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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
13/942,651	07/15/2013	Tara Chand Singhal	11195. 33C5	1027
103550	7590	01/17/2020	EXAMINER	
Tara Chand Singhal			QAYYUM, ZESHAN	
P.O. Box 5075			ART UNIT	PAPER NUMBER
Torrance, CA 90510			3685	
			NOTIFICATION DATE	DELIVERY MODE
			01/17/2020	ELECTRONIC

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TARA CHAND SINGHAL

Appeal 2019–003693
Application 13/942,651
Technology Center 3600

Before HUBERT C. LORIN, NINA L. MEDLOCK, and
BRUCE T. WIEDER, *Administrative Patent Judges*.

LORIN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant¹ appeals from the Examiner’s decision to reject claims 1–3, 5–9, 11, and 12. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED SUBJECT MATTER

The claimed subject matter “is directed to a method and apparatus for facilitating payment transactions to merchants using existing bankcards and bank accounts of a customer. Further, the present invention is directed to a

¹ We use the word Appellant to refer to “applicant” as defined in 37 C.F.R. § 1.42(a). Appellant identifies the real party in interest as Tara Chand Singhal. Appeal Br. 4.

method and apparatus for protecting the privacy and private data of a customer in data storage and during transactions.” (Spec., 1 “Field of the Invention”). Claim 1, reproduced below, is illustrative of the claimed subject matter:

1. A method of securing storage of bankcard data in a payment system, comprising the steps of:

receiving in the payment system, wherein the payment system comprising a payment processing computer system that has a communication interface with a global computer network, a central processing unit, a memory, and a storage system, wherein the storage system is a system with multiple databases, an original bankcard data and creating in the central processing unit a sequence number as a unique reference number for this original bankcard data;

transforming the original bankcard data into an encrypted bankcard data, by the central processing unit of the payment processing computer system wherein the step of, transforming the original bankcard data uses a forward transform logic, wherein the forward transform logic is stored in the memory and executing there from [sic] and wherein, parsing by the forward transform logic the original bankcard data into multiple data elements and substituting each data element of the original bankcard data with an equivalent in format data element that is indistinguishable from the original data element, thereby yielding an encrypted bankcard data;

storing in the storage system by the central processing unit of the computer system the encrypted bankcard data referenced by the sequence number in a database that is separate from databases that store customer data.

REFERENCES

The prior art relied upon by the Examiner is:

Name	Reference	Date
Tomko	US 5,790,668	Aug. 4, 1998
Franklin	US 5,883,810	Mar. 16, 1999

REJECTIONS

Claims 1–3, 5–9, 11, and 12 are rejected under 35 U.S.C. § 112(a) as failing to comply with the written description requirement.

Claims 1–3, 5–9, 11, and 12 are rejected under 35 U.S.C. § 112(b) as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellant regards as the invention.

Claims 1–3, 5–9, 11, and 12 are rejected under 35 U.S.C. § 101 as being directed to judicially-expected subject matter.

Claims 1–3, 5–9, 11, and 12 are rejected under 35 U.S.C. § 103 as being unpatentable over Franklin and Tomko.

OPINION

The rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. § 112(a) as failing to comply with the written description requirement.

The Examiner’s position is that the following claim limitations are not adequately described in the Specification:

- “payment processing computer system that has a central processing unit, a memory, and a storage system, wherein the storage system is a system with multiple databases” (claims 1 and 7) (Final Act. 11);
- “parsing by the forward transform ... , thereby yielding an encrypted bankcard data” (claims 1 and 7) (*id.*);
- “creating in the central processing unit a sequence number as a unique reference number for this original bankcard data” (claims 1 and 7) (*id.* at 12);
- “storing in the storage system by the central processing unit of the computer system the encrypted bankcard data referenced by the

- sequence number in a database that is separate from databases that store customer data” (claims 1 and 7) (*id.*);
- “using the sequence number by the central processing unit for retrieving of the encrypted bankcard data from the storage system” (claims 2 and 8) (*id.*); and,
 - “storing not the original bankcard data in the central processing unit after the payment transaction processing and thereby discarding by the central processing unit the original bankcard data after completion of the payment transaction processing” (claims 5 and 11) (*id.* at 13).

For each, the Examiner compares the claim limitations at issue with what the Specification in fact discloses.

Appellant’s response, in its entirety, is:

With due respect, the claims are read in the light of the specification and what the specification teaches to a person of ordinary skill in the art.

The specification is directed to a computer system for securing bankcard data and a person of ordinary skill in the art (POSITA) is one with Bachelor of Science in electrical engineering and computer science. Such a POSITA knows that a computer system on a global computer network has a CPU, memory and storage systems as essential components of the computer system.

The POSITA additionally also has general knowledge of bankcards and bankcard processing and securing bankcard data during processing of a bankcard originated bankcard payment transaction at a point of sale terminal.

POSITA also knows that data is stored securely in storage systems of the computer system using the science of encryption using an encryption algorithm and an encryption key. POSITA also knows that data that is received for processing needs to be protected via encryption.

The science of encryption teaches different techniques of encryption that are applicable to different data security applications.

Further, in claim drafting, it is well established that any claim language and or claim terms that are used in claims are equivalent claim terms that are equivalent to what the specification teaches and that would be equivalent to a POSITA as has been identified above.

Therefore based on the foregoing the claim elements identified by the Examiner above, these specific limitations are [sic] indeed find support in the specification to a POSITA.

General Remarks:

The specification teaches a large number of embodiments of a payment system. Some of these embodiments are claimed in this application. However, the entire specification is pertinent and relevant to the claims in this application and the claims are to be read in light of the entire specification.

The art and science of computers has considerably evolved in the last few decades and is used for an unlimited variety of applications in the modern world including applications of the computer systems having computers communicating over communication channels either in the same vicinity or remotely across the nation and the world.

Prior to that evolution, a computer performed stand alone tasks. With this evolution, computers are connected in a network of computers with communication interfaces and protocols. Many of the modern inventions use a computer system having computers and computer systems and combination of computer system and tasks that are performed by a plurality of computer in the system.

Hence, all that knowledge related to use of computers and computer networks and the operation of them except as claimed in the claims is in the purview of a person of ordinary skill in the art related to computers and computer systems and is being relied upon in the specification.

In our view, Appellant has not addressed the Examiner’s position. The Examiner indicates as much in the Answer (*see* Ans. 9) and yet the Reply Brief adds no further insight into why Appellant believes the Examiner misapprehends what the Specification describes to one of ordinary skill in the art having the knowledge one would have had at the time the application was filed; to wit:

Examiner, in these rejections, is disregarding (i) the specification and what the specification teaches to a PHOSITA and (ii) disregarding legal definition of a PHOSITA, and making his own subjective definition to support his arguments.

Examiner has not met his burden of showing that the specification does not support the claims as to what the specification teaches to a PHOSITA.

Appellant avers that these claims do comply with the 35 USC 112, first paragraph requirement for the reasons as had been detailed in the appeal brief that had been filed.

Reply Br. 4.

We agree with many of the general legal points made in Appellant’s Brief. But, we disagree that the “specific limitations are [sic] indeed find support in the specification to a POSITA.” Appeal Br. 34. We also disagree with the points made in the Reply Brief, especially that the “Examiner has not met his burden of showing that the specification does not support the claims as to what the specification teaches to a PHOSITA.” Reply Br. 4. A plain reading of the Final Rejection shows that that is not the case.

Aside from making general legal points, Appellant fails to substantively address the merits of the Examiner’s position. Accordingly, the Examiner’s position is un rebutted.

Be that as it may, we have independently reviewed the Examiner’s findings and find the record supports them.

For example, according to the Examiner “[c]laims 1 and 7 recites ‘parsing by the forward transform ... , thereby yielding an encrypted bankcard data’ [and] this limitation was not described in the specification.”

Final Act. 11. In that regard, the Examiner finds that the

Specification discloses: The transformation logic 310 takes the original bankcard data elements and transforms the data into an equivalent bankcard data elements that is indistinguishable from the original bankcard data in format. Subsequently, the equivalent data elements are stored in the payment system. (See paragraph 0074) but does not disclose parsing, yielding an encrypted bankcard data.

Id. at 11–12. We agree.

The claim limitation at issue, in full, is:

transforming the original bankcard data into an encrypted bankcard data, by the central processing unit of the payment processing computer system wherein the step of, transforming the original bankcard data uses a forward transform logic, wherein the forward transform logic is stored in the memory and executing there from [sic] and wherein, parsing by the forward transform logic the original bankcard data into multiple data elements and substituting each data element of the original bankcard data with an equivalent in format data element that is indistinguishable from the original data element, thereby yielding an encrypted bankcard data;

Claim 1. The other independent claim – claim 7 – contains a similar limitation.

Said limitation calls for “transforming the original bankcard data us[ing] a forward transform logic.” This is described in the Specification at 17:1–16:

A transformation logic 310 within the system program 28 is used to transform the bankcard data 352A and 352B into equivalent data elements 314 for storage. The transformation logic 310 takes the original bankcard data elements and transforms the data into an equivalent bankcard data element[s] that is indistinguishable from the original bankcard data in format. ... The transformation logic 310 has a forward transform logic 310A, a reverse transform logic 310B, a bank code table 310C listing all the possible bank codes, an expiration date table 310D, listing all the possible expiration dates and an offset table 310E, listing the offsets that are applied to the elements A, B, C, D, and E for a range of sequence numbers.

The limitation further calls for the “*forward transform logic ... [to] pars[e] ... the original bankcard data into multiple data elements and substitut[e] each data element of the original bankcard data with an equivalent in format data element that is indistinguishable from the original data element, thereby yielding an encrypted bankcard data, thereby yielding an encrypted bankcard data.*” (Emphases added.) This is *not* described in the Specification.

The Specification does not describe the “forward transform logic” performing “parsing” and “substituting” operations. Setting aside that the Specification does not expressly recite the terms “parsing” and “substituting,” in any case the Specification does not disclose a “forward transform logic” that *parses* “the original bankcard data into multiple data elements” (claim 1) and *substitutes* a “data element of the original bankcard

data with an equivalent in format data element that is indistinguishable from the original data element, thereby yielding an encrypted bankcard data”

This is all the Specification discloses about a “forward transform logic”:

For a bankcard data that is input to the logic 310, the *forward transform logic 310A*, determines the range of the sequence number. Then using this range it reads the offsets for that range from table 310E. Offset 1 is applied to original element A to get equivalent element A, offset 2 is applied to original element B to get equivalent element B, offset 3 is applied to original element C to get equivalent element C, offset 4 is applied to original element D to get equivalent element D and offset 5 is applied to original element E to get equivalent element E.

These offsets can be of many types. For example, the offsets for element A and E enable an equivalent bank code and expiration date from the tables 310C and 310D. Offsets for element B, C and D provide a means for new equivalent elements B, C and D.

Spec. 17:17–27 (emphasis added). This passage refers to Fig. 3E, reproduced below:

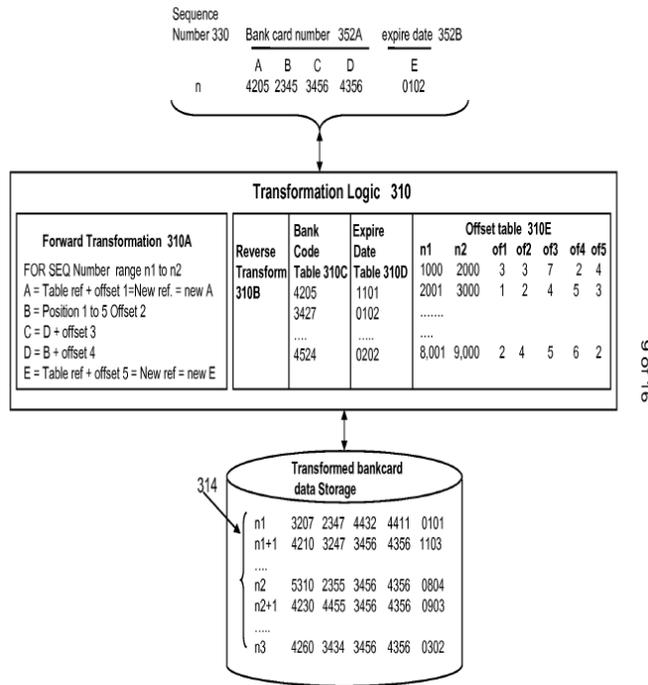


FIGURE 3E

Figure 3E describes a data security method.

According to said disclosure, the “forward transform logic” determines a range (n1, n2) of the sequence number (n) of the bank card data, reads offsets (of1 to of5) for that range from table 310E and applies them to the corresponding elements (A–E) of the bank card data, thereby yielding “equivalent elements” A–E.

We do not see in that disclosure any operation whereby the “forward transform logic” performs an analysis and replacement so that “the original bankcard data [is parsed] into multiple data elements and [] each data element of the original bankcard data [is substituted] with an equivalent in format data element that is indistinguishable from the original data element, thereby yielding an encrypted bankcard data,” as claimed.

“To satisfy this requirement, the specification must describe the invention in sufficient detail so ‘that one skilled in the art can clearly conclude that the inventor invented the claimed invention as of the filing date sought.’ *Lockwood v. Am. Airlines, Inc.*, 107 F.3d 1565, 1572 (Fed. Cir. 1997); *see also LizardTech, Inc. v. Earth Res. Mapping, Inc.*, 424 F.3d 1336, 1345 (Fed. Cir. 2005); *Eiselstein v. Frank*, 52 F.3d 1035, 1039 (Fed. Cir. 1995).” *In re Alonso*, 545 F.3d 1015, 1019 (Fed. Cir. 2008). Here, there is insufficient detail about how the “forward transform logic” operates so that one of ordinary skill in the art can conclude that the inventor invented a “forward transform logic” that parses and substitutes in the manner claimed. While it may be obvious to parse and substitute by said “forward transform logic” given a disclosure of a “forward transform logic” determining a range for a sequence number, reading offsets from a table, and applying those offsets to the original elements, “[o]ne shows that one is ‘in possession’ of the invention by describing the invention, with all its claimed limitations, not that which makes it obvious.” *Lockwood*, 107 F.3d at 1572 (emphases omitted).

Accordingly, the record supports the Examiner’s finding that “[c]laims 1 and 7 recite[] ‘parsing by the forward transform ... , thereby yielding an encrypted bankcard data’ [and] this limitation was not described in the specification.” Final Act. 11 (emphasis omitted).

Because the Examiner’s position is un rebutted and the record supports the Examiner’s findings, the rejection is sustained.

The rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. § 112(b) as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellant regards as the invention.

The Examiner’s position is that the following claim limitations are unclear:

- “Claims 1 and 7 recite ‘transforming the original bankcard data into an encrypted bankcard data by the central processing unit of the payment processing system wherein the step of transforming the original bankcard data uses a forward logic’, claim further recites ‘parsing by the forward transform logic the original bankcard data into to [sic] multiple data elements and substituting each data element...’ It is unclear that original bankcard data is transformed using the forward logic OR transformation happened in parsing step.” (Final Act. 14);
- “Claims 1 and 7 recite[] ‘the encrypted bankcard data’ in storing step. Claim [7] recites in transforming step ‘an encrypted bankcard data’ and in parsing step ‘an encrypted bankcard data.’ It is unclear to one of the ordinary skill the encrypted bankcard data in storing step refer to transforming step or parsing step.” (*id.*); and,
- “Claims 1 and 7 recite[] ‘parsing by the forward transform logic the original bankcard data into multiple data elements and substituting each data element of the original bankcard data with an equivalent in format data element that is indistinguishable from the original data element, yielding an encrypted bankcard data’ It is unclear to one of the ordinary skill in the art that whether the phrase ‘indistinguishable from the original data element’ describes the data or the format of the substituted data element.” (*id.*).

Appellant fails to substantively address the merits of the Examiner’s position. In fact, Appellant incorrectly identifies what the Examiner finds. It is not that “it is unclear . . . what the difference is between bankcard data and customer data” (Appeal Br. 36). That was at issue in the prior appeal (2017–

008565), not here. Otherwise, Appellant’s Appeal Brief makes the same general points made against the rejection under 35 U.S.C. § 112(a) as failing to comply with the written description requirement, to wit:

With due respect, the claims are read in the light of the specification and what the specification teaches to a person of ordinary skill in the art.

The specification is directed to a computer system for securing bankcard data and a person of ordinary skill in the art (POSITA) is one with Bachelor of Science in electrical engineering and computer science. Such a POSITA knows that a computer system on a global computer network has a CPU, memory and storage systems as essential components of the computer system.

The POSITA additionally also has general knowledge of bankcards and bankcard processing and securing bankcard data during processing of a bankcard originated bankcard payment transaction at a point of sale terminal.

POSITA also knows that data is stored securely in storage systems of the computer system using the science of encryption using an encryption algorithm and an encryption key. POSITA also knows that data that is received for processing needs to be protected via encryption.

Further, in claim drafting, it is well established that any claim language and or claim terms that are used in claims are equivalent claim terms that are equivalent to what the specification teaches and that would be equivalent to a POSITA as has been identified above.

Id. at 36–37.

As we explained above, there is inadequate written descriptive support in the Specification for the “forward transform logic” performing a parsing and substitution as claimed; that is, a “forward transform logic” whereby “the original bankcard data [is parsed] into multiple data elements and [] each data element of the original bankcard data [is substituted] with an

equivalent in format data element that is indistinguishable from the original data element, thereby yielding an encrypted bankcard data” (independent claims 1 and 7). Given the lack of explanation as to how the “forward transform logic,” for example, *parses* the original bankcard data, the operation as claimed is unclear to one of ordinary skill in the art.

Accordingly, the record supports the Examiner’s position. *See e.g.*, Final Act. 14 (“It is unclear that original bankcard data is transformed using the forward logic OR transformation happened in parsing step.”) “[U]nder the broadest reasonable interpretation when read in light of the Specification, [the phrase “forward transform logic”] is vague and unclear, and a person having ordinary skill in the art would not be able to discern the metes and bounds of the claimed invention in light of this claim language.” *Ex parte McAward*, 2015–006416 (PTAB Aug. 25, 2017) (precedential).

Accordingly, we sustain the Examiner’s rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. § 112(b) as indefinite for failing to particularly point out and distinctly claim Appellant’s invention.

The rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. §101 for claiming patent-ineligible subject matter.

Claims 1–3, 5–9, 11, and 12 are indefinite for the reasons discussed above. Accordingly, the rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. § 101 for claiming patent-ineligible subject matter must fall, *pro forma*, because it necessarily is based on speculative assumptions as to the meaning of the claims. *See In re Steele*, 305 F.2d 859, 862–63 (CCPA 1962). We make no comment on the merits of the Examiner’s position regarding the eligibility of the claimed subject matter.

The rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. § 103 as being unpatentable over Franklin and Tomko.

The rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. § 103 as being unpatentable over Franklin and Tomko must fall, *pro forma*, because it necessarily is based on speculative assumptions as to the meaning of the claims. *See Steele*. Accordingly, we reverse this rejection. We make no comment on the merits of the Examiner’s position regarding the obviousness of the claimed subject matter given the combined disclosures of Franklin and Tomko.

CONCLUSION

The decision of the Examiner to reject claims 1–3, 5–9, 11, and 12 is affirmed.

More specifically:

The rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. § 112(a) as failing to comply with the written description requirement is affirmed.

The rejection of claims 1–3, 5–9, 11 and 12 under 35 U.S.C. § 112(b) as being indefinite for failing to particularly point out and distinctly claim the subject matter which Appellant regards as the invention is affirmed.

The rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. § 101 as being directed to judicially-excepted subject matter is reversed *pro forma*.

The rejection of claims 1–3, 5–9, 11, and 12 under 35 U.S.C. § 103as being unpatentable over Franklin and Tomko is reversed *pro forma*.

In summary:

Claims Rejected	35 U.S.C §	Reference(s)/Basis	Affirmed	Reversed
1–3, 5–9, 11, 12	§ 112(a)	Written description	1–3, 5–9, 11, 12	

Claims Rejected	35 U.S.C §	Reference(s)/Basis	Affirmed	Reversed
1-3, 5-9, 11, 12	§ 112(b)	Indefiniteness	1-3, 5-9, 11, 12	
1-3, 5-9, 11, 12	§ 101			1-3, 5-9, 11, 12
1-3, 5-9, 11, 12	§ 103	Franklin, Tomko		1-3, 5-9, 11, 12

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

AFFIRMED