

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

ALLIANCE LAUNDRY SYSTEMS, LLC,
Petitioner,

v.

PAYRANGE LLC,
Patent Owner.

Case No. PGR2025-00028
Patent No. 11,972,423

PATENT OWNER'S RESPONSE

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I. INTRODUCTION

Alliance Laundry Systems, LLC (“Alliance” or “Petitioner”) challenges claims 1-20 of U.S. Patent No. 11,972,423 (“the ’423 patent,” EX1001) based on four grounds: (1) claims 1-6, 8, 10, and 12-20 as anticipated over Low (EX1005); (2) claims 7 and 9 as obvious over Low and Arora (EX1006); (3) claim 11 as obvious over Low, Arora, Freeny (EX1007), and Casey (EX1008); and (4) claims 1-20 as directed to patent-ineligible subject matter. Pet., 6. PayRange LLC (“PayRange” or “Patent Owner”) respectfully requests that the Board issue a final written decision rejecting Petitioner’s grounds of challenge and affirming the patentability of the challenged claims.

With respect to Petitioner’s Ground 1, which challenges claims 1-6, 8, 10, and 12-20 of the ’423 patent as anticipated by the Low reference, Petitioner fails to meet its burden in establishing that Low discloses each and every limitation recited in the claims. For example, each of the challenged claims require *displaying a user interface that is configured to display a visual indication of the one or more payment accepting units* (limitation [1.6]).¹ While Petitioner asserts that the Low

¹ Language recited in the challenged claims is italicized throughout this response. In addition, Patent Owner adopts Petitioner’s labeling for the claim limitations.

reference discloses this limitation, Petitioner fails to cite to any disclosure in Low that expressly describes *display[ing] a visual indication* of a payment accepting unit. Instead, Petitioner argues that, based on Low's discussion that "multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from," a POSA "would understand" that Low's user device "is configured to display" a visual indication of the machines. In the institution decision, although the Board recognized that Low lacks disclosure that the machine identifiers themselves are displayed on the user device, the Board agreed with Petitioner's contention and preliminarily concluded that Low's user device "would necessarily" *display a visual indication* of the machine. However, Low doesn't support even inherent disclosure. Because the record does not support that Low discloses, either expressly or inherently, a *user interface* that is *configured to display a visual indication of the one or more payment accepting units*, Petitioner cannot sustain its burden in establishing that the claims are anticipated by the prior art.

Moreover, additional deficiencies exist with respect to the dependent claims challenged as anticipated by Low. In many instances, Petitioner repeatedly relies on theories as to how a POSA allegedly "would have understood" Low's user device "would" function despite no express disclosure in the reference itself. Such assertions are insufficient to meet the standard of anticipation.

Petitioner also challenges certain dependent claims as obvious over the applied art in Grounds 2 and 3. For example, for Ground 2, Petitioner argues that the combination of Low and the Arora reference discloses the limitations recited in claim 7, with Petitioner alleging that Arora discloses, *based on data from [an] accelerometer, determining whether the user is walking away from the available payment accepting unit*. However, Petitioner’s argument that Arora discloses this limitation is based on a strained reading of Arora. Moreover, Petitioner’s assertion that a POSA would have found it obvious to *cancel[] the wireless communication path upon a determination that the user is walking away from the available payment accepting unit* is based on a tenuous assertion that doing so would “conserve resources” that is not supported by the prior art. In addition, for Ground 3, Petitioner argues that the combination of Low, Arora, and the Freeny and Casey references discloses the limitations recited in claim 11. However, with respect to claim 11’s requirement *the user interface includes ... an affordance that when slid, indicates the initiation of the transaction*, Petitioner improperly relies on distinct embodiments discussed in Low.

Finally, with respect to Ground 4, Petitioner fails to meet its burden in establishing that the challenged claims are patent ineligible under §101. While Petitioner argues that collateral estoppel dictates ineligibility of the challenged claims based on the Board’s final written decision in the ’614 PGR, the claims of

the '423 patent recite material limitations that do not appear in the '614 patent claims. In view of these limitations, Petitioner fails to demonstrate identity of the issues between the claims challenged in this proceeding and those at issue in the '614 PGR, precluding collateral estoppel.

Moreover, Petitioner also fails to establish that the claims of the '423 patent are ineligible based on the merits. For example, Petitioner provides an incomplete and unsupported analysis when asserting that claim 1 of the '423 patent recites the abstract idea of “identifying a merchant and enabling completion of a purchase from the merchant.” Petitioner also improperly evaluates the claim in a vacuum and fails to properly address the claim as an ordered combination in arguing that it does not integrate any alleged judicial exception into a practical application. Finally, Petitioner’s assertions that claim 1 merely adds well-understood, routine, and conventional features rely on the improper application of an obviousness standard. This is not only misplaced as a matter of law but also makes the shortcomings of Grounds 1-3 dispositive as to Ground 4 as well. Petitioner’s analysis with respect to the dependent claims exhibits the same deficiencies.

For these reasons, and as discussed in more detail below, the Board should find that Petitioner has not met its burden to prove that the challenged claims of the '423 patent are unpatentable.

II. PERSON OF ORDINARY SKILL IN THE ART

For the purposes of this proceeding, Patent Owner applies the level of ordinary skill in the art provided in the petition. Pet., 20. Submitted with this response is the declaration of Dr. Jeffrey Miller, Ph.D., who is qualified to opine on the person of ordinary skill in the art (“POSA”) as of December 18, 2013. EX2008, ¶¶35-36; *see also id.*, ¶¶1-11 (detailing qualifications); EX2009 (Miller CV).

III. CLAIM CONSTRUCTION

A claim subject to post-grant review receives its plain and ordinary meaning, interpreted in light of the specification of the patent in which it appears. *See* 37 C.F.R. §42.200(b). Petitioner states “the Board need not construe any claim terms to resolve the parties’ disputes, and the claims should be given their ordinary and customary meaning.” Pet., 20-21. For the purposes of this proceeding, Patent Owner submits that no constructions are required to reach a decision rejecting the merits of Petitioner’s grounds. *See* EX2008, ¶¶37-39.

IV. GROUND 1: CLAIMS 1-6, 8, 10, AND 12-20 ARE NOT ANTICIPATED BY LOW

Petitioner’s Ground 1 asserts that claims 1-6, 8, 10, and 12-20 are anticipated by Low. As explained below, the petition fails to establish that Low discloses each of the limitations recited in the independent claims. In particular, the petition fails to show that Low discloses *[a] user interface that is configured to*

display a visual indication of the one or more payment accepting units (limitation [1.6]) because it relies on an unsupported assertion that Low’s user interface would inherently display *a visual indication* of the vending machine. Moreover, with respect to several of the challenged dependent claims, additional, independent reasons exist as to why the petition fails to establish that Low anticipates the claims. EX2008, ¶40.

For the reasons detailed below, Petitioner fails to meet its burden in establishing the unpatentability of claims 1-6, 8, 10, and 12-20 as anticipated by Low.

A. Independent Claim 1 Is Not Anticipated by Low

1. Petitioner fails to show that Low discloses limitation [1.6]

Limitation [1.6] recites the display of a user interface on the mobile device where *the user interface [is] configured to display a visual indication of the one or more payment accepting units*. EX2008, ¶41. Petitioner argues that Low discloses this limitation through its discussion of “a machine identifier.” See Pet., 26-27. In particular, Petitioner contends that Low “teaches that a NICM ‘transmits a machine identifier to the user device’” (which Petitioner maps to the claimed *mobile device*). *Id.*, 26. Based on Low’s description that “multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from” (EX1005, 2:26-28), Petitioner asserts that “[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.” Pet., 26-27. As explained below, Petitioner fails to establish that Low discloses that its user interface is *configured* as claimed. Low does not describe displaying a visual indication of the vending machine on the user device and Low does not support a finding that a visual indication of the vending machine would necessarily be displayed on the user device. EX2008, ¶¶41-42.

First, the petition fails to show that Low expressly discloses displaying a visual indication of the vending machine on the user device. EX2008, ¶43. The portions of Low cited by the petition do not describe a user interface nor what is displayed on it. See Pet., 26-27 (citing EX1005, 2:16-20, 2:26-28, 8:66-9:2). To the extent Petitioner maps Low’s “machine identifier” to the claimed *visual indication*, there is no description in Low that the machine identifier is actually displayed on a user interface. Instead, as Dr. Miller explains, Low describes the machine identifier as data that is communicated between the vending machine, user device, and payment provider server in order to facilitate a transaction. EX2008, ¶43. For example, Low explains that the payment provider server 140 can “transmit[] information about items for sale” at a vending machine to a user device, which “may be transmitted in response to a request by user device 110.”

EX1005, 8:61-66. This can occur when a user “access[es] electronic payment module 1430” on the vending machine, which causes the user device to “receive a machine identifier” and transmit it “to payment provider server 140 to receive information corresponding to vending machine 120.” *Id.*, 8:61-9:4; *see also id.*, 2:16-20 (stating the NICM “transmits a machine identifier to the user device, which allows the user device to retrieve a menu of items at the specific machine from the payment provider”). Thus, Low describes the machine identifier as transmitted data that allows the payment provider server to retrieve and provide information specific to the machine (*e.g.*, the items for sale at the machine). EX2008, ¶43.

In the institution decision, the Board agreed that “the cited disclosures in Low do not support th[e] contention” that “Low’s user device 110 specifically displays a machine identifier 136 on its display.” Inst. Dec., 36. However, the Board found that the cited disclosures support the “more general contention” that Low’s user device 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.” *Id.*, 36-37 (emphasis omitted). In particular, based on Low’s description that “multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from” (EX1005, 2:25-28), the Board concluded that “in order for the user to select a specific

vending machine 120 to make a purchase, user device 110 **would necessarily** ‘display a visual indication’ of that machine as broadly recited in limitation [1.6] (otherwise the user would not be able to make a selection).” *Id.*, 37 (emphasis added).

Low does not support a finding that its user device would **necessarily** *display a visual indication* of the vending machine. EX2008, ¶¶44-45. That is, a POSA reading Low would have understood that, when Low states that “multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from” (EX1005, 2:25-28), there would be scenarios that would **not** involve displaying a visual indication of the vending machine on the user interface of Low’s user device. *Id.*, ¶45.

More specifically, the relevant portion of Low states:

The non-Internet connected machine (NICM) transmits a machine identifier to the user, which allows a user device to retrieve a menu of items at the specific machine from the payment provider or an operator of the machine. In some embodiments, the NICM, the payment provider, and/or the operator of the machine may send product details to the user device to upsell or advertise products available on the NICM. The menu is then displayed on the user device, and the user selects desired item(s) for purchase. Note that in some embodiments, multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from.

EX1005, 2:16-28.

A POSA would not have understood from this description in Low that a visual indication of the vending machine necessarily would be displayed on the user device. EX2008, ¶¶46-47. For example, a POSA would have understood that Low’s description could be accomplished by displaying on the user device all the products available at the machines that transmitted a machine identifier. *Id.*, ¶47. That is, just as when a machine “transmits a machine identifier to the user, which allows a user device to retrieve a menu of items at the specific machine from the payment provider,” when multiple machines send their unique identifiers, the payment provider would similarly retrieve a menu (or menus) of items available at the machines, which would then be displayed on the user device, allowing the user to “select[] desired item(s) for purchase.” EX1005, 2:16-28; EX2008, ¶¶47, 49 (describing various configurations). Consistent with Low’s description, by displaying one or more menus of the items that are available at the machines, a POSA would have understood that this would allow the user to “select one or more machines to purchase from” by “add[ing] desired item(s) from one or more machines to a cart and make the purchase through a payment provider.” EX1005, 2:25-31. In this case, a POSA would have understood that *a visual indication* of the vending machines would not **necessarily** be displayed on the user device because the user would only be presented with the **items** that can be purchased from the machines. EX2008, ¶47.

In fact, Petitioner’s expert, Dr. Neuman, concedes that there were other ways to implement Low “such that the user is able to select one or more machines to purchase from” **without** displaying a visual indication of the vending machine. EX2008, ¶48. Specifically, in asserting that Low discloses a user device configured to *accept user input selecting an available payment accepting unit of the one or more payment accepting units* (as recited in limitation [1.7]), Dr. Neuman relies on the same description in Low that “multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from.” EX1003, ¶83 (quoting EX1005, 2:26-28 (emphasis omitted)). Based on this description, Dr. Neuman argues that “the user device 110 is configured to **display either** (i) 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 or (ii) products available at particular machines, whereby selecting the product(s) necessarily selects the available machine that offers the product(s).” *Id.* (emphasis added).

Dr. Neuman’s declaration testimony therefore admits that a POSA would have recognized different ways in which a user could select a machine to purchase from that would be consistent with Low’s description and at least one of those ways do not require a visual indication of the vending machine itself. EX2008, ¶48. Indeed, as Dr. Miller explains, there would have been many possible

configurations that did not involve the display of a visual indication of the vending machine even within the two categories listed by Dr. Neuman. *Id.*, ¶49 (discussing, *e.g.*, the use of external cues, such as audio indications, to indicate the available machines from which to select, or machine selection via interaction with the machine). As such, a POSA would not have understood from Low that when it states that “multiple machines may send their unique identifiers, such that the user is able to select one or more machines to purchase from” (EX1005, 2:25-28), this means that the user device 110 would necessarily *display a visual indication* of the machine. EX2008, ¶¶49-50.

Accordingly, Petitioner fails to meet its burden in establishing that Low discloses limitation [1.6]. Furthermore, for the reasons above, Petitioner has failed to meet its burden in showing that Low anticipates independent claim 1.

B. Independent Claims 13 and 15 Are Not Anticipated by Low

Petitioner relies on its claim 1 analysis for the corresponding limitations recited in independent claims 13 and 15. *See* Pet., 39-46. Accordingly, for the same reasons detailed above, Petitioner fails to meet its burden in proving claims 13 and 15 are anticipated by Low. EX2008, ¶51.

C. Dependent Claims 2-6, 8, 10, 12, 14, and 16-20 Are Not Anticipated by Low

Petitioner’s Ground 1 also challenges dependent claims 2-6, 8, 10, 12, 14, and 16-20 as allegedly anticipated by Low. Pet., 6. Claims 2-6, 8, and 10 depend

from independent claim 1, claims 12 and 14 depend from independent claim 13, and claims 16-20 depend from independent claim 15. These claims are not anticipated by Low for the same reasons identified above with respect to claims 1, 13, and 15. Below, additional discussion for certain dependent claims identifies further reasons why Petitioner fails to meet its burden in showing the unpatentability of the challenged claims.

1. Claims 2 and 16

Claim 2 depends from claim 1 and further recites *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; a banner notification displayed on a display of the mobile device; and/or a visual alert from one or more LEDs of the mobile device.*

Petitioner argues that Low discloses *a message displayed on the display of the mobile device* as recited in claim 2 based on Low's description 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.'" Pet., 33 (citing EX1005, 7:24-39) (emphasis omitted). Petitioner further asserts that "[a] POSA would understand that the message displayed to user 102 would be displayed on the user interface of the user device 110." See Pet., 33. Petitioner's assertion is conclusory.

EX2008, ¶¶53-54. A POSA would have understood from Low that it would not necessarily be the case that the message “would be displayed” on the user device and instead could be displayed on the vending machine itself. EX2008, ¶54. For example, Low describes that the vending machine 120 may include a display capable of displaying information to the user. See EX1005, 2:40-41 (displaying a user identifier at the machine), 5:19-24 (product dispensing module 122 may include a display), 12:52-62 (stating user device processor may process signals for display on the user device or “transmission to other devices via a communication link 418”). Petitioner provides no basis for its assertion that Low’s message “would be displayed” on the user device. EX2008, ¶54.

Claim 16 depends from claim 15 and recites the same limitations as claim 2. Petitioner argues that “Low teaches this limitation for the same reasons stated” for claim 2. Pet., 46. Accordingly, for the additional reasons explained above, Petitioner fails show that Low anticipates the limitations of claims 2 and 16. EX2008, ¶¶55-56.

2. Claim 3

Claim 3 depends from claim 1 and further recites *wherein the information indicates completion of the transaction between the user of the mobile device and the available payment accepting unit*. The claimed *information* refers to the

information that is exchanged between the mobile device and the available payment accepting unit as recited in limitation [1.10]. EX2008, ¶57.

Petitioner argues that Low discloses the additional limitations of claim 3 because Low teaches that “payment provider server 140 includes generally a database 146, which ‘include[s] information associated with the **transaction** history processing’ described in Low.” Pet., 33 (alteration and emphasis in original). Petitioner asserts that “[a] POSA would understand this information indicates completion of a transaction (i.e., the transaction).” *Id.* As explained below, Petitioner fails to show how “information associated with the transaction history processing” that is saved on the payment provider server’s database means that the information *indicates completion of the transaction* and was exchanged between the user device and the vending machine prior to storage at the payment provider server. EX2008, ¶¶58-59.

As an initial matter, Petitioner makes no attempt to show that the information associated with the transaction history processing saved on the payment provider server’s database is exchanged between the mobile device and the available payment accepting unit as required by limitation [1.10]. See Pet., 33. This failure to identify, with particularity, how Low discloses each and every element required by the claim is reason alone to find that Petitioner has failed to meet its burden in establishing that Low anticipates claim 3. See 37 C.F.R.

§42.204(b)(4) (“the petition must specify where each element is found in the prior art”).

Even setting aside the fact that the petition fails to set forth a complete anticipation theory, Petitioner’s expert, Dr. Neuman, alleges that “the transaction history is a record of one or more completed transactions, and this information is exchanged between the user device 110 and the vending machine 120 and ultimately sent to the payment provider server 140 via the network 160.” EX1003, ¶101. However, Low does not disclose this. EX2008, ¶60. Dr. Neuman provides two citations to Low, but neither provides disclosure of the vending machine and the user device exchanging information that the transaction is complete, which is then stored at the payment provider server. *See* EX1005, 4:45-48 (stating user device includes a communication module), 7:22-25 (stating “[d]atabase 146 may also include information associated with the transaction history processing described herein”); EX1003, ¶101 (citing same); EX2008, ¶60.

Instead, as Dr. Miller explains, the more straightforward reading of Low’s statement that “[d]atabase 146 may also include information associated with the transaction history processing described herein” is that the database can store a history of the payment provider’s processing of the transaction (*i.e.*, a history of the receipt of purchase requests from the user device and the sending of approvals to the user device). EX2008, ¶61. For example, Low explains that “database 146

may be configured to interact with transaction processing application 142 on behalf of user 102 during a transaction with purchase application 112 to handle payments using account information corresponding to user 102.” EX1005, 7:24-28. Low also explains that “transaction processing application 142,” which is included on the payment provider server 140, is “configured to receive a payment request and respond with an approval for transmission to a vender.” *Id.*, 6:51-62. Thus, when Low states that database 146 “may also include information associated with the transaction history processing described herein,” a POSA would have understood Low was referring to a history of the processing performed by the transaction processing application (*i.e.*, a history of the processing of received purchase requests and transmitted approvals), as opposed to “a record of one or more completed transactions” that is first exchanged between the user device and the vending machine and then sent to the payment provider server, as Dr. Neuman asserts.² EX2008, ¶62.

² While Petitioner identifies the vending machine’s receipt of an approval from the user device as the claimed *information* for limitation [1.10], neither Petitioner nor Dr. Neuman alleges that this approval is a “record of one or more completed transactions.” Nor could Petitioner make this assertion because Dr. Neuman argues that a POSA would have understood that the record is exchanged between

Accordingly, for these additional reasons, Petitioner fails to show that Low discloses the limitations of claim 3. EX2008, ¶64.

3. Claim 4

Claim 4 depends from claim 3 and further recites *wherein the mobile device includes a long-range transceiver and the information at least includes an amount of the completed transaction, and the method further comprises: sending at least the amount of the completed transaction to a server via the long-range transceiver.*

Petitioner's arguments for claim 4 fail for the same reasons described above with respect to claim 3. EX2008, ¶¶65-66. That is, Petitioner fails to show how "information associated with the transaction history processing" that is saved on the payment provider server's database means that the information was exchanged between the user device and the vending machine prior to storage at the payment provider server. *See* Pet., 34; EX2008, ¶66. Moreover, Petitioner additionally relies on Low's description that "a purchase request" may include a "product

the vending machine and the user device and "ultimately sent to the payment provider server." EX1003, ¶101. A POSA would not understand Low to describe that an approval first transmitted by the payment provider server to the user device (and then to the vending machine) would then be transmitted back to the payment provider server for storage. EX2008, ¶63.

price” as satisfying the claimed *information* that *at least includes an amount of the completed transaction*. Pet., 34. However, Petitioner relies on Low’s description of a purchase request generated by the vending machine in connection with embodiments where the user uses the vending machine itself to select a product for purchase. *See id.* (citing EX1005, 6:3-8); EX1005, 6:3-8 (stating “[i]n other embodiments, payment verification application 132 [of the vending machine] may first transmit a purchase request including a ... product price ... to user device 110”); *infra*, §VI (providing further detail on Low’s different embodiments); EX2008, ¶¶67, 99-102. Thus, Petitioner also fails to establish that Low discloses the limitations of claim 4 for similar reasons as those described below for dependent claim 11, because Petitioner improperly relies on distinct embodiments of Low. *See infra*, §VI.

Accordingly, for these additional reasons, Petitioner fails to show that Low discloses the limitations of claim 4.

4. Claims 5 and 18

Claim 5 depends from claim 1 and further recites *wherein the information indicates abortion of the transaction initiated by the user of the mobile device*.

Petitioner argues that Low discloses the limitations of claim 5 because 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.”

Pet., 35. According to Petitioner, “[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 is aborted (e.g., because of a restriction and/or limitation on the user account or inadequate funds).” *Id.* Petitioner further argues that *Low* “contemplates the user device 410 transmitting information indicating an abortion of the transaction ... to the vending machine 420.” *Id.*

Petitioner’s arguments that *Low* discloses the limitations of claim 5 are speculative, lack support in the reference, and are insufficient to support a finding of anticipation. EX2008, ¶¶69-72. *Low* does not describe transmitting information indicating an abortion of the transaction to the vending machine. *Id.*, ¶72. The only basis Petitioner identifies is that “a POSA would understand” that *Low* transmits such information, which is based solely on *Low*’s statement that the server may “take appropriate actions as desired” when it determines if there are any restrictions and/or limitations corresponding to the user account. *See* Pet., 35 (citing EX1005, 10:41-54). However, Petitioner provides no evidence from *Low* that either expressly discloses or inherently discloses that *information* that *indicates abortion of the transaction* is exchanged with the mobile device and payment accepting unit, which is required to establish anticipation of a claim. *See*

Verdegaal Bros. v. Union Oil Co. of California, 814 F.2d 628, 631 (Fed. Cir. 1987) (“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.”). As Dr. Miller explains, a POSA would have understood that these “appropriate actions” may simply include informing the user of the restriction or limitation (*e.g.*, informing the user that there are inadequate funds), at which point, the user can walk away from the vending machine. EX2008, ¶72. In this scenario, no information is exchanged between the user device and the vending machine that *indicates abortion of the transaction. Id.* Petitioner provides no basis why Low discloses, either expressly or inherently, that information indicating abortion of the transaction is transmitted to the vending machine. *Id.*

Claim 18 depends from claim 15 and recites the same limitations as claim 5. Petitioner argues that “Low teaches this limitation for the same reasons stated” for claim 5. Pet., 46. Accordingly, for the additional reasons explained above, Petitioner fails to show that Low discloses the limitations of claims 5 and 18. EX2008, ¶¶73-74.

5. Claims 6 and 19

Claim 6 depends from claim 1 and further recites *wherein the information indicates failure of the transaction initiated by the user of the mobile device or a malfunction associated with the available payment accepting unit.* Petitioner

argues that Low discloses the limitations of claim 6 based on reasoning identical to that asserted for claim 5. See Pet., 35-36. Thus, Petitioner fails to establish that Low discloses the limitations of claim 6 for the same reasons identified with respect to claim 5. *Supra*, §IV.C.4; EX2008, ¶¶75-78.

Claim 19 depends from claim 15 and recites the same limitations as claim 6. Petitioner argues that “Low in view of Arora in further view of Freeny teaches this limitation for the same reasons stated” for claim 6. Pet., 46. Accordingly, Petitioner fails to show that Low discloses the limitations of claims 6 and 19. EX2008, ¶79.

6. Claim 10

Claim 10 depends from claim 1 and further recites *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.*

Petitioner argues that Low discloses the limitations of claim 10 because Low “teaches that ‘[i]nventory data 154 may be received from vending machine 120, for example using an Internet connection of user device 110.’” Pet., 38. Based on this disclosure, Petitioner argues that “[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.” *Id.*

Petitioner’s characterization that “the inventory data 154 could not be received unless the wireless communication path [between the user device and vending machine] had successfully been established” is incorrect. EX2008, ¶¶80-82. Low explains that inventory data is communicated to the user device for display via the payment provider server. *See* EX1005, 2:16-20 (stating user device retrieves a menu of items from the payment provider), 9:8-11 (stating payment provider server may transmit “list of products”); EX2008, ¶83. Low also describes that this inventory data can be transmitted to the user device even in instances where the user device is **not** in communication range with the vending machine. *See* EX1005, 9:18-23 (stating, in instances where “a user may not know a location of a NICM,” the user “may utilize a user device to access payment provider server 140 and receive locations of available NICMs with lists of available products at each machine”), 9:62-65 (stating “user device 110 may remotely purchase an item from products 124 without a short range communication link established concurrently with vending machine 120”). Thus, Petitioner’s assertion that the display of inventory data on the user device itself *indicates that the wireless communication path has been established* is without basis as Low expressly teaches that inventory data can be displayed on the user device **without** an

established wireless communication between the user device and vending machine. EX2008, ¶¶83-84.

Accordingly, for these additional reasons, Petitioner fails to show that Low discloses the limitations of claim 10.

7. Claim 17

Claim 17 depends from claim 15 and recites substantially the same limitations as those recited in claims 3 and 4. Petitioner argues that “Low teaches this limitation for the same reasons stated” for claims 3 and 4. Pet., 46.

Accordingly, for the same reasons explained above with respect to claims 3 and 4, Petitioner fails to show that Low discloses the limitations of claim 17. *Supra*, §§IV.C.2-3.

V. GROUND 2: CLAIMS 7 AND 9 ARE NOT OBVIOUS OVER LOW AND ARORA

For its Ground 2, Petitioner relies on Arora as allegedly teaching the limitations of dependent claims 7 and 9, each of which depend from independent claim 1. Pet., 47-55. Because Petitioner does not rely on Arora for its analysis related to independent claim 1, Petitioner has failed to show that claims 7 and 9 are unpatentable for the same reasons explained above with respect to Ground 1. EX2008, ¶85. Below, additional discussion for claim 7 identifies further reasons why Petitioner fails to meet its burden in showing the unpatentability of the claim.

Claim 7 depends from claim 1 and further recites *wherein the mobile device includes an accelerometer and the method further comprises: 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.*

Petitioner concedes that Low does not disclose the limitations recited in claim 7 and thus turns to Arora as allegedly disclosing the limitations. Pet., 47-48, 51-53. However, as detailed below, Petitioner fails to establish that Arora teaches each of the elements of claim 7. EX2008, ¶¶86-87.

First, Petitioner asserts that Arora discloses, *based on data from [an] accelerometer, determining whether the user is walking away from the available payment unit* because Arora teaches “two vending machines 30, 31 ... that define multiple transaction distances” and also teaches that “the location of the customer relative to the vending machine 30, 31 may be determined through ‘[i]nertial guidance [which] may use an accelerometer.’” Pet., 51-52 (alterations original). However, as Dr. Miller explains, there is no disclosure in Arora describing the use of an accelerometer to determine whether a user is walking away from the vending machine. EX2008, ¶¶88-89. Arora describes only “determin[ing] whether or not a customer is within a particular transaction distance of a particular vending machine

or vending group.” EX1006, 18:37-42. For example, in discussing FIG. 1, Arora describes “four transaction distances from a vending machine,” including a “dispensing distance,” an “identification distance,” a “within sight” distance, and a “potential buyer” distance. *Id.*, 12:34-13:5. Arora explains that “[w]hen the customer [is] within the transaction distance,” a message “appropriate to the potential transaction is sent to the customer.” *Id.*, 18:44-47, FIG. 6; EX2008, ¶90. If no response is received within a timeout period, the user’s position is again determined and the process repeats. *See* EX1006, 18:53-55 (“If no response is received within a timeout period ..., the flowchart restarts at 89.”), FIG. 6 (step 89, “Customer Transaction Distance to Vending Machine?”). If a response is received and validated, Arora teaches that the system then “wait[s] until dispensing distance is confirmed.” *Id.*, 18:56-19:1. Thus, Arora describes use of an accelerometer in relation to determining a user’s distance from a machine and whether that distance falls within “a particular transaction distance.” EX2008, ¶90. Petitioner does not explain how Arora’s determination of a transaction distance equates to disclosure that the system determines how a user is moving relative to a machine, including making a determination that the user is *walking away* from the machine as recited in claim 7. *Id.*; *see also id.*, ¶¶91-93 (further addressing Dr. Neuman’s mischaracterizations of Arora’s disclosure).

In addition, Petitioner fails to establish that “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.” Pet., 52-53. In addition to failing to identify any support in Arora for determining that a user is walking away based on accelerometer data, Petitioner also fails to identify any disclosure in either Low or Arora that discusses canceling a communication link between the user device and the vending machine (*e.g.*, as opposed to just letting the user walk out of range or timing out a transaction). EX2008, ¶94. In addition, as Dr. Miller explains, a POSA would not have understood that canceling the communication link between Low’s user device and vending machine would “conserve resources.” *Id.*, ¶95-96. Instead, a POSA would have understood that this may lead to unnecessary use of additional resources, such as resources needed to reestablish a connection, and that more efficient means to manage connections, such as based on timing, were known. *Id.*

Accordingly, for these additional reasons, Petitioner fails to show that the combination of Low, Arora, and Freeny teaches the limitations of claim 7.

VI. GROUND 3: CLAIM 11 IS NOT OBVIOUS OVER LOW, ARORA, FREENY, AND CASEY

For its Ground 3, Petitioner further relies on Arora, Freeny, and Casey as allegedly teaching the limitations of dependent claim 11, which depends from

independent claim 1. Pet., 55-71. Because Petitioner does not rely on Arora, Freeny, or Casey for its analysis related to independent claim 1, Petitioner has failed to show that claim 11 is unpatentable for the same reasons explained above with respect to Ground 1. EX2008, ¶97.

Claim 11, which depends from claim 1, recites in part *the user inface of the mobile payment application, after establishing the wireless communication path, includes ... an affordance that when slid, indicates the initiation of the transaction.* *Id.*, ¶98. Petitioner argues that Low teaches an *affordance* because it discloses “a payment button or option on the user device.” Pet., 69-70 (citing EX1005, 2:49-62). As detailed below, Petitioner fails to show that the combination of Low, Arora, Freeny, and Casey teach the claimed *affordance* because the petition relies on “a payment button or option on the user device” that Low describes in relation to a different embodiment, separate from the embodiment the petition relies on as disclosing other limitations recited in claim 1. EX2008, ¶¶98-99. Petitioner conflates the two embodiments without acknowledging their differences or proposing to combine them.

Low describes two approaches by which a user can purchase a product from a vending machine. *Id.*, ¶100. In the first embodiment, the user device can receive a list of products and the user can select a desired product using the user device. *Id.* For example, Low describes a process in which “[t]he non-Internet connected

machine (NICM) transmits a machine identifier to the user device, which allows the user device to retrieve a menu of items at the specific machine from the payment provider or an operator of the machine.” EX1005, 2:16-20; *see also id.*, 4:2-5 (stating the purchase application “may access a menu”). After the user selects the desired items, Low explains that a “purchase request is communicated to the payment provider over a wireless network,” which “processes the request, and if approved, sends approval information back to the user device.” *Id.*, 2:29-34. “[T]he user device communicates the approval information to the machine, which then dispenses the purchased item(s).” *Id.*, 2:34-37; EX2008, ¶100.

In an alternative method, Low describes “other embodiments” where the user uses the vending machine itself to select a product. EX2008, ¶101. In this second embodiment, “[t]he user device transmits a user identifier to the machine for display” on the machine. EX1005, 2:38-41. “During display of the user identifier, the user can select one or more items for purchase from the machine.” *Id.*, 2:41-43. After the user selects a product from the machine, “[t]he machine then transmits a purchase request ... back to the user device,” which “displays the purchase request.” *Id.*, 2:43-46; *see also id.*, 4:5-13 (stating, “in other embodiments, purchase application may interface with a corresponding module at vending machine 120 and receive a purchase request”), 6:3-8 (stating, “in other embodiments, payment verification application 132 [of the electronic payment

module 130] may first transmit a purchase request”). Low explains that, “[i]f the information is correct, the user selects a payment button or option on the user device, which communicates the payment request to a payment provider.” *Id.*, 2:47-49. The payment provider may then process and, if approved, communicate an approval to cause the machine to dispense the selected product. *Id.*, 2:49-62.

Thus, as Dr. Miller explains, a POSA would have understood Low as describing two separate ways in which a user can purchase a product from a vending machine: (1) items that can be purchased from a machine can be displayed on the user device, which the user can select from using the user device, causing a purchase request to be generated by the user device and transmitted to the payment provider for approval; or (2) the user can select a product to purchase by making the selection at the vending machine itself, upon which the machine transmits a purchase request to the user device for review by the user, which, after selecting a payment button or option on the user device, causes the communication of a payment request to the payment provider. EX2008, ¶102; EX1005, 2:11-62, 10:26-34; *see also* EX2010, 107:1-108:24 (Dr. Neuman agreeing that Low teaches two ways a user can select a product for purchase, *i.e.*, with the user device or with the vending machine).

For most of the limitations recited in claim 1, the petition relies on the first embodiment described in Low—*i.e.*, the display and selection of purchase products

on the user device—as mapping to recited elements. EX2008, ¶103. For instance, Petitioner and Dr. Neuman map Low’s “menu ... displayed on the user device, and the user selects desired item(s) for purchase” to the *displaying* requirements of limitation [1.5]. Pet., 26 (quoting EX1005, 2:24-25); EX1003, ¶79 (citing same). Petitioner and Dr. Neuman also cite to the embodiment in relation to several other limitations, including the preamble, limitations [1.2]-[1.3], and [1.6]-[1.9]. See Pet., 24 (citing EX1005, 2:26-28), 25 (citing EX1005, 2:16-20), 26-27 (citing EX1005, 2:16-20, 2:26-28), 27 (citing same); EX1003, ¶¶69, 73, 75, 81, 83, 85, 87. Indeed, the Board cited to this embodiment when it “agree[d] with Petitioner’s contention that Low’s purchase application 112 enables a user to interact with the user interface of user device 110 to complete a transaction,” concluding that the “user selection of products to be purchased from a selected vending machine 120 utilizing the user interface of user device 110 is a necessary part of ‘complet[ing] a transaction’ per limitation [1.9].” Inst. Dec., 41-42.

In contrast, Petitioner turns to Low’s second embodiment—the user’s selection of a product on the vending machine itself—in contending that Low discloses an *affordance* as recited in claim 11. Pet., 69 (citing EX1005, 2:46-49); see also EX1003, ¶280. That is, Petitioner cites to Low’s description where, after the user has used the vending machine to select a product, the “user device displays the purchase request [received from the vending machine] and, if the information is

correct, the user selects a payment button or option on the user device.” EX1005, 2:38-62; EX2008, ¶101. However, Low only describes the use of a payment button in relation to embodiments where the user selects the product using the vending machine, not in relation to embodiments where the user uses the user device to view and select products. EX2008, ¶104. Petitioner and its expert do not acknowledge or address this distinction, making Petitioner’s showing deficient.

Thus, Petitioner fails to satisfy its burden in showing that the combination of Low, Arora, Freeny, and Casey teach the claimed *affordance* recited in claim 11. *Id.*, ¶105.

VII. GROUND 4: CLAIMS 1-20 ARE DIRECTED TO PATENT-ELIGIBLE SUBJECT MATTER

Petitioner’s Ground 4 asserts that claims 1-20 are patent ineligible under §101 for two reasons. First, Petitioner argues that collateral estoppel applies as to the patent eligibility of the ’423 patent claims in view of the Board’s final written decision in the ’614 PGR. Second, even if collateral estoppel does not apply, Petitioner argues that the ’423 patent claims are directed to an abstract idea and fail to provide an inventive concept transforming the abstract idea into a practical application. As explained below, Petitioner fails to satisfy its burden that claims 1-20 are directed to patent-ineligible subject matter, either due to collateral estoppel or on the merits.

A. Petitioner Fails to Establish that Collateral Estoppel Applies

Petitioner argues that the Board can decide the issue of the patent eligibility of the '423 patent claims based on collateral estoppel because the identical issue was previously litigated and finally decided by the Board in the '614 PGR. *See* Pet., 72-76. Petitioner asserts that because “[t]he Challenged Claims of the '423 Patent are materially identical to the claims of the '614 Patent that the Board has already found ineligible,” then collateral estoppel as to the issue of patent eligibility should apply. *Id.*, 73.

Collateral estoppel only applies if: “(1) the issue necessarily decided in the previous proceeding is identical to the one which is sought to be relitigated; (2) the first proceeding ended with a final judgment on the merits; and (3) the party against which collateral estoppel is asserted was a party or in privity with a party at the first proceeding.” *e.Digital Corp. v. Futurewei Techs., Inc.*, 772 F.3d 723, 726 (Fed. Cir. 2014). It is Petitioner’s burden to prove that collateral estoppel is applicable to the challenged claims. *See Novartis Pharms. Corp. v. Abbott Labs.*, 375 F.3d 1328, 1334 (Fed. Cir. 2004) (finding no application of collateral estoppel when party asserting its application failed to meet its burden in showing that the issue was necessary to the prior decision); *Apple Inc. v. VirnetX Inc.*, IPR2016-00332, Paper 29, 11 (PTAB Jun. 22, 2017) (finding petitioner failed to meet its burden of showing application of collateral estoppel). Here, Petitioner has failed to

meet its burden in proving that collateral estoppel applies to the issue of patent eligibility in this proceeding because Petitioner has failed to show that the issue is identical to the issue decided in the '614 PGR.

1. Petitioner concedes collateral estoppel does not apply to claims 7, 11-12, and 20

As an initial matter, Petitioner identifies only challenged claims 1-6, 8-10, and 13-19 as “materially identical” to claims of the '614 patent that were found unpatentable by the Board. *See* Pet., 73-76. Thus, Petitioner does not assert that collateral estoppel applies to claims 7, 11-12, and 20 of the '423 patent. *Id.* Thus, the Board must, at minimum, address the merits of Petitioner’s arguments that these claims are directed to patent-ineligible subject matter as advanced in the petition.

2. Petitioner fails to show that the issue of patent eligibility is identical

For claims 1-6, 8-10, and 13-19, Petitioner fails to meet its burden in showing that the claims recite limitations that are “materially identical” to the claims of the '614 patent in a way that does not “materially alter the question of invalidity” decided in the '614 PGR. *See Google LLC v. Hammond Development Int’l, Inc.*, 54 F.4th 1377, 1381 (Fed. Cir. 2022) (explaining “collateral estoppel requires that the *issues of patentability* be identical” (emphasis original)). As

explained below, claim 1 of the '423 patent recites limitations that raise issues that were not decided by the Board in the '614 PGR.

Petitioner acknowledges that each of independent claims 1, 13, and 15 recite limitations that do not appear in the claims of the '614 patent found ineligible in the '614 PGR. Pet., 74-75. For example, claim 1 of the '423 patent (and corresponding limitations recited in claims 13 and 15) recites *identifying one or more payment accepting units that is based at least in part on an identifier corresponding to the one or more payment accepting unit* (limitation [1.3]). In contrast, claim 1 of the '614 patent addressed by the Board recited *identifying one or more payment accepting units that includ[es] detecting predefined radio messages broadcast by the one or more payment accepting units*. See EX1011, 1 (comparing limitations). While Petitioner argues that limitation [1.3] of the '423 patent is “broader because it allows the identifying to be based on any generic ‘identifier,’ whereas the '614 Patent required that the identifying be based on the narrower ‘detecting predefined radio messages,’” Petitioner provides no evidence, either from the specification or from prior Board findings, that would support this assertion. As Dr. Miller explains, a POSA would have understood claim 1 of the '614 patent to be reciting a particular communication medium that is detected in order to identify a payment accepting unit (*i.e.*, predefined radio messages), while limitation [1.3] of the '423 patent recites the type of content (*i.e.*, an identifier) that

is used to identify a payment accepting unit. EX2008, ¶¶106-110. In fact, the specification treats these terms as distinct features and even describes the type of content recited in limitation [1.3] as narrower than the predefined radio messages recited in claim 1 of the '614 patent. *See, e.g.*, EX1001, 11:36-37 (referring to a “message” as “a communication or transmission”), 13:41-46 (stating “messages” can “include various types of information and/or instructions”), 29:48-55 (describing “a packet 1100 of information broadcast by the payment module 100,” which includes “module ID 1102”), 29:56-59 (stating “the module ID 1102 is a unique identifier corresponding to the payment module 100”); EX2008, ¶110. In addition, as to the issue of the patent eligibility of claim 1 of the '614 patent, the Board only opined on the impact of “predefined radio messages” on the §101 analysis. *See, e.g.*, '614 PGR FWD, 27 (rejecting Patent Owner’s argument that “the recited predefined radio message” provides a technical solution and noting that the claims do not “specify[] the content of the message”), 37 (disagreeing that “predefined radio messages” provide an inventive concept). Petitioner does not explain how the Board’s findings relating to arguments advanced for the limitation “detecting predefined radio messages” necessarily decides the issue of patent eligibility of claims reciting identification requiring other means, *i.e., based on an identifier corresponding to the one or more payment accepting unit.*

Accordingly, Petitioner fails to meet its burden in establishing that the issue of patent eligibility is identical to that decided in the '614 PGR.

3. Petitioner fails to show that collateral estoppel applies on a limitation-by-limitation basis

Finally, Petitioner fails to meet its burden in showing that “even if the Board were to find that these limitations raise a new issue of validity, collateral estoppel must still apply to the Board’s findings regarding all materially identical limitations of the ’423 patent.” Pet., 75. As an initial matter, Petitioner’s conclusory statement that collateral estoppel applies regarding “all materially identical limitations of the ’423 patent” fails to satisfy Petitioner’s burden—Petitioner does not even attempt to identify the specific “issues” from the Board’s previous decision that must be applied or the specific limitations to which those “issues” apply. *See ParkerVision, Inc. v. Qualcomm Inc.*, 116 F.4th 1345, 1357 n.4 (Fed. Cir. 2024) (“the party invoking collateral estoppel ... bears the burden of proving the identity of issues”); *cf. Clark v. Bear Stearns & Co.*, 966 F.2d 1318, 1320 (9th Cir. 1992) (“The party asserting preclusion bears the burden of showing with clarity and certainty what was determined by the prior judgment.”).

In addition, as explained in the preliminary response, Petitioner does not cite any authority establishing that collateral estoppel as to the issue of patent eligibility can be applied on a limitation-by-limitation basis. *See id.* (citing *Keysight Techs., Inc. v. Centripetal Networks, LLC*, IPR2023-00446, Paper 30, 21 (PTAB Aug. 5,

2024) (finding patent owner estopped from asserting the prior-art status of a reference and findings that the reference taught certain claim limitations in an obviousness analysis)). The §101 framework “requires that the claims be read as a whole,” *Data Engine Techs. LLC v. Google LLC*, 906 F.3d 999, 1011 (Fed. Cir. 2018), and, even where limitations taken individually can be said to be routine or conventional, “an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces,” *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016). Moreover, as the Office has reminded in a recent memorandum, it is important that the §101 inquiry “considers the claim ***as a whole***” and “the analysis should take into consideration **all the claim limitations and how these limitations interact and impact each other** when evaluating whether the exception is integrated into a practical application.” Memorandum on *Reminders on evaluating subject matter eligibility of claims under 35 U.S.C. 101* at 3-4 (Aug. 4, 2025) (hereinafter “Reminders on 101”) (first emphasis original; second emphasis added).

Thus, even to the extent that there may be individual words or phrases that match between the claims of the ’423 patent and those found ineligible in the ’614 PGR, these claim limitations cannot be isolated for the purposes of the §101 analysis. *See id.* at 3 (“limitations should not be evaluated in a vacuum”). As a result, it would be inappropriate to apply collateral estoppel effect to claims that

recite materially distinct limitations because “how these limitations interact and impact each other” along with the other limitations recited in the claims is a necessary part of the inquiry. *Id.* at 3-4; *cf. MasterObjects, Inc. v. Meta Platforms, Inc.*, 2024 U.S. App. LEXIS 3528 at *14-*15 (Fed. Cir. 2024) (finding it “particularly inappropriate to apply estoppel effect” to a claim construction issue for a continuation-in-part that included additional matter because “[w]hen considering a specification for purposes of claim construction, it is important to consider it as a whole”).

For these reasons, Petitioner has failed to meet its burden in establishing that collateral estoppel applies to claims 1-6, 8-10, and 13-19 of the ’423 patent.

B. Petitioner Fails to Show that Claims 1-20 Are Patent Ineligible

Turning to the merits of Petitioner’s Ground 3, Petitioner further fails to meet its burden in establishing that claims 1-20 are patent ineligible under §101.

1. Petitioner fails to show that independent claim 1 is patent ineligible

As explained below, Petitioner fails to meet its burden in showing that claim 1 is directed to patent-ineligible subject matter. The petition asserts, in a conclusory manner, that claim 1 is “directed to the abstract idea of identifying a merchant and enabling completion of a purchase from the merchant,” but the petition does not identify, with any particularity, how claim 1 recites this abstract idea. Pet., 78. Moreover, despite the petition’s contentions that claim 1 is directed

to an abstract idea that “can be performed by a human in the mind,” Petitioner overlooks that claim 1 is directed to a specific embodiment of a mobile application that requires user interaction with a specific user interface that cannot be practically performed in the human mind.

In addition, even if it could be said that claim 1 is “directed to” the abstract idea identified by Petitioner, Petitioner fails to satisfy its burden in showing that the claim uses “well-known, routine, and conventional elements to carry out the abstract idea.” *Id.*, 83-84. As support for its allegations, Petitioner relies on the testimony of Dr. Neuman, who admitted on cross-examination to applying the wrong standard (obviousness) in assessing whether the claim limitations were routine and conventional under §101.

For the reasons detailed below, Petitioner fails to meet its burden in establishing that claims 1-20 are patent ineligible.

a) Petitioner fails to meet its burden under Step 2A

Petitioner argues that “[c]laim 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.” Pet., 78. Petitioner contends that “[t]his 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.” *Id.* However, as explained below, Petitioner has

failed to establish that claim 1 is **directed to** “the abstract idea of identifying a merchant and enabling completion of a purchase from the merchant.”

As the Office has reminded in its recent memorandum, it is important that the §101 inquiry (and, in particular, Step 2A Prong One of the Office’s guidance) “distinguish[] claims that recite a judicial exception from claims that merely involve a judicial exception.” Reminders on 101 at 1. In the former case, further eligibility analysis is required, but in the latter, the claims “are eligible and do not require further eligibility analysis.” *Id.* at 3. As an example, the Office points to example 39 of the Office’s Subject Matter Eligibility Guidance, which involves a claim limitation that recites “training the neural network in a first stage using the first training set,” which the Office explains does not recite a judicial exception, such as a mathematical concept. *Id.* “Even though ‘training the neural network’ involves a broad array of techniques and/or activities that may involve or rely upon mathematical concepts, the limitation does not set forth or describe any mathematical relationships, calculations, formulas, or equations using words or mathematical symbols.” *Id.* This is contrasted with the limitation recited in example 47, which recites “training, by the computer, the ANN based on the input data and a selected training algorithm to generate a trained ANN, wherein the selected training algorithm includes a backpropagation algorithm and a gradient descent algorithm.” *Id.* As the Office notes, because “[t]his limitation recites

specific mathematical calculations by referring to the mathematical calculations by name” (*i.e.*, “a backpropagation algorithm and a gradient descent algorithm”), it “therefore recites a judicial exception, namely an abstract idea.” *Id.* In other words, it is not enough to show that a claim recites limitations that could **involve** an abstract idea in order to show patent ineligibility, it must be shown that the claim **recites** the abstract idea.

Here, Petitioner’s assertion that “[c]laim 1 is directed to the abstract idea of identifying a merchant and enabling completion of a purchase from the merchant” fails to show that claim 1 **recites** the identified abstract idea. For example, the petition argues that “the claimed functions are akin to a customer seeing one or more merchants (limitation [1.6]), selecting one of those merchants (limitation [1.7]), and interacting with that merchant to complete a transaction [(limitation [1.9])].” Pet., 80. But whether the claims can be likened to (or “akin to”) a generalized concept is insufficient to establish that the claim expressly recites the specific abstract idea. The petition does not identify any limitations that actually recite “identifying a merchant and enabling completion of a purchase from the merchant” and the petition’s comparison of the claims to a generic customer-merchant transaction is divorced from the claim language itself.

Moreover, Petitioner fails to show that the claims recite an abstract idea that “can be performed by a human in the mind or via oral, or written communication

with a merchant.” *Id.*, 78. As the Office’s memorandum further states (also with respect to Step 2A, Prong One), a claim does not recite an abstract idea that “can be performed in the human mind, or by a human using a pen and paper” when the claim “contains limitation(s) that cannot practically be performed in the human mind, for instance when the human mind is not equipped to perform the claim limitations.” Reminders on 101 at 2.

Here, claim 1 recites limitations that require a user to interact with specific user interface elements provided by a mobile application on a mobile device, which cannot practically be “performed by a human in the mind or via oral, or written communication with a merchant.” *Pet.*, 78. For instance, the specification of the ’423 patent describe mobile-device-to-machine payment processing systems that can have one of two modes, a “hands-free mode” or a “manual mode” (or “‘swipe-to-pay’ mode”). *See* EX1001, 2:25-29, 6:11-16; EX2008, ¶¶29-34, 111-113. In the hands-free mode, the specification explains that user input to the mobile device is eliminated. EX2008, ¶113. That is, when a user is within range of a payment accepting unit, “a pre-installed mobile application 140 automatically connects to the payment accepting unit 120” and, as the user approaches the unit within an “arm’s-length” distance, “the user could observe the transferred funds on the display” of the payment accepting unit and “input[] his/her selection on the payment accepting unit 120” to dispense a product or service, all while “leav[ing]

the mobile device 150 in a pocket, purse, briefcase, backpack, or other carrier.” EX1001, 7:45-58. In contrast, in a manual mode, the specification teaches that the user must interact with the mobile device. EX2008, ¶114. For example, after “a pre-installed mobile application 140 automatically connects to the payment accepting unit 120,” the specification explains that “[t]he mobile application 140 might display (on the touch screen 152) a prepaid balance that the user ‘swipes’ to transfer payment to the payment accepting unit 120,” upon which “[t]he user could observe the transferred funds on the touch screen 152 of the mobile device 150” and allows the user to “input[] his selection on the payment accepting unit 120” to dispense the product or service. EX1001, 7:19-31. In addition, in manual mode, “the mobile device 150 can display ... a visual indication of the payment accepting unit 120 ... for visual confirmation,” which “the user can manually change the payment accepting unit 120.” *Id.*, 24:53-59.

The limitations recited in claim 1 reflect that the manual mode embodiment of the described systems is claimed. EX2008, ¶115. For example, claim 1 recites that the user interface of the mobile application is configured to *display a visual indication of the one or more payment accepting units* that have been identified as available to accept payment by the mobile device (limitations [1.2]-[1.6]) and *accept user input selecting an available payment accepting unit of the one or more payment accepting units* (limitation [1.7]). Claim 1 also recites that *establishing*

via the one or more radio transceivers of the mobile device a wireless communication path including the mobile device and the available payment accepting unit (limitation [1.8]) and, after establishing the wireless communication path, enabling user interaction with the user interface of the mobile payment application (limitation [1.9]).

These claim limitations tie the claimed invention to systems in which a mobile device provides specific features that a user must interact with to perform the recited method. EX2008, ¶116; *see also* EX2010, 58:3-60:10 (Dr. Neuman agreeing that the challenged claims are directed to the manual mode and not the hands-free mode). As such, Petitioner’s contention that claim 1 recites an abstract idea that “can be performed by a human in the mind or via oral, or written communication with a merchant” is incorrect because the claims recite specific limitations that tie the invention to a particular manner of interfacing with a user interface on a mobile device. *See* Pet., 78. Thus, even if it may be argued that “the generic idea of [identifying a merchant and enabling completion of a purchase from the merchant] existed prior to the invention, these claims are directed to a particular manner of [identifying a merchant and enabling completion of a purchase from the merchant] in electronic devices.” *Core Wireless Licensing S.A.R.L. v. LG Elecs., Inc.*, 880 F.3d 1356, 1362 (Fed. Cir. 2018); *see also* *Trading Techs. Int’l, Inc. v. CQG, Inc.*, 675 Fed. Appx. 1001, 1004 (Fed. Cir. 2017)

(affirming district court finding that “the specific structure and concordant functionality of the [claimed] graphical user interface are removed from abstract ideas, as compared to conventional computer implementations of known procedures”).

Finally, Petitioner fails to meet its burden in showing that, even if claim 1 recites the abstract idea of identifying a merchant and enabling completion of a purchase from the merchant, the claim fails to integrate that abstract idea into a practical application. *See* Pet., 84-85. The Office has reiterated that this step of the §101 analysis (Step 2A, Prong Two) “considers the claim *as a whole*.” Reminders on 101 at 3 (emphasis original). “The way in which the additional elements use or interact with the exception may integrate the judicial exception into a practical application.” Reminders on 101 at 3. As such, “the additional limitations should not be evaluated in a vacuum, completely separate from the recited judicial exception” and “an additional limitation (or combination) that meaningfully limits the judicial exception can render [a claim] eligible.” *Id.* at 3-4.

Petitioner alleges that “nothing in Claim 1 integrates the abstract idea into a practical application that imposes a meaningful limit on the abstract idea” because the claim “recites only generic elements” (*e.g.*, a mobile device, an application executing on the mobile device, a payment accepting unit, and a user interface) and “[w]hen considering nearly identical elements in the ’614 PGR, the Board found

that the first three elements” do not integrate the exception into a practical application. Pet., 82 (stating “[t]hese elements are identical in the ’423 Patent and, accordingly, the same analysis applies”).

Petitioner fails to meet its burden in showing that claim 1 does not integrate the judicial exception into a practical application. Contrary to the Office’s guidance, the petition wholly fails to consider claim 1 as a whole and assess “[t]he way in which the additional elements use or interact with the exception.”

Reminders on 101 at 3. Instead, the petition lists certain elements (*e.g.*, a mobile device, an application, a payment accepting unit, a user interface), isolated from how those elements are specifically recited in the context of the claim, and refers to the Board’s analysis with respect to the claims of a different patent as summarily applying to claim 1 of the ’423 patent. Pet., 82. At no point does the petition perform an assessment of the claim **as a whole** and explain why the additional limitations fail to integrate the exception into a practical application. Petitioner thus fails to perform the holistic analysis required by both controlling case law and Office guidance and improperly “evaluate[s] [the limitations] in a vacuum, completely separate from the recited judicial exception.” Reminders on 101 at 3. This holds true even in view of Petitioner’s assertion that “[o]ther than the abstract idea, Claim 1 recites only generic elements,” such as a mobile device, an application, a payment accepting unit, and a user interface (Pet., 82), because it is

improper “to read out or ignore limitations in [the claim] merely because they can be found in the prior art,” *PowerBlock Holdings, Inc. v. iFit, Inc.*, 146 F.4th 1366, 1373 (Fed. Cir. 2025) (further stating that “the *Alice* step one inquiry involves consideration of the claims ‘*in their entirety* to ascertain whether their character *as a whole* is directed to excluded subject matter’” (emphasis original)). See also *Contour IP Holding LLC v. GoPro, Inc.*, 113 F.4th 1373, 1380 (Fed. Cir. 2024) (stating claims that “simply employ known or conventional components that existed in the prior art at the time of the invention ... does not necessarily mean that the claim is *directed to* an abstract idea at step one” (emphasis original)).

Petitioner’s failure to perform the proper analysis is material. As Dr. Neuman admitted during cross-examination, many of the claim elements interact with one another to recite a user interface that performs an ordered combination of functionality to the user. For example, Dr. Neuman agreed that the claim required that the mobile device must first *identify[] one or more payment accepting units that are available to accept payment from a mobile payment application executing on the mobile device* (limitation [1.2]) before *displaying a user interface of the mobile payment application on the display of the mobile device* (limitation [1.5]). See EX2010, 36:22-37:5. Dr. Neuman also agreed that the mobile device *enabling user interaction with the user interface of the mobile payment application to complete a transaction with the available payment accepting unit* (limitation [1.9])

must occur after *establishing ... a wireless communication path including the mobile device and the available payment accepting unit* (limitation [1.8]) and after *accept[ing] user input selecting an available payment accepting unit* (limitation [1.7]). *See id.*, 39:10-41:1. These claim elements demonstrate that the claim, as a whole, recites limitations that work together to meaningfully limit any judicial exception to a particular practical application—*i.e.*, a mobile device that enables an ordered identification of an available payment accepting unit and subsequent interaction with the available payment accepting unit through a user interface. *Cf.* EX2010, 66:16-68:22 (Dr. Neuman acknowledging that he failed to consider the scope of the claims’ preemptive effect). Petitioner’s failure to acknowledge and address how these elements, as a whole, “use or interact” with the alleged judicial exception highlight the petition’s deficient analysis.

Accordingly, Petitioner fails to meet its burden in showing that claim 1 is patent ineligible under Step 2A of the analysis.

b) Petitioner fails to meet its burden under Step 2B

Petitioner also fails to meet its burden in establishing that claim 1 fails Step 2B of the Office guidance. *See Pet.*, 85-87. With regard to this step, Petitioner argues that “claim 1 merely applies the abstract idea with a well-understood, routine, and conventional wireless mobile device” and “[t]he conventional mobile device uses well-known, routine, and conventional elements ... to carry out the

abstract idea.” *Id.*, 83-84. As support, the petition cites to nearly twenty paragraphs of Dr. Neuman’s declaration without additional explanation. *Id.*, 83 (citing EX1003, ¶¶292-293, 303-319); *see* 37 C.F.R. §42.6(a)(3) (“Arguments must not be incorporated by reference from one document into another document.”). Aside from this improper incorporation-by-reference, Dr. Neuman’s declaration testimony fails to show that “claim 1 merely applies the abstract idea” using “well-known, routine, and conventional elements.” EX2008, ¶117.

First, Dr. Neuman’s testimony fails to support the petition’s contention because Dr. Neuman applied an improper standard in opining that the elements recited in claim 1 were routine and conventional. Throughout his declaration, Dr. Neuman refers to his anticipation or obviousness analysis and the applied references as evidence supporting his conclusion that the challenged claims were well-understood, routine, and conventional. *See, e.g.*, EX1003, ¶¶293 (referring to his anticipation and obviousness analysis as “further supporting my opinion that the Challenged Claims were well-understood, routine, and conventional”), 299, 306 (relying on Low as teaching limitations [1.2]-[1.3], “demonstrating that they were well-known”), 306-308 (same), 316-318. On cross-examination, Dr. Neuman admitted that he “re[lies] on [his] obviousness analysis as showing that the recited claim limitations were well-known, routine, and conventional.” EX2010, 69:6-73:15; *see also id.*, 75:1-17. Indeed, Dr. Neuman reiterated his belief that the

claims recite limitations that were well-known, routine, and conventional so as to render them ineligible because “taking something that is obvious and merely doing it with a user interface that includes any software program does not make it inventive.” *Id.*, 80:18-81:6. However, whether a claim recites limitations that would have been anticipated or obvious to those skilled in the art is an incorrect standard to apply when assessing whether a claim recites additional elements that add significantly more to be patent eligible. *See BASCOM*, 827 F.3d at 1350 (distinguishing a §101 inquiry from an obviousness analysis, explaining “[t]he inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art”). Because Dr. Neuman applied the incorrect standard in forming his opinions, his testimony should be given no weight.

Moreover, Petitioner’s failure to establish the anticipation of claim 1 further demonstrates that Petitioner fails to meet its burden in establishing that claim 1 recites only elements that were “well-known, routine, and conventional.” *See Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018) (“Whether a particular technology is well-understood, routine, and conventional goes beyond what was simply known in the prior art. The mere fact that something is disclosed in a piece of prior art, for example, does not mean it was well-understood, routine, and conventional.”). For example, as explained above, Petitioner fails to demonstrate that Low discloses a *user interface being configured to display a*

visual indication of the one or more payment accepting units. Supra, §IV.A.1; see also EX1003, ¶309 (Dr. Neuman failing to address this limitation as it is expressly recited, and instead generally arguing that “[d]isplaying a visual representation on a user interface was well-known, routine, and conventional as of December 18, 2013”); EX2008, ¶117.

Accordingly, Petitioner fails to meet its burden in showing that claim 1 fails Step 2B of the analysis and thus fails to show that claim 1 is patent ineligible.

2. Petitioner fails to show that independent claims 13 and 15 are patent ineligible

Petitioner argues that “independent claims 13 and 15 recite patent-ineligible subject matter for the same reasons as claim 1.” Pet., 85. Accordingly, for the same reasons discussed above with respect to claim 1, Petitioner fails to meet its burden in establishing that claims 13 and 15 are patent ineligible.

3. Petitioner fails to show that dependent claims 2-12, 14, and 16-20 are patent ineligible

Petitioner also alleges that dependent claims 2-12, 14, and 16-20 are patent ineligible. See Pet., 85-92. Petitioner fails to meet its burden in demonstrating that these claims are directed to patent-eligible subject matter for the same reasons identified above with respect to claims 1, 13, and 15. Below, additional discussion for certain dependent claims provides further reasons why Petitioner fails to meet its burden in showing the patent eligibility of the challenged claims.

Petitioner alleges that claims 2 and 16 fail to “add meaningful limitations to the judicial exception” because “[n]either 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.” Pet., 86.

Petitioner fails to meet its burden in establishing the patent ineligibility of these claims because it ignores the claim limitations as a whole. Claims 2 and 16 recites the display of particular features with particular structure (*i.e.*, a message, a banner notification, or a visual alert from one or more LEDs) after a particular sequence of events using particular hardware (*i.e.*, after *exchanging information with the available payment accepting unit via the one or more radio transceivers, in conjunction with the transaction* (limitation [1.10])). EX2008, ¶119. As demonstrated by Petitioner’s anticipation analysis, Petitioner fails to identify any support that these limitations, when considered as a whole, were well-understood, routine, and conventional. *Supra*, §IV.C.1; EX2008, ¶119; *see also BASCOM*, 827 F.3d at 1350 (stating “an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces”); *CosmoKey Solutions GMBH & Co. KG v. Duo Security LLC*, 15 F.4th 1091, 1098 (Fed. Cir. 2021) (finding district court’s reliance on challenged patent’s specification

description that steps were routine or conventional was “misplaced” as prior art did not teach the recited claim steps).

Petitioner makes similar allegations with respect to claims 3, 4, and 17. *See* Pet., 86-89. However, these claims, when considered as a whole, recite that particular types of information (*i.e.*, information that *indicates completion of the transaction between the user of the mobile device and the payment accepting unit* (claim 3) and *includes an amount of the completed transactions* (claims 4 and 17)) are exchanged between the mobile device and the available accepting unit using particular hardware (*i.e.*, *one or more radio transceivers* (limitation [1.10])), with claims 4 and 17 further specifying that the information is also sent to *a server via [a] long-range transceiver*. EX2008, ¶120. Again, as demonstrated by Petitioner’s anticipation analysis, Petitioner fails to identify any support that these limitations, when considered as a whole, were well-understood, routine, and conventional. *Supra*, §§IV.C.2-3, IV.C.7.

Petitioner applies similar logic to claims 5-6, 10, and 18-19, arguing that “each of these claims could be performed by a merchant delivering the same information verbally.” Pet., 89. Petitioner again ignores that claims 5-6 and 18-19 specify the particular components and hardware by which the information is exchanged (*i.e.*, between the mobile device and the available payment accepting unit via the one or more radio transceivers). Petitioner also ignores that claim 10

specifies information indicating that *the wireless communication path* (not any “conventional communication path,” as characterized by Petitioner) has been established, with the claim specifying the particular devices and hardware that are included as part of the path (*i.e., the mobile device and the available payment accepting unit of the one or more payment accepting units* that is established *via the one or more radio transceivers* (limitation [1.8])). EX2008, ¶121. Petitioner presents no evidence that these limitations “could be performed by a merchant delivering the same information verbally” nor that these limitations, as a whole, were well-understood, routine, and conventional. Pet., 89.

Petitioner further alleges that “[c]laim 7 recites the use of an accelerometer to detect when a user has departed and then to cancel the transaction,” which, according to Petitioner, “is no different than ending a transaction when a customer walks out of a store.” Pet., 90. Petitioner also argues that “using a standard accelerometer inherent to a mobile device to detect movement was already well-known.” *Id.* Petitioner’s conclusory assertions fail to satisfy its burden to establish that claim 7 recites patent-ineligible subject matter.

Claim 7 recites the use of data from a particular hardware component (*i.e., an accelerometer*) to make a specific determination (*i.e., whether the user is walking away from the available payment accepting unit*) and *canceling the wireless communication path* that had been established between the mobile device

and the available payment accepting unit upon a determination that the user is walking away. EX2008, ¶122. As noted above, Petitioner points to no evidence that this specific combination of features was disclosed in the art. *Supra*, §V. Petitioner also provides no explanation or evidence demonstrating why this specific combination of features “is no different than ending a transaction when a customer walks out of a store.” In addition, Petitioner’s assertion that “using a standard accelerometer inherent to a mobile device to detect movement was already well-known” fails to show that the use of an accelerometer **as specifically claimed** was well-known. *See Thales Visionix Inc. v. United States*, 850 F.3d 1343, 1348-1349 (Fed. Cir. 2017) (finding eligible claims “that use inertial sensors in a non-conventional manner”).

Finally, claim 11 further specifies that *after establishing the wireless communication path*, the user interface includes specific user interface elements, including *a visual representation of the available payment accepting unit; an indication of a prepaid balance; and an affordance that when slid, indicates the initiation of the transaction; wherein the affordance is slid in response to receiving a user input of swipe on the affordance displayed on the display of the mobile device*. EX2008, ¶123. These elements work together to provide specific features on a mobile device that a user must interact with to engage with the payment accepting unit, while also providing specific assurances that the user will be able to

conduct the transaction that the user desires. EX2008, ¶124. Petitioner fails to demonstrate that the combination of Low, Arora, Freeny, and Casey teaches each of the limitations recited in dependent claim 11. *Supra*, §VI. While Petitioner generally argues that the claim “merely recites the abstract idea of communicating generic information regarding a transaction using a well-known, generic and conventional ‘user interface,’” Petitioner provides no explanation or evidence that the specific combination of user interface elements recited in claim 11 was well-understood, routine, and conventional. EX2008, ¶125; *see also BASCOM*, 827 F.3d at 1350 (“an inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces”).

Accordingly, Petitioner fails to meet its burden in establishing the patent ineligibility of the dependent claims.

VIII. CONCLUSION

Accordingly, for at least the reasons set forth above, the petition fails to meet its burden of establishing the unpatentability of claims 1-20 of the '423 patent. Patent Owner respectfully submits that the challenged claims should be found to be not unpatentable over the grounds raised in the petition.

Respectfully submitted,

Date: December 05, 2025

/Matthew A. Argenti/
Matthew A. Argenti, Lead Counsel
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CERTIFICATE OF COMPLIANCE

Pursuant to §42.24(d), the undersigned certifies that this paper contains no more than 18,700 words, not including the portions of the paper exempted by §42.24(b). According to the word-processing system used to prepare this paper, the paper contains 13,318 words.

Respectfully submitted,

Date: December 05, 2025

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IX. APPENDIX

EXHIBIT NO.	DESCRIPTION
2001	PayRange Inc.'s Amended Answer to Complaint and Counterclaims, <i>Alliance Laundry Sys. LLC v. PayRange Inc.</i> , Case No. 24-733-MN (D. Del.)
2002	Excerpts from File History of U.S. Application No. 17/654,732 (U.S. Patent No. 11,481,772)
2003	Excerpts from File History of U.S. Application No. 15/603,400 (U.S. Patent No. 10,891,614)
2004	Alliance Laundry Systems LLC's Partial Motion to Dismiss PayRange's Amended Counterclaims, <i>Alliance Laundry Sys. LLC v. PayRange Inc.</i> , Case No. 24-733-MN (D. Del.)
2005	Alliance Laundry Systems LLC's Opening Brief in Support of Its Partial Motion to Dismiss PayRange's Amended Counterclaims, <i>Alliance Laundry Sys. LLC v. PayRange Inc.</i> , Case No. 24-733-MN (D. Del.)
2006	Alliance Laundry Systems LLC's Request for Oral Argument on Its Motion to Dismiss, <i>Alliance Laundry Sys. LLC v. PayRange Inc.</i> , Case No. 24-733-MN (D. Del.)
2007	Alliance Laundry Systems LLC's Complaint for Declaratory Judgment, <i>Alliance Laundry Sys. LLC v. PayRange Inc.</i> , Case No. 24-733-MN (D. Del.)
2008	Declaration of Jeffrey Miller, Ph.D.
2009	<i>Curriculum vitae</i> of Jeffrey Miller, Ph.D.
2010	Transcript of the Deposition of Dr. Clifford Neuman, held on November 4, 2025
2011	A. Cooper, <i>About Face: The Essentials of User Interface Design</i> , Chapter 5, IDG Books Worldwide, Inc. (1995)

2012	W.O. Galitz, <i>The Essential Guide to User Interface Design</i> , Chapter 2, Wiley Publishing, Inc. (3 rd Ed.) (2007)
2013	L.H. Chen et al., <i>Applicability of Affordance Concept in User-Computer Interaction</i> , 2012 7th International Conference on Computing and Convergence Technology (03-05 December 2012)

CERTIFICATE OF SERVICE

I certify that the foregoing Patent Owner's Response Pursuant to 37 C.F.R. § 42.107 and accompanying Exhibits 2008-2013 were served on this 5th day of December, 2025, on the Petitioner at the following electronic service addresses:

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