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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte AYMAN HAMMAD

Appeal 2017-000916
Application 12/263,982¹
Technology Center 3600

Before CARL W. WHITEHEAD JR, AMBER L. HAGY and
MICHAEL M. BARRY, *Administrative Patent Judges*.

WHITEHEAD JR., *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Appellant is appealing the final rejection of claims 10–12, 34, 36, 37, 40, 44–47, and 51–58 under 35 U.S.C. § 134(a). Appeal Brief 8. We have jurisdiction under 35 U.S.C. § 6(b) (2012).

We affirm.

Introduction

The invention is directed to a “portable consumer device includes a secondary PAN associated with a primary PAN, where the secondary PAN has at least one end portion that is the same as the primary PAN, but has a middle portion of that is different than the primary PAN.” Abstract.

¹ Appellant identifies Visa U.S.A. Inc. as the real party in interest. App. Br. 3.

Illustrative Claim

10. A portable consumer device comprising:
- a body;
 - a processor; and
 - a non-transitory computer readable storage medium coupled to the body and the processor, the computer readable storage medium comprising code that, when executed by the processor, causes the portable consumer device to perform operations comprising:
 - accessing a primary Primary Account Number (PAN);
 - creating a secondary PAN based upon the primary PAN by changing at least a middle portion of the primary PAN but not a beginning portion of the primary PAN;
 - encrypting at least a portion of the primary PAN using a key to yield an encrypted primary PAN; and
 - providing the secondary PAN and the encrypted primary PAN but not the primary PAN to a merchant device for a payment transaction.

Rejections on Appeal

Claims 10–12, 34, 36, 37, 40, 41, 44–47, and 51–58 stand rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Final Action 6–7.

Claims 51–53 and 56–58 stand rejected under 35 U.S.C. § 112(a) or 35 U.S.C. § 112 (pre-AIA), first paragraph, as failing to comply with the written description requirement. Final Action 7–9.

Claims 10, 11, 34, 36, 37, 40, 41, 44–47, 54, and 55 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Wong (US Patent 6,592,044 B1; issued July 15, 2003), Hazel (US Patent Application Publication 2007/0276765 A1; published November 29, 2007), and Gray

(US Patent Application Publication 2006/0186195 A1; published August 24, 2006). Final Action 10–14.

Claim 12 stands rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Wong, Hazel, Gray, and Pavlov (US Patent 4,614,861; issued September 30, 1986). Final Action 14–15.

Claims 53 and 58 stand rejected under pre-AIA 35 U.S.C. § 103(a) as being unpatentable over Wong, Hazel, Gray, and Routhenstein (US Patent 7,195,154 B2; issued March 27, 2007). Final Action 15–16.

ANALYSIS

Rather than reiterate the arguments of Appellant and the Examiner, we refer to the Appeal Brief (filed November 24, 2015), the Reply Brief (filed October 17, 2016), the Answer (mailed August 18, 2016), and the Final Action (mailed May 22, 2015) for the respective details.

35 U.S.C. §101 rejection

The U.S. Supreme Court provides a two-step test for determining whether a claim is directed to patent-eligible subject matter under 35 U.S.C. § 101.² In the first step, we determine whether the claims are directed to one or more judicial exceptions (i.e., law of nature, natural phenomenon, and abstract ideas) to the four statutory categories of invention (i.e., process, machine, manufacture, and composition of matter). *Id.* (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 77–78 (2012)) (“*Mayo*”). In the second step, we “consider the elements of each claim both individually and ‘as an ordered combination’ to determine whether the

² *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 134 S. Ct. 2347, 2354 (2014).

additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Id.* at 2355 (citing *Mayo*, 566 U.S. at 79, 78). 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.* (citing *Mayo*, 566 U.S. at 72–73).

First Step

Appellant contends that claimed invention is not directed to an abstract idea because there is a “series of operations performed by the portable consumer device, including accessing a primary PAN, creating a secondary PAN based on the primary PAN, encrypting the PAN, and providing both the secondary PAN and the encrypted primary PAN to a merchant device, is very different from converting binary coded decimal to pure binary, determining the optimal number of visits by a business representative to a client, and calculating parameters indicating an abnormal condition.” Appeal Brief 9–10; *see* Final Action 6–7.

In the instant application, we find the invention is directed to an abstract idea of “deriving a secondary or substitute account number based on a primary number and encrypting at least a portion of the primary number, which only involves performing calculations or manipulations of a set of digits.” Final Action 6–7. The claimed concept “is similar to concepts relating to performing mathematical calculations, which have been found to be abstract.” Answer 12–13. Although the claims recite use of a processor, we find the claims differ from the claims in *Enfish* where “the plain focus of the claims . . . [was] on an improvement to computer functionality itself, not on economic or other tasks for which a computer is used in its ordinary

capacity.” *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1336 (Fed. Cir. 2016). In contrast, the present claims utilize a processor and a non-transitory computer readable medium as a tool to access and encrypt account numbers wherein the function of the processor is not improved. Accordingly, we find Appellants’ arguments unpersuasive and find the claims are directed to an abstract idea.

Second Step

Appellant argues “the claims are directed to ‘significantly more’ than the abstract idea itself and, thus, comply with 35 U.S.C. § 101” because the additional features³ amount to more than an abstract idea. Appeal Brief 10–11.

Noting that “the two stages involve overlapping scrutiny of the content of the claims,” the Federal Circuit has described “the first-stage inquiry” as “looking at the ‘focus’ of the claims, their ‘character as a whole,’” and “the second-stage inquiry (where reached)” as “looking more precisely at what the claim elements add—specifically, whether, in the Supreme Court’s terms, they identify an ‘inventive concept’ in the application of the ineligible matter to which (by assumption at stage two) the claim is directed.” *Electric Power Grp., LLC v. Alstom S.A.*, 830 F.3d 1350,

³ For example, Appellant contends the steps of “accessing a primary Primary Account Number (PAN),” “creating a secondary PAN based upon the primary PAN by changing at least a middle portion of the primary PAN but not a beginning portion of the primary PAN,” “encrypting at least a portion of the primary PAN using a key to yield an encrypted primary PAN,” and “providing the secondary PAN and the encrypted primary PAN but not the primary PAN to a merchant device for a payment transaction” all include additional features that ensure the claims amount to significantly more than the alleged abstract idea. Appeal Brief 11.

1353 (Fed. Cir. 2016). In considering whether a claim is directed to an abstract idea, we acknowledge, as did the Court in *Mayo*, that “all inventions at some level embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.” *Mayo*, 566 U.S. at 71. We, therefore, look to whether the claims focus on a specific means or method that improves the relevant technology or are instead directed to a result or effect that itself is the abstract idea and merely invoke generic processes and machinery. *See Enfish*, 822 F.3d at 1336.

Even accepting Appellant’s argument that the claimed invention “appl[ies] any potentially-alleged abstract idea in a very meaningful way through the[] significant recited features,”⁴ there is a fundamental difference between computer functionality improvements, on the one hand, and uses of existing computers as tools to perform a particular task, on the other. Indeed, the Federal Circuit applied this distinction in *Enfish* in rejecting a § 101 challenge at the step one stage in the *Alice* analysis because the claims at issue focused on a specific type of data structure, i.e., a self-referential table for a computer database, designed to improve the way a computer carries out its basic functions of storing and retrieving data, and not on asserted advances in uses to which existing computer capabilities could be put. *Enfish*, 822 F.3d at 1335–36.

We find no parallel here between Appellant’s claims and the claims in *Enfish* (or *Research Corp. Techs., Inc. v. Microsoft Corp.*, 627 F.3d 859 (Fed. Cir. 2010) or *SiRF Tech., Inc. v. Int’l Trade Comm’n*, 601 F.3d 1319 (Fed. Cir. 2010)), nor any comparable aspect in Appellant’s claims that

⁴ *See* footnote 3.

represents “an improvement to computer functionality.” The alleged advantages that Appellant touts do not concern an improvement to computer capabilities but instead relate to an alleged improvement in applying computer-based encryption wherein a computer is used as a tool in its ordinary capacity to generate account numbers different from the Primary Account Numbers or otherwise encrypted account numbers. Subsequently, we sustain the Examiner’s 35 U.S.C. § 101 rejection of claims 10–12, 34, 36, 37, 40, 44–47, and 51–58.

35 U.S.C. §112 rejection

Claims 51, 52, 56 and 57

The Examiner finds: “Although paragraphs 60 and 37 of the specification describe adjusting the values of the digits in the middle portion of the PAN so that when a checksum calculation is performed, the checksum value will be the same as the checksum of the original PAN, the specification does not describe the specific steps performed by the portable consumer device or computing device to achieve this result.” Answer 18. Appellant argues the steps of the claims are described in the specification “explicitly, implicitly or inherently” to reasonably convey to those skilled in the art that, as of the filing date sought, that Appellant was in possession of the invention as now claimed. Appeal Brief 15. We find Appellant’s arguments persuasive. Examiner admits that the manipulation or encryption of the account numbers is supported by the Specification and therefore the encryption performed on the computing device or portable consumer device is merely a result of employing the encryption on the device via the processors, non-transitory computer readable storage mediums, etc. We reverse the Examiner’s 35 U.S.C. §112 rejection of claims 51, 52, 56 and 57.

Claims 53 and 58

The Examiner finds: “[T]he specification does not describe the manner in which the counter is used to change the middle portion of the PAN with the same level of detail recited in claims 53 and 58. The specification does not specifically recite that using the counter to change the middle portion involves identifying a counter value, changing one or more digits of the middle portion of the primary PAN based upon the counter value, and updating the counter value.” Answer 19–20. Appellant argues the steps of the claims are described in the specification “explicitly, implicitly or inherently” to reasonably convey to those skilled in the art that, as of the filing date sought, that Appellant was in possession of the invention as now claimed. Appeal Brief 16. We find Appellant’s arguments persuasive because Appellant cite to portions of both paragraphs 69 and 76 that support the claim language. We reverse the Examiner’s 35 U.S.C. §112 rejection of claims 53 and 58.

35 U.S.C. §103 rejection

Appellant contends the obviousness rejection is improper because “[t]he proposed combination of *Wong*, *Hazel*, and *Gray* . . . would require modifications to the downstream entities of the systems of *Wong* and *Hazel* to handle two account numbers instead of one. Such modifications would render the modified systems of *Wong* and *Hazel* unsatisfactory for their intended purpose of minimizing modifications to existing systems.” Appeal Brief 21. The Examiner finds Wong disclose a body, a processor, and a non-transitory computer readable storage medium and also discloses utilizing an algorithm that manipulates or encodes the account number. Answer 10–11. The Examiner further finds “Wong does not specifically disclose encrypting

at least a portion of the primary PAN using a key to yield an encrypted primary PAN and providing the encrypted primary PAN but not the primary PAN along with the secondary PAN.” Answer 11. The Examiner relies upon Hazel and Gray to address Wong’s noted deficiency by finding that “Hazel discloses encrypting at least a portion of the primary PAN using a key to yield an encrypted primary PAN and providing the encrypted primary PAN to a merchant device for a purchase transaction (Hazel ¶¶ 97-98, 100, 105-110, 118)” and “Gray discloses a consumer obtaining an encrypted primary PAN and a consumer account number, and providing the encrypted primary PAN but not the primary PAN along with a consumer account number to a merchant device for a payment transaction (Gray ¶¶ 23, 32-34, 41).” Answer 12.

“The test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art.” *See In re Keller*, 642 F.2d 413, 425 (CCPA 1981). Accordingly, we do not find Appellant’s argument persuasive and agree with the Examiner’s findings. “As our precedents make clear, . . . the analysis need not seek out precise teachings directed to the specific subject matter of the challenged claim, for a court can take account of the inferences and creative steps that a person of ordinary skill in the art would employ.” *KSR Int’l v. Teleflex Inc.*, 550 U.S. 398, 418 (2007).

We sustain the Examiner obviousness rejection of claim 10, as well as claims 11, 34, 36, 37, 40, 44-47, 54, and 55 not separately argued. *See*

Appeal Brief 21.

Appellant argues the obviousness rejections of claims 12, 53, and 58 are erroneous because Pavlov and Routhenstein fail to cure the deficiencies of the Wong, Hazel and Gray combination. Appeal Brief 21–22. We do not find Appellant’s argument persuasive because we did not find the noted combination deficient. Accordingly, we sustain the Examiner’s obviousness rejections of claim 12, 53, and 58.

DECISION

The Examiner’s 35 U.S.C. § 101 rejection of claims 10–12, 34, 36, 37, 40, 41, 44–47, and 51–58 is affirmed.

The Examiner’s 35 U.S.C. § 112 rejection of claims 51–53 and 56–58 is reversed.

The Examiner’s 35 U.S.C. § 103 rejections of claims 10–12, 34, 36, 37, 40, 41, 44–47, and 51–58 are affirmed.

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). *See* 37 C.F.R. § 1.136(a)(1)(v).

AFFIRMED