* was not considered by the Examiner; there were no anticipatory or obviousness-based rejections against the '920 Patent during prosecution. Accordingly, these references cannot be cumulative of the art considered by the Examiner and/or cited in an Office Action. Further, this Petition asserts unpatentability based on obviousness and ineligible subject matter grounds, which does not overlap with the double-patenting rejection asserted during prosecution of the '920 Patent. Thus, factors (b) and (d) strongly favor institution.

**3. Factors (e) and (f)**

*Becton, Dickinson* Factors (e) and (f) consider "(e) whether Petitioner has pointed out sufficiently how the Examiner erred in its evaluation of the asserted prior art;" and "(f) the extent to which additional evidence and facts presented in the Petition warrant reconsideration of the prior art or arguments."

Petitioner has shown that the Examiner did not evaluate, or erred in its evaluation, of the asserted *Low*, *Arora*, *Freeny*, and *Casey* references. Petitioner has also shown that the Examiner did not evaluate, or erred in its evaluation, of the Section 101 Ground. The arguments set forth in this Petition provide substantial evidence that was not considered by the Examiner. Thus, the Board's consideration of the prior art and arguments is warranted, and factors (e) and (f) strongly favor institution.

# IX. MANDATORY NOTICES, STANDING, AND FEES

## A. Real Parties-in-Interest (37 C.F.R. § 42.8(b)(1))

Alliance Laundry Systems, LLC is the real party in interest for this matter.

## B. Time for Filing (37 C.F.R. § 42.202)

The '920 Patent issued on April 23, 2024. This Petition is being filed by the nine-month deadline of January 23, 2025.

## C. Petitioner's Lead and Backup Counsel and Service Information: 37 C.F.R. § 42.8(b)(3) and (4)

Pursuant to 37 C.F.R. § 42.8(b)(3), Petitioner provides the following designation of counsel:

| Lead Counsel | Backup Counsel |
|---|---|
| Sarah E. Waidelich, Reg. No. 78,706<br>Honigman LLP<br>315 E. Eisenhower Parkway, Suite 100<br>Ann Arbor, MI 48103<br>Telephone: (734) 418-4242<br>Facsimile: (734) 418-4243<br>Email: swaidelich@honigman.com | Scott D. Barnett, Reg. No. 67,309<br>Honigman LLP<br>39400 Woodward Ave., Suite 101<br>Bloomfield Hills, MI 48304<br>Telephone: (248) 566-8416<br>Facsimile: (248) 566-8417<br>Email: sbarnett@honigman.com<br><br>David J. Thomas, Reg. No. 75,471<br>Honigman LLP<br>660 Woodward Avenue, Suite 2200<br>Detroit, MI 48226<br>Telephone: (248) 566-8642<br>Facsimile: (248) 566-8643<br>dthomas@honigman.com<br><br>Jenna E. Saunders, Reg. No. 79,464<br>Honigman LLP<br>321 N. Clark Street, Suite 500<br>Chicago, IL 60654 |

| | |
|---|---|
| | Telephone: 312-429-6046<br>Facsimile: 312-701-9335<br>Email: jsaunders@honigman.com |

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

Service on Petitioner may be made by mail or hand delivery to: Honigman LLP, 315 E. Eisenhower Parkway, Suite 100, Ann Arbor, Michigan 48108. The fax numbers for lead and backup counsel are shown above. Petitioner also consents to electronic service by email at swaidelich@honigman.com and sbarnett@honigman.com.

### E. Grounds for Standing (37 C.F.R. § 42.204(a))

The undersigned and Petitioner certify that (1) the '920 Patent is eligible for PGR and (2) Petitioner is not barred or estopped from requesting PGR of the challenged claims on the grounds identified herein. Petitioner has not filed a civil action challenging the validity of a claim of the '920 Patent; in the Delaware action, Petitioner's Complaint seeks only a declaratory judgment of noninfringement. *See* 35 U.S.C. § 325(a)(1); *see also, e.g.*, *Ariosa Diagnostics v. Isis Innovation Ltd.*, IPR2012-00022, 2013 WL 2181162, at *4–5 (PTAB Feb. 12, 2013).

### F. Payment of Fees (37 C.F.R. § 42.203); Procedural Statements

The undersigned authorizes the Director to charge any required fees, including those due under 37 C.F.R. § 42.15(a), to Deposit Account No. 503145.

Concurrently filed herewith are Powers of Attorney and an Exhibit List per 37 C.F.R. § 42.10(b) and §42.63(e), respectively.

## X. CONCLUSION

Petitioner respectfully requests the Board institute PGR for Claims 1-20 of the ’920 Patent.

Respectfully submitted, Dated: January 17, 2025

By: /Sarah E. Waidelich/

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***Attorney for Petitioner Alliance Laundry Systems LLC***

## CERTIFICATE OF SERVICE OF THE PETITION

The undersigned certifies service pursuant to 37 C.F.R. §§42.6(e) and 42.105(b) on the Patent Owner on the signature date below by Priority Mail Express of a copy of this Petition for PGR, all exhibits thereto, and Petitioner's Power of Attorney, at the correspondence address of record for the '920 Patent:

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Additionally, the undersigned certifies service on the Patent Owner on its litigation counsel in the Delaware Litigation at the email addresses below:

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Dated: January 17, 2025

/Sarah E. Waidelich/
Sarah E. Waidelich (Reg. No. 78,706)

**CERTIFICATE OF COMPLIANCE WITH TYPE-VOLUME LIMITATION, TYPEFACE REQUIREMENTS, AND TYPE STYLE REQUIREMENTS**

This Petition complies with the type-volume limitation in 37 C.F.R. §42.24(a) in that it contains 18,682 words, excluding the parts exempted by 37 C.F.R. § 42.24(a), as measured by the word processing software used to prepare the document.

This Petition complies with the general format requirements of 37 C.F.R. § 42.6(a) and has been prepared using Microsoft Office 365 in 14-point Times New Roman.

Dated: January 17, 2025

/Sarah E. Waidelich/
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