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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BURT A. WILHELM, OLIVER STEELY, and ADAM GLUCK

Appeal 2017-008584
Application 11/940,443¹
Technology Center 3600

Before TERRENCE W. McMILLIN, KARA L. SZPONDOWSKI, and
SCOTT B. HOWARD, *Administrative Patent Judges*.

McMILLIN, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134(a) of the final rejection of claims 24, 26–35, 37–39, 41–44, 46–55, 57–59, 61–63, and 65–70. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ According to Appellants, the real party in interest is MasterCard International Inc. App. Br. 4.

THE CLAIMED INVENTION

The present invention relates generally to “automatic fare collection (AFC) systems and methods for transit systems.” Spec. ¶ 10. Independent claim 24 is directed to a method; and independent claim 44 is directed to a system. App. Br. 38, 42.

Claim 24, reproduced below, is representative of the claimed subject matter:

24. A method for automated fare collection in a transit system, the method comprising:

receiving, at a payment device reader comprising an electronic circuit, said payment device reader being coupled to a transit payment platform, payment device data from a payment device presented by a customer to gain access to pay areas of said transit system, said payment device data including at least an account identifier identifying a payment account associated with said payment device;

granting said customer access to said pay areas of said transit system, by a terminal controller, if said payment device data satisfies a condition;

selecting from a group of fare rules, after said granting of access, a fare rule to apply to said access to said pay area of the transit system, by a processor coupled to a payment network, wherein at least one fare rule in said group of fare rules is a post-fund rule, whereby said customer is not required to pre-fund said payment device for access to said pay areas of said transit system; and

performing, by the processor, aggregate payment processing when said at least one post-fund rule is selected, said aggregate processing comprising:

adding a fare amount associated with said access to said pay area to an aggregate amount owed;

refraining from initiating a payment clearing transaction over the payment network unless one or more business criteria are satisfied; and

initiating said payment clearing transaction over said payment network when said one or more business criteria are satisfied, said payment clearing transaction including at least said account identifier and a payment amount based on said aggregate amount owed, whereby currency in at least the amount of said aggregate amount owed is eventually transferred out of said payment account associated with said account identifier and into an account associated with said transit system.

REJECTIONS ON APPEAL

Claims 30–33 and 50–54 stand rejected under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement. Final Act. 12; Ans. 2.

Claims 32–35 and 55 stand rejected under 35 U.S.C. § 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter regarded as the invention. Final Act. 12–13; Ans. 2.

Claims 24, 26–35, 37–39, 41–44, 46–55, 57–59, 61–63, and 65–70 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Final Act. 14; Ans. 2.

Claims 24, 26–33, 41–44, 46–53, 61–63, 65, 66, 69, and 70 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Andrews et al. (US 2003/0085272 A1, May 8, 2003) (“Andrews ’272”), Nielsen et al. (US 8,027,918 B2, Sept. 27, 2011) (“Nielsen”), and Saunders et al. (US 2006/0278704 A1, Dec. 14, 2006) (“Saunders”). Final Act. 14–15; Ans. 2–3.

Claims 24, 26–33, 38, 39, 41–44, 46–53, 58, 59, and 65–70 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Saunders, Nielsen, and Granfeldt et al. (US 7,006,998 B2, Feb. 28, 2006) (“Granfeldt”). Final Act. 23; Ans. 3.

Claims 34, 37, 54, 57, and 61–63 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Saunders, Nielsen, Granfeldt, and Lee et al. (US 6,018,717, Jan. 25, 2000) (“Lee”). Final Act. 36; Ans. 3.

Claims 35 and 55 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Saunders, Nielsen, Granfeldt, Lee, and Andrews et al. (US 6,655,587 B2, Dec. 2, 2003) (“Andrews ’587”). Final Act. 39; Ans. 3.

Claims 65 and 66 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Saunders, Nielsen, Granfeldt, and Andrews ’272. Final Act. 42; Ans. 3.

Claims 34, 35, 37, 54, 55, and 57 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Andrews ’272, Nielsen, Saunders, and Lee. Final Act. 43; Ans. 3.

Claims 38 and 59 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Andrews ’272, Nielsen, Saunders, and Silverstein et al. (US 2004/0093281 A1, May 13, 2004) (“Silverstein”). Final Act. 46; Ans. 4.

Claims 39 and 58 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Andrews ’272, Nielsen, Saunders, and Takatori et al. (US 2002/0029165 A1, Mar. 7, 2002) (“Takatori”). Final Act. 47; Ans. 4.

Claims 67 and 68 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Andrews ’272, Nielsen, Saunders, and Granfeldt. Final Act. 48; Ans. 4.

ANALYSIS

35 U.S.C. § 101 Rejection

Alice Corp. Pty. Ltd. v. CLS Bank Int'l, 134 S. Ct. 2347 (2014), identifies a two-step framework for determining whether claimed subject matter is judicially excepted from patent eligibility under 35 U.S.C. § 101. In the first step, “[w]e must first determine whether the claims at issue are directed to a patent-ineligible concept.” *Alice*, 134 S. Ct. at 2355.

The Examiner concludes the claimed invention is directed towards a fundamental economic practice, which is an abstract idea. Final Act. 14; Ans. 8. Specifically, the Examiner determines the claimed invention is directed towards clearing a transaction over a payment network, which is a fundamental economic practice that is “fundamental to economy and commerce.” Final Act. 3, Ans. 8.

Appellants contend the claimed invention recites a technological solution “addressing novel techniques and devices for, among other things, automatically funding a transit fare in a transit fare system based on multiple criteria.” App. Br. 24; *see* Reply Br. 7.

We are not persuaded by Appellants’ arguments. We agree with the Examiner that the claims are directed to a fundamental economic practice. Here, the claims are directed to receiving payment device data (i.e., collecting and storing data), determining if the data satisfies a condition and then granting customer access and selecting rules to apply to the access, and performing payment processing according to the applied rules based on criteria and using the collected data. (i.e., recognizing data). *See Smart Systems Innovations, LLC v. Chicago Transit Authority*, 873 F.3d 1364, 1372 (Fed. Cir. 2017) (claims directed “to the formation of financial

transactions in a particular field (i.e., mass transit) and data collection related to such transactions” that “are not directed to a new type of bankcard, turnstile, or database” and do not “provide a method for processing data that improves existing technological processes” are “directed to the collection, storage, and recognition of data,” which is an “abstract idea”).

In the second step of *Alice*, we “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Alice*, 134 S. Ct. at 2355 (quoting *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66, 79, 78 (2012)). In other words, the second step is to “search for an ‘inventive concept’ – i.e., an element or combination of elements that is ‘sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.’” *Id.* (alteration in original) (quoting *Mayo*, 566 U.S. at 72–73).

Appellants argue that the claimed elements add significantly more to the alleged abstract idea. *See* App. Br. 24–32; Reply Br. 7–9. Specifically, Appellants argue that the claims provide

specific technological features designed to improve a specific technological environment (i.e., a payment device having at least an account identifier identifying a payment account associated with the payment device and checked against one or more fare rules and/or conditions so as to provide flexibility in payment methods for fares in transit systems).

App. Br. 25–26. Citing to *DDR Holdings, LLC v. Hotels.com, L.P.*, 773 F.3d 1245 (Fed. Cir. 2014), Appellants also argue the claims address technical challenges “regarding enhancing payment solutions in transit systems that [are] particular to payment networks and necessarily rooted in

computer technology.” App. Br. 31; *see* Reply Br. 9. According to Appellants, the claimed invention

specifies how a transit fare payment transaction using a payment device having payment device data can be manipulated within the limitations of pre-existing payment networks in order to enhance the flexibility of payment transactions in transit systems, in a way which overrides conventional practice and is necessarily rooted in computer technology to resolve a network-centric problem.

Reply Br. 7; *see* Reply Br. 6 (citing *BASCOM Global Internet Servs., Inc. v. AT&T Mobility LLC*, 827 F.3d 1341 (Fed. Cir. 2016)); *see* Reply Br. 8 (citing *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335 (Fed. Cir. 2016)).

We are not persuaded by Appellants’ argument and agree with the Examiner’s finding and conclusion that the claimed limitations add no meaningful limitations beyond generally linking the use of a judicial exception to a particular technological environment. Ans. 14. We further agree with the Examiner that the claimed invention is directed to solving a business problem and is not rooted in computer technology. Ans. 8–9; *see* Ans. 15–16.

Rather than reciting additional elements that amount to “significantly more” than the abstract idea, the pending claims, at best, add only transit system components (i.e., a payment device reader, a transit payment platform, a terminal controller). For example, the claimed payment device reader may employ RFID technologies and is a “basic component[] of a contactless system,” that employs use of “an antenna connected to an electronic circuit.” Spec. ¶ 6. These components, operating to serve their basic generic functions (i.e., a payment device reader operates to read a

payment device), do not constitute an inventive concept. *See, e.g., DDR Holdings*, 773 F.3d at 1256 (“[A]fter *Alice*, there can remain no doubt: recitation of generic computer limitations does not make an otherwise ineligible claim patent-eligible. The bare fact that a computer exists in the physical rather than purely conceptual realm ‘is beside the point.’” (citation omitted)).

Although the claims describe employing computer components to perform Appellants’ method (using a payment device reader, a transit payment platform, and a terminal controller), we agree with the Examiner that the recited steps use the generic computer components to collect and analyze data. Ans. 11–12; *see, e.g., CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1375 (Fed. Cir. 2011) (“[T]he basic character of a process claim drawn to an abstract idea is not changed by claiming only its performance by computers, or by claiming the process embodied in program instructions on a computer readable medium.”).

The present claims are similar to those in *Smart Systems*, in which our reviewing court found the claims patent-ineligible because the claims merely invoke “various computer hardware elements, which save time by carrying out a validation function on site rather than remotely,” which “does not change the fact that in substance, the claims are still directed to nothing more than running a bankcard sale—that is, the performance of an abstract business practice.” *Smart Systems*, 873 F.3d at 1374 (citation omitted). Similarly, the claims in this case merely recite the use of known transit system components (i.e., a payment device reader, a transit payment platform, a terminal controller) to gather data (i.e., receiving payment device data) and to analyze the data (i.e., determining if the data satisfies a

condition and then granting customer access and selecting rules to apply to the access, and performing payment processing according to the applied rules based on criteria and using the collected data). Nothing in the claim or Specification requires that the device must be able to perform any special functions. Instead, the claim merely requires the conventional functions of transit system components. *See* Spec. ¶ 11 (“AFC system includes RFID-enabled card readers disposed at entrances to the transit system pay areas and a transit payment platform” and the “RFID-enabled card readers may be interfaced with a terminal or station controller,” with the payment platform to “conduct transaction payment authorization, clearing and settlement processes over electronic networks common in the payment-by-card industry” and the controller to “evaluate the read contactless payment card data” and “grant or deny the customer access”).

The claims, when viewed as a whole, are nothing more than conventional processing functions that courts have routinely found insignificant to transform an abstract idea into a patent-eligible invention. As such, the claims amount to nothing significantly more than an instruction to implement the abstract idea using a generic computer—which is not enough to transform an abstract idea into a patent-eligible invention. *See Alice*, 134 S. Ct. at 2360.

Accordingly, we sustain the Examiner’s 35 U.S.C. § 101 rejection of independent claims 24 and 44, as well as dependent claims 26–35, 37–39, 41–43, 46–55, 57–59, 61–63, and 65–70.

35 U.S.C. § 103 Rejections

The Examiner finds Andrews '272 teaches adding a fare amount associated with access as related to payment device data, and Nielsen teaches calculating aggregate payment amounts. Final Act. 15–16.

Appellants contend combining Andrews '272 and Nielsen would render Andrews '272 inoperable for its intended purpose of addressing a need in mass transit systems, specifically automatically loading monetary value onto a smart card at a transit gate. App. Br. 35. According to Appellants, Andrews '272's autoloading at gates to allow transit customers to use smart cards without needing to reload values onto their smart cards is inapposite to Nielsen's aggregating balance based on previous transactions between buyers and sellers. App. Br. 35; Reply Br. 11.

We are not persuaded by Appellants' arguments. We agree with the Examiner's finding that applying Nielsen's techniques to Andrews '272 would have yielded predictable results because the references show "the ability to incorporate such balance features into similar systems." Final Act. 16. We further agree with the Examiner's findings that the combination of Andrews '272 and Nielsen would result "in an improved system that would allow for a decrease in the number of mini transactions that are perform[ed] and thus and decrease [sic] the number of transaction fees." Final Act. 17. Specifically, Andrews '272 teaches "automatically loading a pre-selected value onto a smart card" in order to allow "a patron to enter or leave a transit system gate without having to add a fare value at a vending machine" (Andrews '272, Abstract); and Nielsen teaches "aggregat[ing] the buyers' micro-payment purchases and invoices the buyers" and "aggregat[ing] the sellers' micro-payment sales and credits the sellers" (Nielsen, Abstract). We

find Nielsen's aggregating payment is not hindered by Andrews '272's automatic loading of fare values, and Andrews '272's automatic loading of fare values is not hindered by Nielsen's aggregating payment.

Accordingly, we sustain the Examiner's 35 U.S.C. § 103 rejection of independent claims 24 and 44, as well as dependent claims 26–35, 37–39, 41–43, 46–55, 57–59, 61–63, and 65–70, not separately argued.

Appellants do not address the alternative rejection under 35 U.S.C. § 103 of claims 24, 26–33, 38, 39, 41–44, 46–53, 58, 59, and 65–70, as being unpatentable over Saunders, Nielsen, and Granfeldt. *See* Final Act. 23; Ans. 3. Appellants also do not address the rejections of claims depending from claims 24 and 44. *See* Final Act. 36, 39, 42; Ans. 3. Accordingly, we summarily sustain the Examiner's rejections of claims 24, 26–35, 37–39, 41–44, 46–55, 57–59, 61–63, and 65–70 under 35 U.S.C. § 103. *See* MPEP § 1205.02 (2017) (“If a ground of rejection stated by the examiner is not addressed in the appellant's brief, appellant has waived any challenge to that ground of rejection and the Board may summarily sustain it”); *see also Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (“If an appellant fails to present arguments on a particular issue — or more broadly, on a particular rejection — the Board will not, as a general matter, unilaterally review those uncontested aspects of the rejection.”).

35 U.S.C. § 112, First Paragraph, Rejection

The Examiner finds “a second payment device,” as recited in claim 30, lacks written description. Final Act. 12. Specifically, the Examiner finds the Specification does not describe using “multiple devices.” Ans. 6.

According to the Examiner, the Specification supports a second stage and device data, but the multiple stages does not necessarily support multiple devices or a second payment device. *Id.*

Appellants contend the Specification describes a two-stage transit card processing procedure, and that the two stages check different payment device data. App. Br. 23 (citing Spec. 20, Table 1). According to Appellants, “a second device data from second payment device is inherently supported in the originally filed disclosure.” *Id.*

We are not persuaded by Appellants’ arguments. To satisfy the written description requirement, a patent specification must describe the claimed invention in sufficient detail that one skilled in the art can reasonably conclude that the inventor had possession of the claimed invention. *See, e.g., Moba, B.V. v. Diamond Auto., Inc.*, 325 F.3d 1306, 1319 (Fed. Cir. 2003); *Vas-Cath, Inc. v. Mahurkar*, 935 F.2d 1555, 1563 (Fed. Cir. 1991). “[T]he test requires an objective inquiry into the four corners of the specification from the perspective of a person of ordinary skill in the art,” where “the specification must describe an invention understandable to that skilled artisan and show that the inventor actually invented the invention claimed.” *Ariad Pharms., Inc. v. Eli Lilly & Co.*, 598 F.3d 1336, 1351 (Fed. Cir. 2010) (en banc). The exact level of detail required depends upon “the nature and scope of the claims and on the complexity and predictability of the relevant technology.” *Id.* Factors for “evaluating the adequacy of the disclosure” may include “the existing knowledge in the particular field, the extent and content of the prior art, the maturity of the science or technology, [and] the predictability of the aspect at

issue.” *Id.* (alteration in original) (quoting *Capon v. Eshhar*, 418 F.3d 1349, 1359 (Fed. Cir. 2005)).

As cited by Appellants (App. Br. 23), the Specification describes checking “on the usage of PayPass cards at two stages,” first “against a negative file at gate 220” and next “at Transit Payment Platform 320,” which determines if the card is an unregistered card or a registered card. Spec. ¶ 43, Table 1. We agree with the Examiner that these passages support two stages but not multiple devices. We find the Specification’s description encompasses one payment device (i.e., payment card), and determining if the one device is a registered card or an unregistered card.

Accordingly, we sustain the Examiner’s 35 U.S.C. § 112, first paragraph, rejection of claims 30–33 and 50–54.

35 U.S.C. § 112, Second Paragraph, Rejection

The Examiner finds “said payment device,” as recited in claim 32, is indefinite because both “a payment device” and a “second payment device” are claimed and it is unclear which payment device “said payment device” references. Final Act. 13.

Appellants argue the recitation of the second payment device is supported by the Specification and the described two-stage processing procedure. App. Br. 23–24. According to Appellants, “because the two-stage processing procedure is described with respect to a single customer in a transit system, the phrase ‘second payment device’ is clear.” App. Br. 24.

We are not persuaded by Appellants’ arguments. “A claim is indefinite if, when read in light of the specification, it does not reasonably apprise those skilled in the art of the scope of the invention.” *Amgen, Inc. v.*

Hoechst Marion Roussel, Inc., 314 F.3d 1313, 1342 (Fed. Cir. 2003). “As the statutory language of ‘particular[ity]’ and ‘distinct[ness]’ indicates, claims are required to be cast in clear—as opposed to ambiguous, vague, indefinite—terms. It is the claims that notify the public of what is within the protections of the patent, and what is not.” *In re Packard*, 751 F.3d 1307, 1313 (Fed. Cir. 2014) (alterations in original).

Applying the standard set forth in *Amgen* and *Packard*, we agree with the Examiner that the claim, based on the claim language (i.e., “a payment device” in claim 24, “a second payment device” in claim 30, and “said payment device” in claim 32) and in light of Appellants’ Specification description encompassing one payment device and determining if the one device is a registered card or an unregistered card (*see* Spec. ¶ 43, Table 1), is *not* sufficiently clear. *See* Final Act. 13.

Accordingly, we sustain the Examiner’s 35 U.S.C. § 112, second paragraph, rejection of claims 32–35 and 55.

DECISION

The Examiner’s rejection of claims 30–33 and 50–54 under 35 U.S.C. § 112, first paragraph, is affirmed.

The Examiner’s rejection of claims 32–35 and 55 under 35 U.S.C. § 112, second paragraph, is affirmed.

The Examiner’s rejection of claims 24, 26–35, 37–39, 41–44, 46–55, 57–59, 61–63, and 65–70 under 35 U.S.C. § 101 is affirmed.

The Examiner’s rejections of claims 24, 26–35, 37–39, 41–44, 46–55, 57–59, 61–63, and 65–70 under 35 U.S.C. § 103 are affirmed.

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No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED