COMMENTS PROVIDED FOR SELECT MEMBERS OF US SENATE VIA USPTO

ON 35 USC 101 JURISPRUDENCE

Due by October 15, 2021

Dear Honorable US Senators Thom Tillis, Mazie Hirono, Tom Cotton, and Christopher Coons,

You deserve my special thanks for seeking from the public on how current 35 USC 101 Abstract Subject Matter jurisprudence, since Supreme Court 2016 Alice decision may have affected U.S. investment and innovation, particularly in critical technologies such as quantum computing, artificial intelligence, precision medicine, diagnostic methods, and pharmaceutical treatments.

These comments are provided by

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1.0 Overview

Honorable US Senators Thom Tillis, Mazie Hirono, Tom Cotton, and Christopher Coons, deserve my thanks for seeking this important information from public on how current 35 USC 101 Abstract Subject Matter jurisprudence, since Supreme Court Alice decision may have affected U.S. investment and innovation, particularly in critical technologies such as quantum computing, artificial intelligence, precision medicine, diagnostic methods, and pharmaceutical treatments.

Please note, this above list of critical technologies leaves out "cyber security defense", even when "cyber security defense" is the one of the most paramount and essential topic of innovation and new technologies for protecting the nation against constantly evolving cyber security attacks and hacks by the nation state adversaries against the US's critical infrastructure.

This oversight by US Senate is monumentally troubling and harmful to the nation, when all critical infrastructure systems are continuously being hacked and breached and US Government continues to depend on traditional brute force approaches by the industry that has been ineffective and has not protected the nation against such cyber attacks and hacks in the last few decades.

Therefore, I must chide you for that lack of cognizance and understanding of how this lack of cyber security defense against nation states has affected this nation.

Please see as Attachment A, attached letter sent via email to Rep. Ted Lieu, 33rd District California, requesting closed door congressional hearings on this issue of cyber security defense, to which his staff as yet to respond.

Also I must chide you for putting all eggs in one basket of FDA and the pharmaceutical enterprises, for them being "inside the box" thinkers can never come up with viable, long lasting solution for the COVID-19 Pandemic.

Please note, vaccines being the "inside the box" solution do not and would not address the unique human engineered properties of COVID-19 virus, of this virus being a self replicating virus by hijacking human cell's own replicating machinery, as well as other issues that continue to surface, on a regular basis, from the data collected from the use of these vaccines.

FDA harms the nation and impedes progress and innovation by being both stupid and bureaucratic in withholding EUA of essential COVID-19 patent pending therapeutic treatments.

Please see Attachment B and an excerpt below from the attached press release that has been copied to FDA and NIH Leadership, highlighting this folly of the FDA.

"MNA is a new "outside the box" therapeutic named MNA Liquid Medicine™ and is a new and novel treatment modality using a botanically sourced inhalant via a nebulizer; MNA is effective in a few hours by killing the virus outright in the entire respiratory system where it hides and replicates; MNA is effective against all variants of a virus, past, present and future mutations; MNA has no known side effects having been sourced from botanical agents already in

wide-spread use by humans. MNA certainly would have prevented over half a million deaths, when for over a year FDA had not approved any drugs for this virus.

Given these benefits of MNA compared to vaccines, MNA would likely beat mRNA vaccines by a “clear margin”. The question is why no one has even heard of MNA Liquid Medicine and why FDA has not approved it?

The answer may surprise you, FDA refused to review a 260 page proposal detailing all required safety and effectiveness data and information, and refusing to approve even a mini trial of MNA, saying FDA does not approve “herbal medicines”; and the media suppressed all news against vaccines.”

35 USC 101 Abstract Subject Matter jurisprudence

The current 35 USC 101 Abstract Subject Matter jurisprudence issues, since Supreme Court Alice 2016 decision are entirely USPTO and CAFC created.

These issues exist because, USPTO and CAFC under USPTO influence, by butchering the plain meaning of clearly stated and articulated terms in the Alice, such as “fundamental economic practice”, “method of organizing human activities”, and “conventional use of computers”, by ignoring and disregarding the context in which these terms and phrases were used in Alice and thus creating a veritable jungle of confusion and harming innovation and the nation.

A real world example of a very recent USPTO PTAB and CAFC decision under this USPTO influence is referenced and attached herein.

This real world example and illustration of the butchering of the plain meaning of clearly stated and articulated terms in the Alice, such as “fundamental economic practice”, “method of organizing human activities”, and “conventional use of computers”, concerns a seminal US patent application on cyber security defense of the nation’s critical infrastructure.

See Attachment C: CAFC Case No. 2020-2318, a very recent CAFC decision gutting a US patent application in cyber security defense of the nation’s critical infrastructure; with files coped herein;

20210222 Appellant's Corrected Opening Brief.pdf

20210426 Director's Brief.pdf

20210527 Appellant's Reply Brief.pdf

20210914 Judgment.pdf

for the reader and the US Senate to judge themselves this butchering of the plain meaning of clearly stated and articulated terms in the Alice, such as, “fundamental economic practice”, “method of organizing human activities”, and “conventional use of computers”, by ignoring and disregarding the context in which these terms and phrases were used in Alice.

1.1 Author’s Background

I am an independent inventor with over 100 US patents in a very large swath of human endeavors, and - with innovations across seven different market verticals, including cyber security defense of critical infrastructure, new e-

commerce platforms, cyber secure payment infrastructure, handheld and wearable devices, vehicle safety systems, human health that benefit the US in many different ways.

I have degrees in Electrical Engineering, Systems Engineering, Software Engineering from world-famous institutions, and am a non-practicing attorney, as well as - a certified information system security professional (CISSP®), with decades of experience with large defense contractors. I also have an avid interest in humans and human psychology that enables my innovations, as the humans are at the core of utilizing an innovation that benefits society in multiple ways.

2.0 USPTO and CAFC abuse of 35 USC 101 and *Alice* Jurisprudence

2.1 Overview

Alice created a new category of patent ineligible subject matter called abstract subject matter.

For almost everyone Alice decision is extremely clear on what it teaches and yet Alice still has caused such extreme confusion at the USPTO and the CAFC. That is because, for them they have only read what the commentators have written about Alice and not the original full Alice decision as the Supreme Court has gone to great lengths to detail the Alice ruling and its creation of Abstract Subject Matter.

Therefore, no amount of congress legislation would be able to fix that confusion. Author believes and posits that a proper application of Alice requires

an intelligent and an unbiased understanding of the basic terms and phrases that have been used in the Alice decision in the context they have been used therein.

The USPTO and CAFC routinely misunderstand and misapply the primary Alice terms of “fundamental economic practice”, “method of organizing human activity”, “something significantly more”, and secondary terms such as, “conventional use of computers”, to mean whatever these terms choose to mean to the USPTO and CAFC, out of context in how they have been used in the Alice, as detailed in the Alice ruling itself.

As an illustration, the term “conventional use of computers”, has no meaning without the context it has been used in the Alice. This term “conventional use of computers”, makes sense when used in the context of the terms, “fundamental economic practice”, “method of organizing human activity”, “something significantly more” to identify when these mental activities that predate computer era are performed making conventional use of computers.

However, USPTO and CAFC have a gross misunderstanding and have used that to create a new test of “conventional use of computers” in isolation and devoid of the context it was used in Alice.

Please note English language has a limited number of words that are used to express by us humans, an unlimited variety of human endeavors. Therefore, understanding or deriving proper meaning of the words without the context in which they have been used is a veritable jungle of meaningless ideas.

In their folly and moronic stupidity, USPTO and CAFC define a computer as a device that receives input, provide a storage, processes input and outputs

results, and hence any invention using computers that has these generic elements is categorized as “conventional use of computers”, entirely disregarding and holding abstract the innovative and inventive results and outcome of any computer device application; thus gutting or holding all computer based inventions and innovations irrespective of any field of endeavor, as abstract and thus patent ineligible under 35 USC 101.

While Alice was clear to anyone who read it, it still created a lot of confusion for everyone. Whomsoever read someone else analysis of Alice, instead of reading the Alice decision itself, totally misunderstood and misconstrued Alice’s seminal phrases and what they meant in the context of Alice and its unique facts and thus the underlying basis of US Supreme Court’s Alice decision.

In each subsequent CAFC decision, based on conflicting arguments by both the Plaintiff and the Defendants in the case before them, the CAFC further confused and misconstrued these seminal phrases, in new fact cases that came before them since Alice.

USPTO legal staff then attempted to interpret these confusing CAFC decisions to create guidance for the examiners. Since these USPTO legal staff-provided guidelines are based on these equally confusing and ever changing CAFC decisions, USPTO has issued a large number of, as many as twenty, sequential guidelines, including the latest one, dated January 19, 2019.

Since, while the Alice stays same, the USPTO based on every new CAFC decision came out with revised USPTO MPEP guidelines for the examiner.

However, it is should be noted by the PTAB and the CAFC, the only controlling law is the Alice decision itself and they cannot enter a decision contrary to Alice itself in holding the subject matter Abstract, when it clearly under Alice is not. Therefore, detailed herein is what Alice's Abstract Subject Matter law really is:

2.2 35 USC 101, Alice subject matter category, "Abstract"

In the Alice case before the S. Ct., facts were for a risk-based or a barter transaction that was a staple of commerce for hundreds of years and was done by parties to the transaction manually, using manual communication means. Alice Court characterized these types of transactions done mentally or using pen and paper as essentially a mental or as Alice characterized as abstract as being mental transaction.

The patent before the Alice court had taken that abstract or mental activity and had transformed that mental activity as a communication between computers using logic to facilitate that risk-based or the barter transaction.

The issue before the Alice court was, if that originally a risk-based barter transaction that was conducted as a mental activity for hundreds of years, when merely transferred and was being conducted by the use of computers, in the new current era of computers, by the patent before the Alice court, was that innovative or has innovation elements under 35 USC 102 and 35 USC 103 to deserve patent protection?

The Alice court held and ruled no, because Alice court characterized that subject matter as mental activity and thus abstract; and for that reason held that subject matter as abstract and thus excluded or held patent ineligible under a newly created “abstract subject matter” category or classification.

Then, the Alice court reasoned, maybe the subject matter of the invention, where the inventor was doing more than that mental element and that may be deserving of patent protection. That is then why Alice court created a doctrine of “something significantly more” in the Alice context.

And that is the true genesis of the Alice’s two prong test for holding subject matter as patent eligible under the newly created category of Abstract Subject Matter.

It is essential to understand the basis and origin of the Abstract Subject Matter, as a newly created subject matter category, because that provides the context for the rest of the Alice decision to be properly understood and used.

Therefore, these historical contexts are important to remember as the historical and legal basis of the Alice’s new coined terms “abstract“ and “something significantly more”.

Alice court in order to provide further guidance for what the Alice court referred to as abstract or mental activities, coined the new phrases of “fundamental economic practice” and “method of organizing human activity”, thus referring to and elaborating the meaning of these two phrases, as directed to commercial activities under the broad categories of “fundamental economic practice”, “method of organizing human activity” that were widely prevalent in

our society as normal commerce activities that were being done mentally or using pen and paper before the era of computers.

All this context of these terms of Alice is lost on USPTO and CAFC and others who have only read an opinion by someone of Alice, and thus without knowing the context and thus the proper meaning of these Alice terms.

Please note English language has a limited number of words that are used to express by us humans, an unlimited variety of human endeavors. Therefore, understanding or deriving proper meaning of the words without the context in which they have been used is a veritable jungle of meaningless ideas.

That is what has happened and is happening at the USPTO and the CAFC as well as the patent bar, to have caused this extreme confusion.

2.3 Abstract Subject Matter

There were human activities directed to commercial activities under the broad categories of “fundamental economic practice”, “method of organizing human activity that predate era of automation and automation characterized by using computers as well as communication networks between these computers.

These activities were all done mentally and supplemented using pen and paper but mental activity being the primary activity. Since they are mental activities Alice categorized them as abstract in nature.

A case with a specific fact came before Alice Court where the patent owner had taken a specific mental activity of hedging risk that predates era of

automation and had implemented that using computer and computer network as tools for automation.

Alice court reasoned that this was not innovation worthy of a patent as the patent owner had merely taken an abstract activity that of hedging risk and had merely automated and implemented using computers with networks

Hence Alice court held, the claims were being directed to abstract subject matter and thus created a new 35 USC 101 patent ineligible category of Abstract Subject Matter

Alice court to provide further guidance defined abstract to include human activities that had predated the computer era by broad brush phrases of "methods of organizing human activity" and "fundamental economic practice"

Alice court soon realized that these broad phrase categories subsumed all human activities and then to include only those human activities that are mental and by definition predate computer era, created an exception by coining a phrase, "something significantly more".

And thus Alice court created a foundation for a two prong test for abstract subject matter analysis, the first prong being directed to the determination of abstract subject matter and if the analysis of the first prong does determine an abstract subject matter and then only a second prong directed to determination of “something significantly more”.

2.4 An example of Abuse of Alice by USPTO and CAFC

As an illustration payment transactions using barter and currency under the category of "fundamental economic practice" would fall in the mental category of abstract; however payment mechanisms using bankcards would not be abstract because they are more than mere payment transaction under the broad phrase "fundamental economic practice" and thus bankcard payments cannot be purely mental or abstract activity making conventional use of computers.

These subtle distinctions as above are lost on the USPTO legal staff who formulated the MPEP related to 35 USC 101 and Alice abstract subject matter and they then merely wrongly interpreting these seminal Alice phrase of "fundamental economic practice" and "conventional use of computers".

Therefore characterizing any payment transaction as "fundamental economic practice" is a wrong decision and only those activities that predate computer era are abstract activities and thus fundamental economic practice under Alice.

Refer to currently pending CAFC Appeal No. 2020-2318 United States Court of Appeals for the Federal Circuit In re: TARA CHAND SINGHAL Appellant, On Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. 12/928,710.

The invention of the Author, subject of this CAFC appeal, is directed to cyber security defense of the nation's critical infrastructure, in payment transactions in global e-commerce.

2.5 A real world example of abuse of Alice by USPTO and CAFC

The following illustrates how the pending patent, referred to above in section 2.4 above, is impacted by the conduct of USPTO and the CAFC. As the only issue, in this pending patent application, before the USPTO and CAFC is 35 USC 101 Alice's Abstract Subject Matter.

A real tangible application of the technology of this patent called, Card Secure Platform®, based on the above pending patent has been launched in the market place, as described on the website www.SalesTransactionSystem.com and summarized as follows:

Payment Transaction Space Issues that Affect Everyone

Bankcard payment transactions using electronic payment infrastructure have become both ubiquitous and fundamental to commerce the world over. It is important for everyone to know why, how and what serious security risks and vulnerabilities in the payment transaction space affect you in multiple ways.

For one, electronic payment infrastructure requires a customer to have a bankcard (either physical or digital) issued by a card-issuing bank, the customer's

bankcard data is then transferred to the payee or merchant's POS either in-store or online each time a payment is made to the payee/merchant.

Thus the customer's private bankcard data is copied many times to a large number of payees/merchants and creates the perfect opportunity for cyber security hacks, which too have become ubiquitous, as countless recent news item attest.

Second, online payments require use of your own personal computer, which is subjected to multiple security risks due to malware such as BOT (automated hidden robot like malware to steal your personal data including your passwords).

To eliminate these security issues, What if there was a payment system where the customer didn't need to have their bankcard, nor required to transfer bankcard data from customers to merchants? That is, no card-intake mechanism in a merchant's POS or online sales, nor bankcard data stored in any database.

Yet make seamless payments to any payee/merchant using their existing POS electronic payment infrastructure, eliminating all privacy and security issues from the nations' electronic payment infrastructure.

That may seem impossible to achieve; however, Tara Chand made that possible. We have launched this new payment transaction system in the market place and are actively pursuing strategic business alliances. I believe you would

very much like to be associated, with this life transforming innovation in the payment transaction space. Read more. . .

Introducing a New Innovative Mobile Payment Technology Platform

A new innovative mobile payment technology platform, branded Card Secure Platform® (CSP), has been launched in the payment transaction space and is signing up merchants and bankcard customers now.

We made sure a key part of this innovation is CSP's seamless deployment within the existing payments infrastructure industry, operating as a separate, parallel independent payment channel within the merchant's existing POS system without any disruption of their current POS methods or partnerships, in addition to providing extreme security and human-factor convenience for both merchants and their customers.

The invaluable features and benefits of this new innovative mobile payment technology platform, branded, Card Secure Platform® (CSP) will rapidly drive industry-wide adoption and further described on the landing page of our website www.salestransactionsystems.com.

The CSP platform provides key innovative features enabling seamless payment transactions using the existing payment infrastructure, online and in-store, without the customer ever needing to carry a bankcard, thus avoiding any transfer or transmission of sensitive data through the merchant's POS system,

eliminating entirety all current and constantly evolving cyber security issues for both the merchant as well as their customers.

The landing page of our website www.salestransactionsystems.com allows you access to review three different PowerPoint slide decks for our upcoming IPO road show, created for our three different constituencies: merchants; investors; card issuing banks and their customers.

Please note, each of these invite decks includes a video describing the key features of Card Secure Platform® (CSP) and how this innovative mobile payment technology platform benefits the entire payment card industry.

Attachment A:

Letter to 33rd Dist. Rep. Ted Lieu on Cyber Security Defense

a company like no other on the planet . . . . with a staggering array & scope of innovations.™

Internet Promise Group®
. . . realizing the promise of a new world through innovation

August 3, 2021

TO: Rep. Ted Lieu

Washington D.C. Office
403 Cannon HOB
Washington, DC 20515
Phone: (202) 225-3976
Email: ted.lieu@mail.house.gov

Los Angeles Office
1645 Corinth Ave, Suite 101
Los Angeles, CA 90025
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Office Chief of Staff - Marc Cevasco
Email: marc.cevasco@mail.house.gov

Subject: Request a Meeting in Support of Closed-Door Congressional Hearings on Cyber Security Defense of the Nation

From: Tara Chand Esq. Resident of 33rd District; I have always admired your leadership of the 33rd district where I have made a home for my family for many decades in South Torrance.

Dear Rep. Ted Lieu,

As has become clear to everyone for a long time, and more so even now, there is no end-in-sight to persistent, never-ending cyber-attack threat vectors to the nation's critical infrastructure. I propose to discuss in these proposed closed door hearings, why a viable, effective, and a long-term cyber security defense solution has not emerged or has been implemented to date and what should be done to address this situation.

In the proposed hearings, I will explain why these cyber attacks continue and have succeeded, despite many US enterprises working with various U.S. government agencies for decades to strengthen the cyber defense of the nation. I would say that this approach of public/private partnership in cyber security defense has not yielded results, and is due to a phenomenal lack of understanding of the underlying nature of the causes of cyber threat vectors by U.S. enterprises, the U.S. government and the cyber security defense industry.

I am attaching a memorandum that we have drafted that details the many and continuing cyber security attacks and threat vectors harming our nation. These continuing, persistent, and serious attacks should have raised an extremely high degree of alarm for a nation increasingly dependent upon the Internet and its underlying global network of computers and communication infrastructure.

Therefore, to ensure nation-wide immunity to the U.S. from cyber-attacks from our nation state adversaries, we have developed unique innovations in cyber security defense technologies that would create and implement a viable, long lasting and all-encompassing cyber security defense solution. Please note, I had written to Mr. Trump in early 2017 on this same subject, as well as his defense secretary but was ignored.

Therefore, I am proposing closed-door congressional hearings to brief and present the nature of the underlying problem in our existing cyber security defense capabilities, and how and what should be done to ensure viable, long lasting and all-encompassing solutions to address the critical threat from our nation state adversaries, among others. The briefing would include a summary detailing the underlying cause of cyber-attack threat vectors as well as comprehensive solutions we've developed for each.

Additionally, we also request an open-door congressional hearing for briefing the nation on how we have solved the cyber-attack vulnerability of the nation's Electronic Payment Infrastructure

Please note, one of the most vulnerable parts of the nation's critical infrastructures is the banking and financial system, which in recent years has witnessed an unprecedented number of cyber-attacks.

Payment Transaction Space Issues that Affect Everyone

Bankcard payment transactions using electronic payment infrastructure have become both ubiquitous and fundamental to commerce the world over. It is important for everyone to know first, why, how and what serious security risks and vulnerabilities in the payment transaction space affect everyone in the nation in multiple ways.

For one, electronic payment infrastructure requires a customer to have a bankcard (either physical or digital) issued by a card-issuing bank, the customer's bankcard data is then transferred to the payee or merchant's POS either in-store or online each time a payment is made to the payee/merchant. Thus the customer's private bankcard data is copied many times to a large number of payees/merchants and that creates the perfect opportunity for cyber security hacks, which too have become ubiquitous, as countless recent news item attest.

Second, online payments require use of your own personal computer, which is subjected to multiple security risks due to malware such as BOT (automated hidden robot like malware to steal your personal data including your passwords).

The only solution for these security issues, provided by the banking industry is to continuously replace the compromised bankcards, a great inconvenience to the customer waiting for the replacement bankcard, as well as costing billions to the banking industry in fraud costs.

On how we have fundamentally solved this critical threat vector, we have prepared a briefing of our viable and long lasting innovations to address these and other threat vectors that we would like to brief in these open door congressional hearings for the benefit of the nation, the merchants, the banks and their customers.

To illustrate the complexity of solving this threat vector and to eliminate these security issues, **what if there was a payment system** where the customer didn't need to have their bankcard, nor required to transfer bankcard data from customers to merchants? That is, no card-intake mechanism in a merchant's POS or online sales, nor bankcard data stored in any database;

Yet make seamless payments to any payee/merchant using their existing POS electronic payment infrastructure, without any change in existing business relationships, being extremely friendly to merchants and their customers; eliminating all privacy and security issues from the nation's electronic payment infrastructure.

That is exactly what our innovation has accomplished and we are prepared to brief the nation, via the congress open hearings, how this has been done. Therefore, we propose setting-up an on-line meeting with you and key congressional leadership at your earliest convenience to explain in detail how our cyber security defense technology can help eliminate both current and future cyber-security threat vectors.

A senior member of my executive staff will reach out to your congressional office staff to arrange next steps early next week.

With Kind Regards,

Tara Chand

Tara Chand, Esq., BSEE (IITD), MSSE, CISSP
Founder & CEO
Internet Promise Group of Companies

Attached: Cyber Security Defense Issues Memorandum

Memorandum in support of Attached Letter to Rep. Ted Lieu
Requesting Congressional Hearings
Based on Current State of U.S. Cyber Security Defense

By:
Tara Chand, Esq., BSEE, MSSE, CISSP
Founder & CEO
Internet Promise Group® of companies

For the last two decades to present day, as has become evidently clear to everyone, based on a plethora of news, the private enterprises who control the cyber security infrastructure as well as the FBI, NSA, CIA, and US government et al, have fundamentally failed to protect the nation's critical infrastructure, including U.S. government agencies, private enterprises, and its citizens from cyber-security attacks both foreign & domestic.

There are and have been many notable hacks such as, including stealing personal data of all government employees in the long list of past major cyber attacks. Therefore, it makes sense to highlight and summarize this state of affairs by identifying past major cyber attack history as follows in the following links.

Reported Total U.S. Data Breaches (All Types): 2005-2020

Since 2005, the U.S. has experienced over 12,256 "reported" cyber-attack data breaches, which includes documented reports filed by individual U.S. private citizens, U.S. enterprises/businesses, and the U.S. government/military, beginning with a relatively modest 157 incidents in 2005, which rose to 662 by the end of 2010, and peaked in 2017 with 1,632, before falling slightly to 1,001 in 2020.
Source: www.statista.com

Reported U.S. Data Breaches by Industry/Sector: 2013-2019

The number of "reported" U.S. cyber-attack data breaches by industry from 2013 to 2019 totaled 2,874, an average of 1,473 annually, with the majority affecting the Business and Medical or Healthcare Industries, with 644 and 525 data breaches respectively for each over the 7-year time frame. Other major industry sectors "reported" over the 7-year time span a total of 585 data breaches affecting the Education Industry, 572 affecting the Banking/Finance Industry, and 548 affecting the U.S. Government/Military.
Source: www.statista.com

Reported Cyber Security incidents by U.S. Federal Agencies: 2006-2018

The number of "reported" cyber security incidents reported by U.S. Federal Agencies from 2006 to 2018 totaled 500,296–a truly stunning statistic for the unrivaled technology leader in the world. Beginning in 2006, the number of cyber security incidents reported by U.S. Federal Agencies totaled 5,503, before peaking in 2015, with a total 77,183. During the most recently

Attachment B:

Press Release on Subject: The role FDA and NIH played in COVID-19 Vaccine misinformation.

Proposed Editorial & Press Release for publication

Subject: Role the FDA and the NIH Played in COVID-19 Vaccine Misinformation

Title:

If COVID-19 Vaccines are "Inside the Box" solution to the pandemic, what would be an "outside the box" solution?

-- A question for, Drs., Francis Collins, Anthony Fauci, Rochelle Walenski, Vivek Murthy, and Virologists

There is an idiomatic expression "thinking outside the box" that is often used for characterizing or coaxing closed minds or group thinking people who are looking for a conventional solution for a difficult problem, or an "inside the box" solution to "think outside the box" or an unconventional solution.

However, for those not familiar with this idiomatic expression, the question is what box?

The idiom "inside the box" refers to a conceptual box, whose outer boundary is defined by the limits of knowledge of an individual or a closed group of people based on the sum total of their education and their own life's experiences.

If the "box" is as defined above, then which individual can "think outside the box"? The answer is that an individual who can "think outside the box" is one

who has an entirely different knowledge base than those who think “inside the box”, as well as has an innovative talent. Here I am using the expression “thinking outside the box”, in the context of the COVID-19 treatments.

The severity of COVID-19 infections derived from the engineered properties of the COVID-19 virus, as this virus has the unique property of, hijacking the human cell’s own self-replicating machinery, and thus quickly spreading inside the lungs, in the process destroying the human cell and impairing lung function.

As the severity of the societal impact of COVID-19 infections became clear in early 2020, a race began; a race to find an optimum treatment to COVID-19. As it turned out in this race, there were three horses in running in this race; new therapeutic treatments, repurposing old viral medicines for COVID, and mRNA based vaccines.

While, the 2nd horse is repurposing old anti-viral drugs, and 3rd horse is vaccines, or “inside the box” solutions; then “new therapeutic treatments” being characterized as new would certainly be characterized as an “outside the box” solution or the 1st horse.

However, in this three-horse race as above, it was not certain vaccine horse would win the race, given the uncertainties and risks inherent in using a new platform of mRNA; that coupled with the uniqueness of the COVID-19 virus, believed to be engineered under international funding and support.

In mRNA based vaccine treatment modality, lab engineered COVID-19 virus RNA or a virus seed is injected as a vaccine, acting as a messenger and hence named mRNA. This mRNA seed then impregnates the human cells. The cell

machinery from this mRNA seed then reproduces the virus and a new virus is born.

Then this new COVID virus in the human body having been created by being self-borne of the human cell itself with the mRNA virus seed is detected by the human immune system as a pathogen. The immune system then gets busy making anti-bodies to the virus. This immune system process inside the human body is sequential and time consuming and has the steps of, detecting the virus as a pathogen, creating a unique identification for the virus and mapping the contours of the virus.

The human immune system then sends this virus identification data to the human immune system for it to prime itself to manufacture the specific anti-bodies for this specific virus. This sequence and process may take about a week for ordinary virus and virus vaccines; however, this process takes about a month or so for the mRNA created COVID virus to provide full anti-body immunity to the COVID virus.

The question that had puzzled my analytical mind: If vaccines are “inside the box” solution to the pandemic, the question, then what would be “an outside the box” solution to this pandemic or a new therapeutic?

For the public to believe, that there is such a thing as an “outside of the box” solution when compared to the “inside the box” solution of mRNA based vaccines, then this “outside the box” solution has to win the horse race by a “clear margin” to be convincing to the public and the experts.

Based on large number of vaccinations administered to cover almost half of the population, vaccine horse has clearly won the race; however given the many new vaccine issues that surface every day in the news, the issue of which horse won the race should remain open.

That "outside the box" solution or the 1st horse new therapeutic had already been innovated and is labeled as MNA Liquid Medicine™. MNA is an "outside the box" solution as MNA does not use or rely on immune system, unlike vaccines and repurposed viral medicines, but relies on directly killing the virus where it hides and replicates in the respiratory system.

So let us set that "clear margin" benchmark upfront for this comparison to decide which horse might or would win the race. The benchmark for this comparison is based on factors of: treatment modality; effectiveness and time to effectiveness; side effects, and safety. These factors are already known for mRNA based vaccines, but not for a new "outside the box" therapeutic named MNA Liquid Medicine™.

MNA in a new and novel treatment modality using a botanically sourced inhalant via a nebulizer; MNA is effective in a few hours by killing the virus outright in the entire respiratory system where it hides and replicates; MNA is effective against all variants of a virus, past, present and future mutations; MNA has no known side effects having been sourced from botanical agents already in wide-spread use by humans. MNA certainly would have prevented over half a million deaths, when for over a year FDA had not approved any drugs for this virus.

Based on this benchmark, MNA as compared to mRNA vaccines would likely beat mRNA vaccines by a “clear margin”. The question is why no one has even heard of MNA Liquid Medicine and why FDA has not approved it?

The answer may surprise you, FDA refused to review it, even when provided a 260 page proposal detailing all required safety and effectiveness data and information, and refusing to approve even a mini trial of MNA, saying FDA does not approve “herbal medicines”; and the media suppressed all news against vaccines.

Investigative reporters are asked to investigate as there is a volume of documentation to support FDA, CDC bad faith conduct and Media suppression as well that I have; that will be made available to an investigative reporter affiliated with a major news media.

By: Tara Chand Esq., President, IPG Natural Health LLC.

And CEO, Internet Promise Group Inc., an innovation enterprise active across seven market verticals, including human health.

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Attachment C:

Briefs that were filed at the CFC and the CAFC decision identified in CAFC Case No. 2020-2318, for a patent application on cyber security defense of the nation

20210222 Appellant's Corrected Opening Brief.pdf

20210426 Director's Brief.pdf

20210527 Appellant's Reply Brief.pdf

20210914 Judgment.pdf

No. 2020-2318

United States Court of Appeals for the Federal Circuit

In re: TARA CHAND SINGHAL

Appellant,

On Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. 12/928,710

CORRECTED OPENING BRIEF FOR APPELLANT

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FEBRUARY 22, 2021

LANGUAGE OF CLAIMS AT ISSUE

1. A secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network, comprising:

a cellular wireless device of the customer, wherein the wireless device is equipped with a wireless data receiving sensor, wherein the wireless data receiving sensor is one or more from a group of, a digital camera, a short distance RF receiver and an infrared receiver, the wireless device using the wireless data receiving sensor is able to receive a partial payment authorization transaction record from the sales terminal of the merchant;

a logic stored in a memory of the wireless device and operating in a CPU of the wireless device receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount;

the logic in the wireless device processes the partial payment authorization transaction record by first authenticating the device to the central system and then wirelessly transmitting the partial payment authorization transaction record over a cellular wireless communication network to the central system, thereby enable a payment transaction from the customer to the merchant.

2. The system as in claim 1, comprising:

the wireless device has a receive sensor that receives the partial payment authorization transaction record transaction record from the sales terminal either via a short distance RF protocol or an optical transmission.

3. The system as in claim 1, comprising:

the wireless device has a function that activates a payment transaction logic in the wireless device to receive the partial payment authorization transaction record from the sales terminal of the merchant.

4. The system as in claim 3, comprising:

the wireless device function requires entry of a personal code of the customer and transmits the partial payment authorization transaction record to include, at least the merchant terminal identification, and the payment amount to a third party payment system that pre-stores customer bankcard data.

5. The system as in claim 1, comprising:

the wireless device receives the partial payment authorization transaction record that is specific to a sales transaction of the customer at the sales terminal of the merchant.

6. The system as in claim 1, comprising:

the wireless device has entry means for the customer for manually entering a merchant identification and the payment amount in the wireless device using a keypad and a display screen of the wireless device.

7. The system as in claim 1, comprising:

the wireless device has an identification code which uniquely identifies the wireless device to the central system.

8. The system as in claim 1, comprising:

the wireless device has a payment function, activated by a menu item "payment", a keypad key combination such as an arrow key followed by a numeric key, or a special key for payment.

9. The system as in claim 8, comprising:

the payment function, on being activated, creates an encrypted payment data record including at least the merchant terminal identification, the payment amount, a personal code and the wireless device identification code and transfers 5 it over the global network to the central system.

10. The system as in claim 1, comprising:

the wireless device receives from the central system a notification of a payment by a payment approval record.

11. A method of secure payment between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network, comprising the step of:

receiving by a cellular wireless device of the customer equipped with a wireless data receiving sensor, wherein the wireless data receiving sensor is one or more from a group of, a digital camera, a short distance RF receiver and an

infrared receiver, wherein receiving by the wireless device using the wireless data receiving sensor a partial payment authorization transaction record from the sales terminal of the merchant;

receiving by a logic stored in a memory of the wireless device and operating in a CPU of the wireless device the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount; and

processing by the logic the partial payment authorization transaction record by first authenticating the device to the central system and then transmitting wirelessly by the logic in the wireless device, over a cellular wireless communication network, the partial payment authorization record to the central system, thereby facilitating a payment transaction from the customer to the merchant.

12. The method as in claim 11, comprising the step of:

having by the wireless device a function that activates a payment transaction logic in the wireless device to receive the partial payment authorization transaction record from the sales terminal 5 of the merchant.

13. The method as in claim 11, comprising the step of:

requiring by the wireless device function entry of a personal code of the customer and transmitting the partial payment authorization transaction record to

include, at least the merchant terminal identification, and the payment amount to a third party payment system that pre-stores customer bankcard data.

14. The method as in claim 11, comprising the step of:

having a receive sensor in the wireless device and receiving by the receive sensor the partial payment authorization transaction record from the sales terminal either via a short distance RF protocol or an optical transmission.

15. The method as in claim 11, comprising the step of:

receiving by the wireless device the partial payment authorization transaction record that is specific to a sales transaction of the customer at the sales terminal.

16. The method as in claim 11, comprising the step of:

having entry means in the wireless device for the customer for manually entering a merchant identification and the payment amount in the wireless device using a keypad and a display screen of the wireless device.

17. The method as in claim 11, comprising the step of:

identifying the wireless device with an identification code, which uniquely identifies the wireless device to the central system.

18. The method as in claim 11, comprising the step of:

having by the wireless device a payment function, activated by a menu item "payment", a keypad key combination such as an arrow key followed by a numeric key, or a special key for payment.

19. The method as in claim 11, comprising the step of:

activating the payment function, creates an encrypted payment data record including at least the merchant terminal identification, the payment amount, a personal code and the wireless device identification code and transfers it over the global network to the central system 10.

20. The method as in claim 11, comprising the step of:

receiving by the wireless device from the central system a notification of a payment by a payment approval record.

CERTIFICATE OF INTEREST

In accordance with Federal Circuit Rule 47.4(a) and (b), counsel for Appellant Tara Chand Singhal certifies the following:

1. Represented Entities (Fed. Cir. R. 47.4(a)(1)): Tara Chand Singhal.

2. The real party in interest (Fed. Cir. R. 47.4(a)(2)): None/Not Applicable

3. Parent Corporations and Stockholders (Fed. Cir. R. 47.4(a)(3)): None/Not Applicable

4. Legal Representatives (Fed. Cir. R. 47.4(a)(4)): None/Not Applicable

5. Related Cases (Fed. Cir. R. 47.4(a)(5)): None/Not Applicable

6. Organizational Victims and Bankruptcy Cases (Fed. Cir. R. 47.4(a)(6)): None/Not Applicable

February 22, 2021

Respectfully submitted,

/s/ Walter D. Davis, Jr.

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STATEMENT OF RELATED CASES

In accordance with Federal Circuit Rule 47.5(a) and (b), Appellant states:

There are no other pending cases pending before this Court that will directly affect or be directly affected by this Court's decision in this appeal.

I. JURISDICTIONAL STATEMENT

This is an appeal from a decision on appeal by the Patent Trial and Appeal Board (the "Board") in Appeal 2019-000707, entered March 23, 2020. The Board in that decision affirmed the Examiner's rejection in U.S. Application No. 12/928,710 ("the '710 application") that claims 1-20 are unpatentable under 35 U.S.C. § 101. The Board had authority to issue its decision under 35 U.S.C. § 134(a). Appellant requested rehearing of the decision, and rehearing was denied by the Board on July 23, 2020. Appellant filed a timely notice of appeal on September 22, 2020, following the Board's decision denying rehearing. This Court has appellate jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

II. STATEMENT OF THE ISSUES

1. Whether the Board erred by affirming the Examiner's rejection of claims 1-20 of U.S. Patent Application No. 12/928,710 under 35 U.S.C. § 101.

III. STATEMENT OF THE CASE

A. The '710 Application

The '710 application claims a secure payment system and method that eliminates certain security risks of traditional payment systems. Appx0032. In traditional payment systems, when a customer makes a purchase at a merchant using a bankcard, the customer swipes the bankcard through a card reader, which is connected to a merchant computer system. Appx0031. Sensitive information from the bankcard, such as the card number, name, and expiration date, are copied into the merchant computer system and thereafter sent to a third-party merchant processor by the merchant computer system. *Id*. The third-party merchant processor is used to approve the payment for the purchase by communicating with an automated clearinghouse ("ACH"). *Id*.

This operation creates multiple security risks. For example, in the traditional payment system, the customer's sensitive bankcard information is stored in the merchant computer system. Appx0031. Computer hackers or other bad actors could potentially steal this information. *Id*. In addition, that same bankcard information may be stored with many different merchants, increasing the possibility that the information be misappropriated. Appx0031-0032. Separately, the transmission of bankcard information from the merchant computer system to the

third-party merchant processor presents another opportunity for hackers or other bad actors to steal the information.

The ’710 application eliminates these payment system security issues by eliminating the need to store customer bankcard information in a merchant computer system. Appx0035. In the secure payment system of the ’710 application, a customer who wishes to make a purchase from a merchant uses a cellular wireless device, instead of a bankcard. Appx0036-0037. When the customer makes a purchase, the customer’s cellular wireless device, which is located close to a merchant sales terminal, wirelessly receives from the sales terminal a specific record called “a partial payment authorization record.” Appx0037, Appx0051. This “partial payment authorization record” is an inventor-coined term used to illustrate and describe a security feature of the ’710 application. The “partial payment authorization record” includes data fields of only a date and time of the sales transaction, a transaction reference number, a merchant terminal identification, and a payment amount. Appx0036-0037, Appx0040, Appx0050, Appx0488. The “partial payment authorization record” does not, however, include bankcard information or other sensitive customer information. Appx0035, Appx0488. Typically, for example, the customer is at a merchant checkout counter and holding the cellular wireless device in his hand. Appx0037. The sales terminal can generate the “partial payment authorization record” for transmitting to the

cellular wireless device at the time a payment amount has been determined and is communicated to the customer to make a payment, allowing the customer to use the cellular wireless device to receive the transmission. *Id*.

The cellular wireless device thereafter wirelessly transmits the "partial payment authorization record" over a cellular wireless communication network to a central system, where it is stored. Appx0038-0040, Appx0051, Appx0488. This central system is a new system that was not part of traditional payment systems.

In order to complete a payment transaction between the customer and the merchant, the cellular wireless device has a payment function that, upon being activated, creates an encrypted data record including at least the merchant terminal identification, the payment amount, a Card Personal Identification Number ("CPIN"), and a device identification code. Appx0038-0039. The CPIN is a number entered or otherwise selected by the customer that identifies the customer and one of the bankcards the customer wishes to use for the payment transaction; it is not a bankcard number. Appx0038. The encrypted data record is transferred to the central system by the cellular wireless device. Appx0038-0039. The central system, upon receiving the encrypted data record, decrypts the record and identifies and verifies the customer and particular bankcard the customer wishes to use for the payment transaction by looking up bankcard information that the customer previously stored at the central system. Appx0039. In this manner, neither the

merchant nor the customer needs to store or transmit bankcard information at the time of the payment transaction. Appx0035.

The above system and operation is echoed in the claims. For example, claim 1 of the '710 application reads:

> 1. A secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network, comprising:
>
> a cellular wireless device of the customer, wherein the wireless device is equipped with a wireless data receiving sensor, wherein the wireless data receiving sensor is one or more from a group of, a digital camera, a short distance RF receiver and an infrared receiver, the wireless device using the wireless data receiving sensor is able to receive a partial payment authorization transaction record from the sales terminal of the merchant;
>
> a logic stored in a memory of the wireless device and operating in a CPU of the wireless device receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount;
>
> the logic in the wireless device processes the partial payment authorization transaction record by first authenticating the device to the central system and then wirelessly transmitting the partial payment authorization transaction record over a cellular wireless communication network to the central system, thereby enable a payment transaction from the customer to the merchant.

Claims 8 and 9 add the concept of the payment function that creates an encrypted payment data record:

> 8. The system as in claim 1, comprising:

> the wireless device has a payment function, activated by a menu item "payment", a keypad key combination such as an arrow followed by a numeric key, or a special key for payment.

9. The system as in claim 1, comprising:

> the payment function, on being activated, creates an encrypted payment data record including at least the merchant terminal identification, the payment amount, a personal code and the wireless identification code and transfer it over the global network to the central system.

B. Procedural History

The '710 application was filed on December 17, 2010, with a set of claims much broader than those currently pending. Appx0028. Over the course of several years, Appellant amended the claims several times and filed four separate appeal briefs, the last of which was filed on July 12, 2017, appealing a final office action dated February 22, 2017. Appx0379. The February 22, 2017 final office action rejected claims 1-20 under 35 U.S.C. § 101 but included no prior art rejections. Appx0379. The Board issued its Decision on Appeal on March 23, 2020. Appx0001. Appellant filed a Request for Rehearing on May 26, 2020, which was subsequently denied on July 23, 2020. Appx001, Appx0540. This appeal followed. Appx0543.

IV. SUMMARY OF THE ARGUMENT

The Board's Decision on Appeal as to claims 1-20 should be reversed. The Board failed to properly establish that the claims are not patent eligible under

Alice step 1 and step 2. With respect to *Alice* step 1, the Board erred in holding that the claims are directed to the broad concept of "securely processing payments." The claims go beyond that broad concept. For example, the claims expressly require a cellular wireless device belonging to a customer that wirelessly receives a specific partial payment authorization transaction record from a sales terminal of a merchant (while the wireless device is in close proximity to the sales terminal) and wirelessly transmits the partial payment authorization record to a central system.

The Board also erred in its assessment as to whether the allegedly abstract idea is integrated into a practical application. For example, the Board did not adequately analyze the claims as an ordered combination under *Alice* step 1. The Board found that individual elements have been shown to be improved by the invention, but they did not consider the combination of those elements. And when that combination is properly considered, it becomes clear that the claims improve a function of payment systems, namely, security. Under the prevailing legal authority, such an improvement should lead to a conclusion that the claims are not abstract.

With respect to *Alice* step 2, the Board improperly included an inventive concept of the '710 application as being within the alleged abstract idea. Instead of fully analyzing whether one of the claimed "logic" elements includes an

inventive concept, the Board instead wrongly determined that that element was part of the fundamental economic practice of secure payment processing and declined to perform any further analysis. Under a proper analysis, the inventive concept in this claim element (transmitting a partial payment authorization record over a cellular wireless communication network directly from a customer's wireless device to a central system) leads to a conclusion that the claim are directed to patent-eligible subject matter.

The Board also failed to establish that the claimed elements, individually or as an ordered combination, operate in their well-understood, routine, and conventional ways. The Board made no substantive factual findings that the claimed elements operate in their well-understood, routine, and conventional ways, an error that is particularly egregious with respect to the ordered combination of elements. The lack of a prior art rejection supports the notion that at least the ordered combination of claimed elements is not well-understood, routine, and conventional. On the merits, the claims are directed to a technology-based solution that overcomes existing security problems with conventional payment systems, and for that reason, the claims have an inventive concept that renders them patent eligible.

ARGUMENT

A. Standard of Review

Patent eligibility under § 101 is ultimately a question of law that may contain underlying issues of fact. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018). The Court reviews the Board's legal conclusions with respect to patent eligibility under § 101 *de novo*. *Credit Acceptance Corp. v. Westlake Servs.*, 859 F.3d 1044, 1053 (Fed. Cir. 2017). Section 101 states that patent eligible subject matter includes "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof" unless it attempts to claim "laws of nature, physical phenomena, and abstract ideas." *Bilski v. Kappos*, 561 U.S. 593, 601-02 (2010). The Supreme Court has devised a two-step analytical framework to determine whether a patent recites a patent-eligible invention. *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 573 U.S. at 208, 217 (2014) (citing *Mayo Collaborate Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 70 (2012)).

The Court first determines "(1) whether the claim, as a whole, is 'directed to' patent-ineligible matter—here, an abstract idea—and (2) if so, whether the elements of the claim, considered individually or as an ordered combination 'transform the nature of the claim' into a patent-eligible application." *Ancora Techs., Inc. v. HTC Am., Inc.*, 908 F.3d 1343, 1347 (Fed. Cir. 2018), *as amended*, (Nov. 20, 2018) (citations omitted). "[I]t is irrelevant that any individual step or

limitation of such processes by itself would be unpatentable under § 101." *In re Bilski*, 545 F.3d 943, 958 (Fed. Cir. 2008).

The Court reviews the Board's factual findings for substantial evidence. "Substantial evidence is something less than the weight of the evidence but more than a mere scintilla of evidence[,]" meaning that "[i]t is such relevant evidence as a reasonable mind might accept as adequate to support a conclusion." *In re NuVasive, Inc.*, 842 F.3d 1376-80 (Fed. Cir. 2016) (internal quotation marks and citations omitted).

B. *Alice* step one: The claims of the '710 application are directed to patent-eligible concepts.

1. The Board erred in holding that the claims are directed to "securely processing payments."

The Board held that the claims recite "the fundamental economic practice of securely processing payments." Appx0008. To reach that conclusion, the Board noted that claim 1 recites "[a] secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network" and further noted that this Court, in its *Inventor Holdings, LLC* and *CyberSource Corp.* decisions, has held that processing of payments is a fundamental economic practice. Appx0007.

To tie in the concept of *secure* payments, the Board notes that claim 1's recitation of logic in the claimed wireless device "describes that the device is

authenticated using the data gathered and the data is then transmitted over a cellular network to the central system to enable the payment transaction." Appx0007-0008. Thus, the Board points out, this step further illustrates that the claim recites the fundamental economic practice of securely processing payments. Appx0008. The Board reasons that because this Court has held that processing payments is a fundamental economic practice, *securely* processing payments is also a fundamental economic practice. *Id*. And therefore, according to the Board, the claims recite an abstract idea. *Id*.

To perform a proper *Alice* step one analysis, the Board was required to "articulate what the claims are directed to with enough specificity to ensure the step one inquiry is meaningful." *Core Wireless Licensing S.A.R.L. v LG Electronics, Inc.*, 880 F.3d 1356, 1361 (Fed. Cir. 2018) (quoting *Thales Visionix Inc. v. United States,* 850 F.3d 1343, 1347 (Fed. Cir. 2017). The Board has failed to do so here with its grossly overbroad characterization of the claims as being directed to "securely processing payments." The claims go beyond the broad concept of securely processing payments. For example, claim 1 expressly requires a cellular wireless device belonging to a customer that 1) wirelessly receives a specific "partial payment authorization transaction record" (that includes data fields of only a date and time of the sales transaction, transaction reference number, merchant terminal identification, and payment amount) from a

"sales terminal" of a merchant (while the wireless device is in close proximity to the sales terminal);[1] and 2) wirelessly transmits the "partial payment authorization record" over "a cellular wireless communication network" to a "central system."

Claim 9 tacks on additional requirements that also surpass the broad concept of "securely processing payments." For example, claim 9 expressly requires the cellular wireless device to create a specific encrypted payment data record and transfer it to the central system. Like the partial payment authorization record of claim 1, the encrypted payment data record of claim 9 does not include customer bankcard information.

For the Board to disregard these express claim elements is to proceed at "a high level of abstraction" that is "untethered from the claim language" and that "overgeneralize[es] the claim." *TecSec, Inc. v. Adobe Inc.*, 978 F.3d 1278, 1295 (Fed. Cir. 2020) (citing *Enfish LLC v. Microsoft Corp.*, 822 F.3d 1327, 1337-1338 (Fed. Cir. 2016)). Using claim 1 as an example, the Board appears to have not gone beyond the first four words of the preamble ("A secure payment system") in deciding that the claim is directed to "securely processing payments." And that is not nearly enough. The claimed secure payment system is directed to

[1] Because the claims recite that the cellular wireless device is equipped with a wireless data receiving sensor, wherein the sensor is one or more from a group of a digital camera, short distance RF receiver, and infrared receiver, one of ordinary skill in the art would appreciate that the cellular wireless device must be close to the sales terminal.

a customer's cellular wireless device in close proximity to a merchant's sales terminal that wirelessly receives from the sales terminal a specific partial payment authorization transaction record, which does not include sensitive customer financial information, and thereafter wirelessly transmits the partial payment authorization record over a cellular wireless communication network to a central system. Such a system details how a customer can complete a payment transaction from the customer to the merchant without storing the customer's sensitive financial information at the merchant's terminal, thereby improving the security of the system. The additional requirements of claim 9 also detail how the security of the payment system can be improved.

The Board's observation that this Court has held (in its *Inventor Holdings, LLC* and *CyberSource Corp.* decisions) that the processing of payments is a fundamental economic practice, is flawed. The rulings in those decisions were not so broad. In *Inventor Holdings, LLC*, for example, this Court held that "[t]he idea that a customer may pay for items ordered from a remote seller at a third-party's local establishment is the type of fundamental business practice that, when implemented using generic computer technology, is not patent eligible." *Inventor Holdings, LLC v Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378 (Fed. Cir. 2017). That holding is not a sweeping proclamation that each and every payment process is a fundamental economic process.

The Board is similarly incorrect with respect to its view that the *CyberSource Corp.* case stands for the notion that the processing of payments is a fundamental economic process. In *CyberSource Corp.*, this Court held that the claims at issue are unpatentable, because they can be performed by the human mind alone. *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1372 (Fed. Cir. 2011). There was no holding that the processing of payments is a fundamental economic process.

The current claims are not directed to the idea that a customer may pay for items ordered from a remote seller at a third-party's local establishment, which is the idea to which the claims of *Inventor Holdings, LLC* are directed. Nor are they directed to an idea that can be performed in the human mind alone, like the claims analyzed in *CyberSource Corp*. Rather, the current claims, as reflected in claim 1, are directed to a customer's cellular wireless device in close proximity to a merchant's sales terminal that wirelessly receives from the sales terminal a specific partial payment authorization transaction record that omits sensitive customer financial information, and thereafter wirelessly transmits the partial payment authorization record over a cellular wireless communication network to a central system. In this manner, the security of the system is improved, because the customer's sensitive financial information (e.g., credit card number, bank account number, etc.) is not stored at the merchant's sales terminal. Claim 9

provides additional requirements on how the security of the system is improved. The Board has supplied no evidence that a system that operates in this manner has ever been contemplated by anyone else, let alone be considered fundamental.

2. The Board ignored that the claims recite an improvement to a basic function of a payment processing system.

The Board correctly recognizes that if the allegedly abstract idea is integrated into a practical application, then the claim directed to the allegedly abstract idea is not abstract. Appx0008-0009. But the Board did not correctly apply that legal concept to the facts of this case.

In ascertaining whether the so-called abstract idea has been integrated into a practical application, the patent's 'claimed advance' must be examined to determine whether the claims are directed to an abstract idea. *Ancora*, 908 F.3d at 1347 (citing *Finjan, Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299, 1303 (Fed. Cir. 2018)). In cases involving software innovations, this inquiry often turns on whether the claims focus on the specific asserted improvement in computer capabilities. *Id*. Computers are improved not only through changes in hardware; software can make non-abstract improvements to computer technology. *Id*.

Regardless of whether at step one or two of the *Alice* test, the claim elements must be analyzed individually and as an ordered combination. *McRO, Inc. v. Bandi Namco Games America Inc.*, 837 F.32 1299, 1313 (Fed. Cir. 2016). As such, the improvement in computer capabilities needed to establish that a

claim is not abstract can be not just to individual elements, but to a system in general. *See id*.

The Board fails to adequately analyze the claims as an ordered combination under *Alice* step one. The Board finds that there is no indication that individual elements have been improved by the invention. Appx0011, Appx0020-0021. The Board, however, did not analyze whether the combination of the aforementioned elements provide an improvement to a system. *Id.* And in fact, the combination of the claimed elements do improve a function of payment systems, namely, security.

In that manner, the current claims are like those in the *TecSec*. and *Ancora* cases. In *Ancora*, this Court held that improving security can be a non-abstract computer-functionality improvement if done by a specific technique that departs from earlier approaches to solve a specific computer problem. *Ancora*, 908 F.3d at 1348. Similarly, in *TecSec*, this Court concluded that "the claims are directed to improving a basic function of a computer data-distribution network, namely, network security." *TecSec*, 978 F.3d at 1296.

The current claims, like those in *TecSec*, improve a basic function of a computer network, namely, the security of that network (payment system). For example, as previously noted, the claimed secure payment system is directed to a customer's cellular wireless device that wirelessly receives, from a merchant's

sales terminal, a specific partial payment authorization transaction record that does not include sensitive customer financial information, and thereafter wirelessly transmits the partial payment authorization record over a cellular wireless communication network to a central system. Such a system enables a customer to complete a payment transaction from the customer to the merchant without storing the customer's sensitive financial information at the merchant's terminal, thereby improving the security of the system.

Similarly, the current claims, like those in *Ancora*, improve security using a specific technique (described above) that departs from earlier approaches (as evidenced by a lack of a prior art rejection) to solve a specific computer problem: the vulnerability of sensitive customer financial information stored in a merchant computer system to hacking. *Ancora*, 908 F.3d at 1349.

The *Uniloc* case is also instructive. In *Uniloc*, this Court disagreed with the district court's reasoning that the invention is not directed to an improvement in the computer or network functionality because it uses "off-the shelf components," "includes only generic activities of servers," and "does not amount to more than a routine activity of commercial network management software as described by the specification itself." *Uniloc USA, Inc. v. ADP, LLC*, 772 Fed.Appx. 890, 897 (Fed. Cir. 2019). This Court noted that the specification merely describes the implementation of the claimed invention using the network

environment; it does not indicate that the network environment itself previously used the claimed file packets or that the use of file packets was conventional. *Id.* This Court concluded that the use of the file packets to initiate registration of an application from an application server is not an abstract idea, but a particular improvement in the functioning of prior art application distribution networks. *Id.* at 898. The current claims are similar to those in *Uniloc*. The currently claimed secure payment system uses a specific partial payment authorization transaction record that does not include sensitive customer financial information to improve the functioning of prior art payment systems.

Indeed, the claimed payment system itself is new. Pre-existing payment systems did not include a cellular wireless device in close proximity to a merchant sales terminal that wirelessly communicated directly with a central system. In that sense, the current claims are like those from the *EcoServices* case. There, in finding the claims not abstract, this Court noted that "we do not have a situation where there was a pre-existing system being used to which only a known feature, similar to features previously determined to be abstract, was added. Instead, here, the system itself is new." *EcoServices LLC v. Certified Aviation Services, LLC*, 830 Fed.Appx. 634, 645 (Fed. Cir. 2020). Like the system in EcoServices, the currently claimed payment system was not a pre-existing system to which only a known feature was added. Rather, the central system that

communicates directly with the cellular wireless device of a customer is a completely new component that makes the payment system as a whole new. As such, the claimed secure payment system, like the system in *EcoServices*, is not abstract.

The current claims recite more than a mere result and do more than broadly and generically claim the use of known elements to perform an abstract business practice. *See StoneEagle Services, Inc. v. Pay-Plus Solutions, Inc.*, 113 F.Supp. 3d 1241, 1251 (M.D. Fla. 2015); *Finjan*, 879 F.3d at 1305-1306. Rather, the claims recite specific features (wirelessly receiving from a sales terminal a specific partial payment authorization transaction record that omits sensitive customer financial information, and thereafter wirelessly transmitting the partial payment authorization record over a cellular wireless communication network to a central system) that accomplish the desired result of improving the security of payment systems.

For the foregoing reasons, the claims are not abstract.

C. *Alice* step two: The claims of the '710 application recite inventive concepts

1. The Board wrongly included the inventive concept described and claimed in the application as the alleged abstract idea.

Among the errors made by the Board in addressing *Alice* step 2 was their failure to fairly and fully consider each of the elements of the claims in ascertaining whether the claims include an inventive concept. A glaring example of this is the Board's treatment of the following element from claim 1:

> the logic in the wireless device processes the partial payment authorization transaction record by first authenticating the device to the central system and then wirelessly transmitting the partial payment authorization record over a cellular wireless communication network to the central system, thereby enable a payment transaction from the customer to the merchant.

Instead of fairly analyzing whether any portion of this element includes an inventive concept, the Board determined that that limitation was part of the fundamental economic practice of secure payment processing, and as a result declined to perform any further analysis. Appx0007-0008. In doing so, the Board ignored one of the main points of the invention and claims of the '710 application—transmitting a partial payment authorization record over a cellular wireless communication network directly from a customer's wireless device to a central system. By treating the inventive concept detailed and claimed in the '710 application the same as the allegedly abstract idea, the Board turned the Alice analysis on its head and treated the § 101 exception so as to "swallow all of patent law." *Alice*, 573 U.S. at 217.

The ’710 application eliminates conventional payment system security issues by eliminating the need to store customer bankcard information in a merchant computer system. When the customer makes a purchase, the customer’s cellular wireless device, which is located close to a merchant sales terminal, wirelessly receives from the sales terminal a specific record called a partial payment authorization record, which includes data fields of only a date and time of the sales transaction, a transaction reference number, a merchant terminal identification, and a payment amount. The partial payment authorization record does not include bankcard information or other sensitive customer information. The cellular wireless device thereafter wirelessly transmits the partial payment authorization record over a cellular wireless communication network to a central system, where it is stored. In this manner, the merchant need not store or transmit bankcard information at the time of the payment transaction, improving security of the payment system. This ordered combination of elements reflects an inventive concept.

Additionally, when the customer activates a payment function on his cellular wireless device, the function creates an encrypted data record including at least the merchant terminal identification, the payment amount, a personal code (which is not a bankcard number), and a device identification code. The encrypted data record is transferred to the central system by the cellular wireless device. The

central system, upon receiving the encrypted data record, decrypts the record and identifies and verifies the customer so that a payment transaction with a particular bankcard can be completed. In this manner, the customer's cellular wireless device also need not store or transmit bankcard information at the time of the payment transaction. This ordered combination of elements reflects an additional inventive concept (see claim 9).

2. The Board did not establish that the individual elements of the claims operate in their well-understood, routine, and conventional ways.

Step 2 of *Alice* is satisfied when the claim limitations "involve more than the performance of 'well-understood, routine, [and] conventional activities previously known to the industry.'" *Berkheimer v. HP Inc.*, 888 F.3d 1360, 1367 (Fed. Cir. 2018). In determining whether that standard is met, the Board must consider the elements of the claims individually and as an ordered combination. *Id*. The Board failed on both accounts.

Regarding the individual claim elements, the Board identifies the "cellular wireless device," servers of the "central system," and interfaces over "global computer network" as limitations beyond the alleged abstract idea. Appx0012. In its Decision on Appeal, the Board addresses the question of whether these individual elements are well-understood, routine, and conventional in a single sentence: "[a]s explained above, these claimed elements appear to be used in their

routine and conventional manner to implement the claimed secure payment processing system." Appx0012-0013. Though the Board does not specifically indicate, the "above" explanation appears to refer to page 10 of the Decision on Appeal.

On page 10, the Board finds that the description of the "cellular wireless device" in the specification indicates that the claimed cellular wireless device is part of the technological environment in which the invention is implemented but does not indicate that the claimed cellular wireless device is improved by the invention. Appx0011. First, a statement that the specification does not indicate that the claimed cellular wireless device is improved by the invention is not equivalent to an argument that the cellular wireless device is well-understood, routine, and conventional. The Board's conclusory holding is faulty for that reason alone.

Second, the Board improperly focused on only the hardware of the claimed cellular wireless device and ignored any software or firmware therein. For example, claim 1 recites:

> a logic stored in a memory of the wireless device…receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount.

The Board made no finding that this claimed logic is well-understood, routine, and conventional. Instead, the Board disposes of it by holding that "[t]his limitation

describes the data gathered and identifies the specific fields of data gathered in order to process the payment." Appx0010-0011. And, in the Board's view, data gathering steps cannot make an otherwise non-statutory claim statutory and do not constitute a practical application of the allegedly abstract idea. Appx0010, Appx0022. The Board's conclusion in this regard relates to step 1 of *Alice*, not step 2 (practical application of an allegedly abstract idea (step 1) as compared to inventive concept (step 2)). The Board did not ascertain whether this feature recites an inventive concept under step 2.

Moreover, the case on which the Board relies to support its finding that data gathering step cannot constitute a practical application of an abstract idea is inapposite. The Board cites to the *CyberSource Corp*. case, which itself quotes *In re Grams*, which in turn quotes *In re Meyer*: "[w]e have held that mere '[data-gathering] step[s] cannot make an otherwise nonstatutory claim statutory." Appx0010 (citing *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366, 1370 (Fed. Cir. 2011)). But these cases are inapplicable to claims like those at issue here. Rather, the claims in *CyberSource Corp.*, *In re Grams*, and *In re Meyer* are directed to method steps that can be performed in the human mind. See *CyberSource*, 654 F.3d at 1372; *In re Grams*, 888 F.2d 835, 840 (Fed. Cir. 1989); *In re Meyer*, 688 F.2d 789, 794 (CCPA 1982). That is a much different situation than here, where the

claims indisputably do not pertain to mental processes. The Board erred by skipping a fulsome analysis of the claimed logic in the cellular wireless device.

The Board's finding regarding the servers of the "central system" is also flawed. Here, the Board found that "the central system is described as including a storage device, operating system, system program, and system processor." Appx0011. Providing no analysis whatsoever, the Board concludes that this claimed element "appear[s] to be used in [its] routine and conventional manner to implement the claimed secure payment processing system." Appx0012-0013. But the central system is not described by the specification as being conventional. Indeed, the central system goes to the heart of the invention.

During a payment transaction, the central system receives a partial payment authorization record (claim 1) or an encrypted payment data record (claim 9) directly from the customer's cellular wireless device. Neither record contains customer bankcard information. Instead of a merchant computer system or the customer's cellular wireless device storing customer bankcard information, the central system does so. In this manner, the security of the payment system is enhanced. This central system is a new system that was not part of traditional payment systems. As such, it is not possible for the central system to be used in its routine and conventional manner as suggested by the Board. Even if central systems were part of traditional payment systems, the Board has not shown that to

be the case. Nor has the Board shown that, to the extent that there are pre-existing central systems, that those pre-existing central systems operate in the manner claimed to improve the security of a payment system.

3. The Board did not properly analyze the claims as an ordered combination.

The Board's treatment of the ordered combination of elements is even more strained. As previously noted, in its Decision on Appeal, the Board addresses the question of whether the individual elements of claim 1 are well-understood, routine, and conventional in a single sentence: "[a]s explained above, these claimed elements appear to be used in their routine and conventional manner to implement the claimed secure payment processing system." Appx0012-0013. But neither that single sentence nor the "above" explanation on page 10 of the Decision on Appeal provide any analysis on whether the ordered combination of elements is well-understood, routine, and conventional.

Though far from clear, the Board may have been attempting to address the ordered combination with the next two sentences in its Decision on Appeal:

> Furthermore, to the extent Appellant is arguing that the claims are directed to an inventive concept because the merchants have not implemented such a system before, we note that although the second step in the *Alice/Mayo* framework is termed search for an "inventive concept," the analysis is not an evaluation of novelty or non-obviousness, but rather a search for "'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.'" A novel and nonobvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible.

Appx0013 (citations omitted). These additional sentences, like the sentence before them, provide no analysis on whether the ordered combination of elements is well-understood, routine, and conventional. Rather, the Board uses circular logic to suggest that the claims do not have an inventive concept. The Board appears to argue that the claim is directed to a purely abstract idea, and for that reason there is no inventive concept that amounts to significantly more than a patent upon the abstract idea. This twisted logic essentially eliminates *Alice* step 2 and would result in every claim in existence in the U.S. patent system that is directed to an abstract idea being found patent ineligible.

The inventive concept inquiry requires more than recognizing that each claim element, by itself, was known in the art. *Bascom Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2016). An inventive concept can be found in the non-conventional and non-generic arrangement of known, conventional pieces. *Id*. In the current case, even if each of the claim elements were known, conventional pieces (which they are not), the way in which the elements are arranged is non-conventional and non-generic. Indeed, The Patent Office declined to apply a prior art rejection to the claims, lending support to the notion that at least the ordered combination of claimed elements is not well-understood, routine, and conventional. Appx0379, Appx0427.

The current claims are akin to those in *Bascom*. This Court in *Bascom* held that although the invention is engineered in the context of filtering content, the invention is not claiming the idea of filtering content simply applied to the Internet. *Bascom*, 827 F.3d at 1351. Notably, this Court found that the patent at issue claims "a technology-based solution (not an abstract-idea-based solution implemented with generic technical components in a conventional way) to filter content on the Internet that overcomes existing problems with other Internet filtering systems." *Id*. The current claims, like the claims in *Bascom*, are directed to a technology-based solution—a cellular wireless device in close proximity to a merchant's sales terminal that wirelessly receives from the sales terminal a specific partial payment authorization transaction record, which does not include sensitive customer financial information, and thereafter wirelessly transmits the partial payment authorization record to a central system—that overcomes existing security problems with other payment systems. Moreover, there has been no showing that such a system is conventional, further supporting that the current claims are not an abstract-idea-based solution implemented with generic technical components in a *conventional* way. *See Uniloc*, 772 Fed.Appx. at 899.

For the foregoing reasons, the claims recite inventive concepts.

V. CONCLUSION AND RELIEF REQUESTED

For the foregoing reasons, the Board's Decision on Appeal as to claims 1-20 should be reversed, and those claims should be found to be directed to patent-eligible subject matter, given the Board's incorrect applications of this Court's legal precedents and its failure to support its factual findings with substantial evidence.

February 16, 2021

Respectfully submitted,

/s/ Walter D. Davis, Jr.

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ADDENDUM

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TARA CHAND SINGHAL

Appeal 2019-000707
Application 12/928,710
Technology Center 3600

Before ALLEN R. MacDONALD, NABEEL U. KHAN, and MICHAEL J. ENGLE, *Administrative Patent Judges*.

KHAN, *Administrative Patent Judge*.

DECISION ON APPEAL

STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant appeals from the Examiner's decision to reject claims 1–20. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

CLAIMED SUBJECT MATTER

According to Appellant, the invention relates to "facilitating private and secure merchant payment at a merchant sales terminal using a wireless mobile device of the customer." Spec. 1:23–25.

Claim 1, reproduced below, is illustrative of the claimed subject matter:

> 1. A secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network, comprising:
>
> a cellular wireless device of the customer, wherein the wireless device is equipped with a wireless data receiving sensor, wherein the wireless data receiving sensor is one or more from a group of, a digital camera, a short distance RF receiver and an infrared receiver, the wireless device using the wireless data receiving sensor is able to receive a partial payment authorization transaction record from the sales terminal of the merchant;
>
> a logic stored in a memory of the wireless device and operating in a CPU of the wireless device receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount;
>
> the logic in the wireless device processes the partial payment authorization transaction record by first authenticating the device to the central system and then wirelessly transmitting the partial payment authorization transaction record over a cellular wireless communication network to the central system, thereby enable a payment transaction from the customer to the merchant.

REJECTIONS

Claims 1–20 stand rejected under 35 U.S.C. § 101 as directed to a judicial exception to patentable subject matter. Final Act. 3–5.

OPINION

Rejection under 35 U.S.C. § 101

Legal Principles

An invention is patent-eligible if it claims a "new and useful process, machine, manufacture, or composition of matter." 35 U.S.C. § 101. However, the U.S. Supreme Court has long interpreted 35 U.S.C. § 101 to include implicit exceptions: "[l]aws of nature, natural phenomena, and abstract ideas" are not patentable. *E.g.*, *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014).

In determining whether a claim falls within an excluded category, we are guided by the Court's two-part framework, described in *Mayo* and *Alice*. *Alice*, 573 U.S. at 217–18 (citing *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 75–77 (2012)). In accordance with that framework, we first determine what concept the claim is "directed to." *See Alice*, 573 U.S. at 219 ("On their face, the claims before us are drawn to the concept of intermediated settlement, *i.e.*, the use of a third party to mitigate settlement risk."); *see also Bilski v. Kappos*, 561 U.S. 593, 611 (2010) ("Claims 1 and 4 in petitioners' application explain the basic concept of hedging, or protecting against risk.").

Concepts determined to be abstract ideas, and thus patent ineligible, include certain methods of organizing human activity, such as fundamental economic practices (*Alice*, 573 U.S. at 219–20; *Bilski*, 561 U.S. at 611); mathematical formulas (*Parker v. Flook*, 437 U.S. 584, 594–95 (1978)); and mental processes (*Gottschalk v. Benson*, 409 U.S. 63, 67 (1972)). Concepts determined to be patent eligible include physical and chemical processes, such as "molding rubber products" (*Diamond v. Diehr*, 450 U.S. 175, 191 (1981)); "tanning, dyeing, making water-proof cloth, vulcanizing India rubber, smelting ores" (*id.* at 182 n.7 (quoting *Corning v. Burden*, 56 U.S.

252, 267–68 (1853))); and manufacturing flour (*Benson*, 409 U.S. at 69 (citing *Cochrane v. Deener*, 94 U.S. 780, 785 (1876))).

In *Diehr*, the claim at issue recited a mathematical formula, but the Court held that "a claim drawn to subject matter otherwise statutory does not become nonstatutory simply because it uses a mathematical formula." *Diehr*, 450 U.S. at 187; *see also id.* at 191 ("We view respondents' claims as nothing more than a process for molding rubber products and not as an attempt to patent a mathematical formula."). Having said that, the Supreme Court also indicated that a claim "seeking patent protection for that formula in the abstract . . . is not accorded the protection of our patent laws, and this principle cannot be circumvented by attempting to limit the use of the formula to a particular technological environment." *Id.* (citing *Benson* and *Flook*); *see, e.g.*, *id.* at 187 ("It is now commonplace that an *application* of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection.").

If the claim is "directed to" an abstract idea, we turn to the second part of the *Alice* and *Mayo* framework, where "we must examine the elements of the claim to determine whether it contains an 'inventive concept' sufficient to 'transform' the claimed abstract idea into a patent-eligible application." *Alice*, 573 U.S. at 221 (quotation marks omitted). "A claim that recites an abstract idea must include 'additional features' to ensure 'that the [claim] is more than a drafting effort designed to monopolize the [abstract idea].'" *Id.* (quoting *Mayo*, 566 U.S. at 77). "[M]erely requir[ing] generic computer implementation[] fail[s] to transform that abstract idea into a patent-eligible invention." *Id.*

In January 2019, the U.S. Patent and Trademark Office (USPTO) published revised guidance on the application of § 101. 2019 Revised Patent Subject Matter Eligibility Guidance, 84 Fed. Reg. 50 (Jan. 7, 2019) ("2019 Revised Guidance").[1] "All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance." *Id.* at 51; *see also* October 2019 Update at 1.

Under the 2019 Revised Guidance and the October 2019 Update, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes) ("Step 2A, Prong One"); and
>
> (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h) (9th ed. Rev. 08.2017, Jan. 2018)) ("Step 2A, Prong Two").[2]

2019 Revised Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then look, under Step 2B, to whether the claim:

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[1] In response to received public comments, the Office issued further guidance on October 17, 2019, clarifying the 2019 Revised Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the "October 2019 Update") (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).

[2] This evaluation is performed by (a) identifying whether there are any additional elements recited in the claim beyond the judicial exception, and (b) evaluating those additional elements individually and in combination to determine whether the claim as a whole integrates the exception into a practical application. *See* 2019 Revised Guidance - Section III(A)(2), 84 Fed. Reg. 54–55.

> (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

2019 Revised Guidance, 84 Fed. Reg. at 52–56.

Prong One of Step 2A

Under prong one of step 2A, we first look to whether the claim recites any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activities, or mental processes). 2019 Revised Guidance, 84 Fed. Reg. at 52–54. To this end we note that claim 1 recites "[a] secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network." The Federal Circuit has held that processing of payments is a fundamental economic practice. *See Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378–79 (Fed. Cir. 2017); *see also CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011) (holding a method and system for detecting fraud in a credit card transaction over the Internet to be patent ineligible). Claim 1 also recites

> the logic in the wireless device processes the partial payment authorization transaction record by first authenticating the device to the central system and then wirelessly transmitting the partial payment authorization transaction record over a cellular wireless communication network to the central system, thereby enable a payment transaction from the customer to the merchant.

This step describes that the device is authenticated using the data gathered and the data is then transmitted over a cellular network to the central system to enable the payment transaction. Thus, this step further illustrates that the claim recites the fundamental economic practice of securely processing payments.

As explained above, we find the claim recites steps for securely processing payments and that processing payments is a fundamental economic practice. Fundamental economic practices fall in the category of certain methods of organizing human behavior, which the 2019 Revised Guidance recognizes as constituting an abstract idea. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52. Thus, under prong one of step 2A we determine the claims recite an abstract idea.

Appellant argues,

> [t]he claimed subject matter is directed to commerce using a mobile device working in conjunction with a sales terminal of a merchant and servers on the global computer network, with specific structural elements, logic and interfaces. These claim elements do not equate to 'a fundamental economic practice', as that phrase is used and defined in Alice.

Appeal Br. 17. We disagree. As explained above payment processing has been found by our reviewing court to be a fundamental economic practice. The recited mobile device and global computer network will be analyzed further in the following steps of our analysis under the 2019 Revised Guidance.

Prong Two of Step 2A

Under prong 2 of step 2A of the 2019 Revised Guidance we determine whether the claim as whole integrates the recited abstract idea into a practical application of the abstract idea. A claim that integrates a judicial

exception into a practical application will apply, rely on, or use the judicial exception in a manner that imposes a meaningful limit on the judicial exception, such that the claim is more than a drafting effort designed to monopolize the judicial exception. To evaluate whether the claims integrate the abstract idea into a practical application, we identify whether there are any additional elements recited beyond the abstract idea, and evaluate those additional elements individually and in combination.

Some exemplary considerations laid out by the Supreme Court and the Federal Circuit indicative that an additional element integrates an abstract idea into a practical application include (i) an improvement in the functioning of a computer or to another technological field, (ii) an application of the judicial exception with, or by use of, a particular machine, (iii) a transformation or reduction of a particular article to a different state or thing, or (iv) a use of the judicial exception in some other meaningful way beyond generally linking the use of the judicial exception to a particular technological environment. *See* MPEP § 2106.05(a)–(c), (e)–(h).

Appellant argues that the limitations of the claim are "not capable of being performed mentally using a pen and paper and are squarely directed to a digital machine." Appeal Br. 17. Appellant argues that claim limitations are "not being performed mentally and are instead rooted in the technology of computer systems and specifically the technology of servers and mobile wireless devices and their interfaces over a global communication network." Appeal Br. 17; *see also* Reply Br. 8–9 ("[T]he claimed subject matter is squarely directed to a security system that has its structure, a specific digital machine that of a mobile wireless device with unique logic operating in the digital machine and with unique interfaces to other systems.")

Reviewing the claim limitations as a whole, we determine the claim does not recite additional elements that integrate the abstract idea into a practical application. In particular we find that the claim limitations do not improve the functioning of a computer or other technological field. Instead the technological elements of the claim simply link the fundamental economic practice to the technological environment of mobile devices, computers, and networks.

When considering whether claims are directed to an improvement in computer functionality, we "ask whether the focus of the claims is on the specific asserted improvement in computer capabilities ... or, instead, on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool." *Enfish, LLC v. Microsoft Corp.*, 822 F.3d 1327, 1335–36 (Fed. Cir. 2016).

The limitations that we did not address above in prong one include "a cellular wireless device . . . equipped with a wireless data receiving sensor . . . able to receive a partial payment authorization transaction record from the sales terminal of the merchant." This limitation recites the data gathering steps required to securely process payments. Data gathering steps "cannot make an otherwise nonstatutory claim statutory." *CyberSource*, 654 F.3d at 1370 (quoting *In re Grams*, 888 F.2d 835, 840 (Fed. Cir. 1989)). Claim 1 further recites

> a logic stored in a memory of the wireless device . . . receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount.

This limitation describes the data gathered and identifies the specific fields of data gathered in order to process the payment.

The limitations Appellant calls to our attention include the "cellular wireless device," the servers of the "central system," and the interfaces over a "global computer network." As specifically claimed, however, there is no indication that these elements or the technology underlying them is improved by the invention. Instead the recited elements are used to implement the secure payment processing system. For example, the claimed "cellular wireless device" is described in the Specification as "a cellular telephone with a screen and a keypad. Alternatively, it may be PDA with a wireless modem, which also has a display screen and a soft keypad." Spec. 7:17–29. This description indicates that the claimed cellular wireless device is part of the technological environment in which the invention is implemented but does not indicate that the claimed cellular wireless device is improved by the invention. Similarly, the central system is described as including a storage device, operating system, system program, and system processor. Spec. 17:24–28. The global computer network is not described in detail but allows for communication between the mobile device and the central system. *See* Fig. 3, Spec. 15:17–20. The interface on the central system that connects to the global computer network is described as a "conventional internal or external modem[]," (Spec. 18:8–12) further illustrating that the network is not improved by the claimed invention. *Mortg. Grader, Inc. v. First Choice Loan Serv. Inc.*, 811 F.3d 1314, 1324–25 (Fed. Cir. 2016) (claims reciting an "interface," "network," and "database" were nevertheless directed to an abstract idea).

Accordingly, we do not find the claims integrate the abstract idea into a practical application.

Step 2B of the Guidance

Under step 2B of the 2019 Revised Guidance we analyze the claims to determine whether they provide an inventive concept (i.e., whether the additional elements amount to significantly more than the exception itself). Considerations that are evaluated with respect to step 2B include determining whether the claims as a whole add a specific limitation or combination of limitations that are not well-understood, routine, conventional activity in the field.

Appellant argues the claimed "features and functions of a mobile wireless device with interfaces to sales terminals and servers on the global computer network are directed to privacy and security of customer bankcard data." Appeal Br. 22. Appellant argues that "[a] very large number of sales transactions happen every day with merchants where the privacy and security of customer data is put at risk" and that "merchants have no effective and viable means to safeguard consumer private data being acquired by these sales terminals in the process of processing a payment for sales transaction via a bankcard." Appeal Br. 22. Thus, Appellant argues, the claimed subject matter is non-routine and non-conventional. Appeal Br. 22.

We are unpersuaded by Appellant's argument. First, analyzing the claim limitations individually and as an ordered combination, we note, as we did above, that the limitations beyond the abstract idea include the "cellular wireless device," the servers of the "central system," and the interfaces over a "global computer network." As explained above, these claimed elements

appear to be used in their routine and conventional manner to implement the claimed secure payment processing system. Furthermore, to the extent Appellant is arguing that the claims are directed to an inventive concept because the merchants have not implemented such a system before, we note that although the second step in the *Alice/Mayo* framework is termed a search for an "inventive concept," the analysis is not an evaluation of novelty or non-obviousness, but rather a search for "'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.'" *Alice*, 573 U.S. at 217–18. A novel and nonobvious claim directed to a purely abstract idea is, nonetheless, patent-ineligible. *See Mayo*, 566 U.S. at 90.

Accordingly, we sustain the Examiner's rejection of claims 1–20 under 35 U.S.C. § 101.

DECISION SUMMARY

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1–20	101	Eligibility	1–20	

TIME PERIOD FOR RESPONSE

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

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte TARA CHAND SINGHAL

Appeal 2019-000707
Application 12/928,710
Technology Center 3600

Before ALLEN R. MacDONALD, NABEEL U. KHAN, and MICHAEL J. ENGLE, *Administrative Patent Judges*.

KHAN, *Administrative Patent Judge*.

DECISION ON REQUEST FOR REHEARING

Pursuant to 37 C.F.R. § 41.52, Appellant filed a Request for Rehearing ("Req. Reh'g"), dated May 26, 2020, seeking reconsideration of our Decision on Appeal mailed March 23, 2020 ("Decision"), in which we affirmed the Examiner's rejection of claims 1–20 under 35 U.S.C. § 101 as directed to patent-ineligible subject matter. We have jurisdiction over the Request for Rehearing under 35 U.S.C. § 6(b).

A request for rehearing must state with particularity the points believed to have been misapprehended or overlooked. Arguments not raised in the briefs before the Board and evidence not previously relied upon in the briefs are not permitted in the request for rehearing. *See* 37 C.F.R. § 41.52(a)(1). Also, a request for rehearing is not an opportunity to merely express disagreement with a decision without setting forth points believed to

have been misapprehended or overlooked. The proper course for an Applicant dissatisfied with a Board decision is to seek judicial review, not to file a request for rehearing to reargue issues that have already been decided. *See* 35 U.S.C. §§ 141, 145.

In the Request for Rehearing, Appellant argues the Board has overlooked four key issues. Req. Reh'g 3–4. First, Appellant argues the Board misunderstood and misapplied *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014) when affirming the Examiner's rejection of the claims under § 101. In support of this argument, Appellant provides a lengthy overview and interpretation of the Supreme Court's decision in *Alice*. Req. Reh'g 6–9.

Second, Appellant highlights several limitations from claims 1 and 11 as indicating the claimed subject matter is "not merely directed to a payment transaction but to security of private data in payment transactions." Req. Reh'g 9. Claim 1, with Appellant's highlighted limitations, is reproduced below:

> A **secure payment system** between a customer and a merchant using a sales terminal of the merchant and **a central system on a global computer network, comprising:**
>
> **a cellular wireless device of the customer, wherein the wireless device is equipped with a wireless data receiving sensor,** wherein the wireless data receiving sensor is one or more from a group of, a digital camera, a short distance RF receiver and an infrared receiver, **the wireless device using the wireless data receiving sensor is able to receive a partial payment authorization transaction record from the sales terminal of the merchant;**
>
> a logic stored in a memory of the wireless device and operating in a CPU of the wireless device **receives and processes the partial payment authorization transaction**

> **record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount;**
>
> **the logic in the wireless device processes the partial payment authorization transaction record by first authenticating the device to the central system and then wirelessly transmitting the partial payment authorization transaction record over a cellular wireless communication network to the central system, thereby enable a payment transaction from the customer to the merchant.**

Req. Reh'g 9–10.

Third, Appellant argues that "the Board has misinterpreted as well as has disregarded the highlighted claim terms as above under BRI to equate them to a 'fundamental economic practice' as that term is defined in Alice." Req. Reh'g 11. Appellant argues each of the highlighted terms "are not and do no[t] lead to a conclusion of an Alice defined 'fundamental economic practice.'" Req. Reh'g 11–12.

Fourth, Appellant argues the Board's decision runs afoul of "Alice Law in at least the three different instances." Req. Reh'g 4. These three instances include disregarding the highlighted essential claim limitations and assigning meaning to other claim terms that is inconsistent with the specification (Req. Reh'g 13); disregarding the highlighted claim limitations which were not well-understood, routine, or conventional (Req. Reh'g 14); and disregarding the highlighted claim limitations because they indicate the use of non-conventional and non-generic arrangement of known, conventional pieces that add sufficiently inventive concept (Req. Reh'g 14–15).

We are unpersuaded by Appellant's arguments. In our Decision we reviewed the Examiner's rejection and Appellant's arguments in light of the USPTO's January 7, 2019 Memorandum, 2019 Revised Patent Subject Matter Eligibility Guidance ("2019 Revised Guidance").[1] "All USPTO personnel are, as a matter of internal agency management, expected to follow the guidance." *Id.* at 51; *see also* October 2019 Update at 1.

Under step 2A of the 2019 Revised Guidance and the October 2019 Update, we first look to whether the claim recites:

> (1) any judicial exceptions, including certain groupings of abstract ideas (i.e., mathematical concepts, certain methods of organizing human activity such as a fundamental economic practice, or mental processes); and
>
> (2) additional elements that integrate the judicial exception into a practical application (*see* MPEP § 2106.05(a)–(c), (e)–(h)).

See 2019 Revised Guidance, 84 Fed. Reg. at 52–55.

Only if a claim (1) recites a judicial exception and (2) does not integrate that exception into a practical application, do we then move to step 2B of the Guidance to determine whether the claim:

> (3) adds a specific limitation beyond the judicial exception that is not "well-understood, routine, conventional" in the field (*see* MPEP § 2106.05(d)); or
>
> (4) simply appends well-understood, routine, conventional activities previously known to the industry, specified at a high level of generality, to the judicial exception.

See 2019 Revised Guidance, 84 Fed. Reg. at 56.

---

[1] In response to received public comments, the Office issued further guidance on October 17, 2019, clarifying the 2019 Revised Guidance. USPTO, *October 2019 Update: Subject Matter Eligibility* (the "October 2019 Update") (available at https://www.uspto.gov/sites/default/files/documents/peg_oct_2019_update.pdf).

Under prong one of step 2A of the Guidance, we reviewed claim 1's limitations to determine whether the claim recites an abstract idea. We found that it does. Decision 6–7. In doing so, we followed the 2019 Revised Guidance which is based on appropriate Supreme Court and Federal Circuit case law on patentable subject matter, including the Supreme Court's *Alice* decision. In applying the 2019 Revised Guidance we noted claim 1 recites "[a] secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network." Decision 6. We found the claim recites secure processing of payments and under Federal Circuit case law we concluded that processing of payments is a fundamental economic practice. *See* Decision 6 (citing *Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.*, 876 F.3d 1372, 1378–79 (Fed. Cir. 2017); *CyberSource Corp. v. Retail Decisions, Inc.*, 654 F.3d 1366 (Fed. Cir. 2011)). We also identified other limitations, such as those reciting authentication of the device and transmission of the transaction record over a cellular network to a central system as further illustrating the fundamental economic practice of securely processing payments. Decision 6–7. Under the 2019 Revised Guidance, fundamental economic practices fall under the category of certain methods of organizing human activity, which the Guidance recognizes as constituting an abstract idea. *See* 2019 Revised Guidance, 84 Fed. Reg. at 52.

Appellant argues that we misunderstood and misapplied *Alice* in concluding that the claims recite an abstract idea. Req. Reh'g 3, 4, 6–9. Appellant provides its own summary of the *Alice* decision and argues that others, including the Federal Circuit and the USPTO, have confused and misconstrued the decision. Req. Reh'g 6 (stating that the "CAFC further

confused and misconstrued these seminal phrases" and "USPTO legal staff then attempted to interpret these confusing CAFC decisions" in providing guidance to the examiners). Further, Appellant argues the Board "indulged in a knee jerk decision without examining the technical features of the claim directed to security of private data in payment transactions." Req. Reh'g 9 (emphasis removed). As we noted above, however, we applied the 2019 Revised Guidance and Federal Circuit case law which are based on *Alice* and other relevant Supreme Court decisions. We are not free to ignore our reviewing court's interpretation of Supreme Court decisions simply because Appellant disagrees with these interpretations. Finally, Appellant is incorrect that we did not examine technical features of the claims, as we explain below with respect to prong two of step 2A and step 2B of the Guidance.

Under prong two of step 2A of the Guidance we analyzed the claim limitations individually and as a whole to determine whether the claim integrates the recited abstract idea into a practical application of the abstract idea. In doing so we identified any additional elements recited beyond the abstract idea and analyzed those elements individually and in combination. Decision 7–11. These additional elements include "a cellular wireless device . . . equipped with a wireless data receiving sensor . . . able to receive a partial payment authorization transaction record from the sales terminal of the merchant" and

> a logic stored in a memory of the wireless device . . . receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction

> reference number, a merchant terminal identification and a payment amount.

Decision 9–10. We determined these limitations describe data gathering steps and the content and format of the data gathered in order the process the payment. *Id.* Data gathering steps "cannot make an otherwise nonstatutory claim statutory." *CyberSource*, 654 F.3d at 1370 (quoting *In re Grams*, 888 F.2d 835, 840 (Fed. Cir. 1989)).

We also addressed the hardware elements recited in claim 1, including the "cellular wireless device," the servers of the "central system," and the interfaces over a "global computer network." Decision 10. We found Appellant's invention did not improve the functioning of any of these elements, which instead serve only to provide the technological environment in which the secure payment processing system is implemented. Decision 10 (citing Spec. 7:17–29, 15:17–20, 17:24–28, 18:8–12 Fig. 3).

Under step 2B we found that the above limitations are used in their routine and conventional manner to implement the claimed secure payment processing system and therefore did not provide significantly more than the abstract idea. Decision 11–12. We also addressed Appellant's argument that the invention was non-routine and non-conventional because, according to Appellant, merchants have no effective way to safeguard consumer private data being acquired by sales terminals in the process of processing a payment for sales transaction via a bankcard.

Appellant argues in the Request for Rehearing that several limitations indicate the claimed subject matter is "not merely directed to a payment transaction but to security of private data in payment transactions." Req. Reh'g 9. Appellant also argues each of the highlighted terms "are not and

do no lead to a conclusion of an Alice defined 'fundamental economic practice.'" Req. Reh'g 11–12.

However, as we explained, the highlighted limitations were each addressed in our Decision. For example, Appellant highlights a "secure payment system," "a central system on a global computer network," "a cellular wireless device of the customer wherein the wireless device is equipped with a wireless data receiving sensor." Req. Reh'g 9–10. These limitations, as we explained, do not indicate an improvement to the functioning of the hardware elements recited. Similarly, we explained that the limitations reciting "the wireless device using the wireless data receiving sensor is able to receive a partial payment authorization transaction record from the sales terminal of the merchant" and "receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount" are directed to data gathering steps or to the format and content of the data itself, which we determined did not constitute a practical application of the abstract idea. Decision 9 (citing *CyberSource*, 654 F.3d at 1370 (quoting *Grams*, 888 F.2d at 840)). Finally, we determined the limitation reciting logic for processing the payment authorization record by authenticating the device to the central system and then wirelessly transmitting the payment authorization record to the central system, was part of the fundamental economic practice of secure payment processing. Decision 6–7; *see BSG Tech LLC v. BuySeasons, Inc.*, 899 F.3d 1281, 1290 (Fed. Cir. 2018) ("It has been clear since *Alice* that a claimed invention's use

of the ineligible concept to which it is directed cannot supply the inventive concept that renders the invention 'significantly more' than that ineligible concept."); *Synopsys, Inc. v. Mentor Graphics Corp.*, 839 F.3d 1138, 1151 (Fed. Cir. 2016) ("[A] claim for a new abstract idea is still an abstract idea.") (emphasis omitted); *SAP Am., Inc. v. InvestPic, LLC*, 898 F.3d 1161, 1168 (Fed. Cir. 2018) ("What is needed is an inventive concept in the non-abstract application realm.").

Appellant argues that we ran afoul of *Alice* because we disregarded the highlighted essential claim limitations and assigned meaning to other claim terms that is inconsistent with the specification (Req. Reh'g 13); disregarded the highlighted claim limitations which were not well-understood, routine, or conventional (Req. Reh'g 14); and disregarded the highlighted claim limitations because they indicate the use of non-conventional and non-generic arrangement of known, conventional pieces that add sufficiently inventive concept (Req. Reh'g 14–15). However each of the highlighted limitations have been addressed in our Decision and we explained that several of them are described in the Specification as operating in their well-understood, routine, and conventional ways. Decision 10–12. Moreover, Appellant does not identify what meaning we assigned to the limitations, nor how our interpretations are inconsistent with the Specification nor why we erred in finding the highlighted hardware elements operate in their well-understood and routine manner.

CONCLUSION

Accordingly, we are not persuaded of any basis for modifying the Decision in light of the arguments presented in the Rehearing Request.

DECISION

We deny Appellant's Request with respect to making any changes to our Decision.

DENIED

VI CLAIM APPENDIX

Claims involved in this appeal are:

1. A secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network, comprising:

a cellular wireless device of the customer, wherein the wireless device is equipped with a wireless data receiving sensor, wherein the wireless data receiving sensor is one or more from a group of, a digital camera, a short distance RF receiver and an infrared receiver, the wireless device using the wireless data receiving sensor is able to receive a partial payment authorization transaction record from the sales terminal of the merchant;

a logic stored in a memory of the wireless device and operating in a CPU of the wireless device receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount;

the logic in the wireless device processes the partial payment authorization transaction record by first authenticating the device to the central system and then wirelessly transmitting the partial payment authorization transaction record over a cellular wireless communication network to the central system, thereby enable a payment transaction from the customer to the merchant.

2. The system as in claim 1, comprising:

the wireless device has a receive sensor that receives the partial payment authorization transaction record transaction record from the sales terminal either via a short distance RF protocol or an optical transmission.

3. The system as in claim 1, comprising:

the wireless device has a function that activates a payment transaction logic in the wireless device to receive the partial payment authorization transaction record from the sales terminal of the merchant.

4. The system as in claim 3, comprising:

the wireless device function requires entry of a personal code of the customer and transmits the partial payment authorization transaction record to include, at least the merchant terminal identification, and the payment amount to a third party payment system that pre-stores customer bankcard data.

5. The system as in claim 1, comprising:

the wireless device receives the partial payment authorization transaction record that is specific to a sales transaction of the customer at the sales terminal of the merchant.

6. The system as in claim 1, comprising:

the wireless device has entry means for the customer for manually entering a merchant identification and the payment amount in the wireless device using a keypad and a display screen of the wireless device.

7. The system as in claim 1, comprising:

the wireless device has an identification code which uniquely identifies the wireless device to the central system.

8. The system as in claim 1, comprising:

the wireless device has a payment function, activated by a menu item “payment”, a keypad key combination such as an arrow key followed by a numeric key, or a special key for payment.

9. The system as in claim 8, comprising:

the payment function, on being activated, creates an encrypted payment data record including at least the merchant terminal identification, the payment amount, a personal code and the wireless device identification code and transfers it over the global network to the central system.

10. The system as in claim 1, comprising:

the wireless device receives from the central system a notification of a payment by a payment approval record.

11. A method of secure payment between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network, comprising the step of:

receiving by a cellular wireless device of the customer equipped with a wireless data receiving sensor, wherein the wireless data receiving sensor is one or more from a group of, a digital camera, a short distance RF receiver and an infrared receiver, wherein receiving by the wireless device using the wireless data receiving sensor a partial payment authorization transaction record from the sales terminal of the merchant;

receiving by a logic stored in a memory of the wireless device and operating in a CPU of the wireless device the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount; and

processing by the logic the partial payment authorization transaction record by first authenticating the device to the central system and then transmitting wirelessly by the logic in the wireless device, over a cellular wireless communication network, the partial payment authorization record to the central system, thereby facilitating a payment transaction from the customer to the merchant.

12. The method as in claim 11, comprising the step of:

having by the wireless device a function that activates a payment transaction logic in the wireless device to receive the partial payment authorization transaction record from the sales terminal of the merchant.

13. The method as in claim 11, comprising the step of:

requiring by the wireless device function entry of a personal code of the customer and transmitting the partial payment authorization transaction record to include, at least the merchant terminal identification, and the payment amount to a third party payment system that pre-stores customer bankcard data.

14. The method as in claim 11, comprising the step of:

having a receive sensor in the wireless device and receiving by the receive sensor the partial payment authorization transaction record from the sales terminal either via a short distance RF protocol or an optical transmission.

15. The method as in claim 11, comprising the step of:

receiving by the wireless device the partial payment authorization transaction record that is specific to a sales transaction of the customer at the sales terminal.

16. The method as in claim 11, comprising the step of:

having entry means in the wireless device for the customer for manually entering a merchant identification and the payment amount in the wireless device using a keypad and a display screen of the wireless device.

17. The method as in claim 11, comprising the step of:

identifying the wireless device with an identification code, which uniquely identifies the wireless device to the central system.

18. The method as in claim 11, comprising the step of:

having by the wireless device a payment function, activated by a menu item "payment", a keypad key combination such as an arrow key followed by a numeric key, or a special key for payment.

19. The method as in claim 11, comprising the step of:

activating the payment function, creates an encrypted payment data record including at least the merchant terminal identification, the payment amount, a personal code and the wireless device identification code and transfers it over the global network to the central system 10.

20. The method as in claim 11, comprising the step of:

receiving by the wireless device from the central system a notification of a payment by a payment approval record.

CERTIFICATE OF FILING AND SERVICE

I hereby certify that, on February 22, 2021, I electronically filed the foregoing with the Clerk of Court using the CM/ECF System, which will send notice of such filing to all registered users.

I further certify that, upon acceptance and request from the Court, the required paper copies of the foregoing will be deposited with United Parcel Service for delivery to the Clerk, UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, 717 Madison Place, N.W., Washington, D.C. 20439.

February 22, 2021

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2020-2318

UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT

IN RE TARA CHAND SINGHAL,

Appellant.

Appeal from the United States Patent and Trademark Office,
Patent Trial and Appeal Board in Serial No. 12/928,710.

BRIEF FOR APPELLEE, DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE

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April 26, 2021

Illustrative Claim

1. A secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network, comprising:

a cellular wireless device of the customer, wherein the wireless device is equipped with a wireless data receiving sensor, wherein the wireless data receiving sensor is one or more from a group of, a digital camera, a short distance RF receiver and an infrared receiver, the wireless device using the wireless data receiving sensor is able to receive a partial payment authorization transaction record from the sales terminal of the merchant;

a logic stored in a memory of the wireless device and operating in a CPU of the wireless device receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount;

the logic in the wireless device processes the partial payment authorization transaction record by first authenticating the device to the central system and then wirelessly transmitting the partial payment authorization transaction record over a cellular wireless communication network to the central system, thereby enable a payment transaction from the customer to the merchant.

Appx549.

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Statutes

35 U.S.C. § 101 ..... *passim*

Statement of Related Cases

The Director is not aware of any other appeal in connection with the Patent Trial and Appeal Board proceeding below before this or any other court. The Director is also unaware of any other case pending in this or any other court that will directly affect, or be directly affected by, the Court's decision in this appeal.

I. Statement of the Issue

Singhal seeks to patent a system and method for processing secure payments between a customer and a merchant, where the data associated with a commercial transaction is received and transmitted through a cellular device. In particular, the customer uses a cellular device that has a central processing unit that is able to receive and process data (regarding a payment transaction) from a merchant's sales terminal, and then wirelessly transmit data (regarding a request for payment authorization) to a global computer network. The specification does not describe any specialized technological components that are required to perform the claimed invention beyond off-the-shelf technology.

The Board affirmed the Examiner's rejection that the pending claims recite patent-ineligible subject matter under 35 U.S.C. § 101. Under step one of the two-step framework set forth in *Alice Corp. v. CLS Bank Int'l*, 573 U.S. 208 (2014), the Board concluded that the claims are directed to a fundamental economic practice—specifically, securely processing payments—and thus are abstract. Under *Alice* step two, the Board concluded that the claims' additional limitations, individually and in combination, do not add significantly more to transform the abstract idea into patent-eligible subject matter because the limitations amount to no more than the generic implementation of the abstract idea in a conventional technological environment. The sole issue on appeal is whether the Board correctly concluded that the claimed invention is not patent eligible.

II. Statement of the Case

This appeal arises from the examination of Singhal's application serial no. 12/928,710 ("the '710 application"), titled "System and Method for a Private and Secure Merchant Payment System Using a Mobile Wireless Device." Appx30-69. The Examiner rejected pending claims 1-20 as unpatentable under 35 U.S.C. § 101. Appx380-386; Appx456-462. Singhal then appealed to the Board. The Board affirmed the Examiner's rejection of the claims under § 101. Appx1-13. Following Singhal's request for rehearing, the Board again affirmed the ineligibility of the claims and denied rehearing. Appx14-24.

A. Singhal's application discloses a system for processing secure payments using a cellular device and global computer network

The '710 application describes a system for processing secure payments between a customer and a merchant using a cellular device, instead of a bankcard, when purchasing an item. Appx31-33. The application explains that typically when a customer uses a bankcard to purchase an item, the merchant's card reader reads data from the card—such as the card number, expiration date, and customer's name—and that customer payment data is copied into the merchant's computer system. Appx31. The merchant's computer then sends that customer payment data along with data about the item that is being purchased, to a third-party merchant processor, which authorizes the payment for the purchase via an automated clearing house (which receives authorization from the customer's bank). *Id.*

Singhal's purported invention accomplishes the same type of payment processing steps—collecting, storing, and sending data of a payment transaction—without having the merchant itself receive, store, or transmit the data. In particular, in the claimed system, a customer makes a purchase using a cellular device, which can wirelessly receive and internally store data about a payment transaction, such as the date of a transaction, time of a transaction, merchant terminal identification, and a payment amount. Appx36-37; Appx40; Appx50-51; and Appx488 at claim 1. The customer can then enter a Card Personal Identification Number on his cellular device, which identifies the customer and the bank card he wishes to use. Appx38. The cellular device then creates an encrypted data record, including data about the commercial transaction and the customer's payment method, and transfers the data to a global network on a central computer system to request payment authorization. Appx38-39. The central computer system then verifies the customer and payment method and authorizes the transaction. Appx39.

Singhal does not separately claim the cellular device, central computer system, or network interface used in the claimed invention. The '710 application explains that the wireless device can be an existing cellular telephone or PDA having a screen, a key pad, a data reading element (such as an optical magnetic reading element or an infrared reading element), and a memory component. Appx36-38. Further, the application describes the central computer system as including typical components such as a storage device, operating system, system program, and system processor.

Appx46. The application also explains that "conventional internal or external modems may serve as the system network interface." Appx47.

Claim 1, which is illustrative of the claims on appeal, recites:

> 1. A secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network, comprising:
>
> a cellular wireless device of the customer, wherein the wireless device is equipped with a wireless data receiving sensor, wherein the wireless data receiving sensor is one or more from a group of, a digital camera, a short distance RF receiver and an infrared receiver, the wireless device using the wireless data receiving sensor is able to receive a partial payment authorization transaction record from the sales terminal of the merchant;
>
> a logic stored in a memory of the wireless device and operating in a CPU of the wireless device receives and processes the partial payment authorization transaction record from the sales terminal, wherein the partial payment authorization transaction record meta data includes data fields of only a date and a time of the sales transaction, a transaction reference number, a merchant terminal identification and a payment amount;
>
> the logic in the wireless device processes the partial payment authorization transaction record by first authenticating the device to the central system and then wirelessly transmitting the partial payment authorization transaction record over a cellular wireless communication network to the central system, thereby enable a payment transaction from the customer to the merchant.

Appx549.

B. The Board affirmed the Examiner's rejection of Singhal's claims under 35 U.S.C. § 101

The Examiner rejected the pending claims of the '710 application as patent ineligible under 35 U.S.C. § 101. Appx3; Appx380-386; Appx456-462. The Board affirmed the rejection. Appx13. In its decision, the Board focused on independent claim 1 as illustrative of the pending claims.[1] Appx3.

Applying the Supreme Court's two-part framework in *Alice* and the USPTO's Guidance on subject matter eligibility, the Board first concluded at *Alice* step one (Guidance Step 2A, Prong 1 & 2) that Singhal's claim 1 is directed to securely processing payments, which is a fundamental economic practice or method of organizing human activity, and therefore an abstract idea. Appx7-8. In particular, the Board determined that claim 1 recites "[a] secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network," and cited to this Court's decisions, in *Inventor Holdings, LLC v. Bed Bath & Beyond, Inc.,* 876 F.3d 1372, 1378-79 (Fed. Cir. 2017) and *CyberSource Corp. v. Retail Decisions, Inc.,* 654 F.3d 1366 (Fed. Cir. 2011), holding that conventional computerized and internet-based processing of payments is patent ineligible. Appx7. The Board also pointed to the limitations reciting authentication of the wireless device and transmission of the transaction record to a central system as further illustrating

[1] In his briefing before the Board, Singhal focused on claim 1 (to a system) and claim 11 (to a method). Appx402; Appx412. These claims recite nearly identical components (compare claim 1 at Appx418 with claim 11 at Appx420).

that the claim recites the fundamental economic practice of securely processing payments. Appx7-8. The Board next explained that the additional claim elements of:

- "a cellular wireless device . . . equipped with a wireless data receiving sensor . . . to receive a partial payment authorization transaction record from the sales terminal of the merchant;"
- "central system;"
- "global computer network; "
- "a logic stored in the memory of the wireless device . . . [that] receives and processes the partial payment authorization transaction record from the sales terminal . . ."

do not integrate the abstract idea into a practical application. Appx8-12. In particular, the Board found no indication that these claim limitations improve the functioning of a computer or other technological field, and "instead the technological elements of the claim simply link the fundamental economic practice to the technological environment of mobile devices, computers, and networks." Appx10-11.

The Board rejected Singhal's argument that the claimed invention was not abstract because the limitations of the claim are purportedly rooted in the technology of computer systems. Appx9. In particular, Singhal asserted that the mobile wireless device has a unique logic operating in the digital machine and unique interfaces to other systems/global networks. *Id.* citing Appx482-483. The Board determined that the additional claim limitations do not improve the functioning of a computer or other technology, reiterating that the relevant inquiry is "whether the focus of the claims is on the specific asserted improvement in computer capabilities . . . or, instead,

on a process that qualifies as an 'abstract idea' for which computers are invoked merely as a tool" Appx10 citing *Enfish, LLC v. Microsoft Corp.,* 822 F.3d 1327, 1335-36 (Fed. Cir. 2016). Instead, the Board concluded that those additional limitations recite data gathering steps and identify specific types of gathered data to enable securely processing payments and do not "make an otherwise nonstatutory claim statutory." Appx10 citing *CyberSource,* 654 F.3d at 1370 (quoting *In re Grams,* 888 F.2d 835, 840 (Fed. Cir. 1989)). The Board also pointed to Singhal's specification to further demonstrate that these additional limitations merely serve as the technological environment used to implement the abstract idea and that there is no indication that any technological components are improved by the invention. Appx11 citing Appx36 (describing the claimed cellular device as a "cellular telephone with a screen and a keypad" or "it may be PDA with a wireless modem, which also has a display screen and a soft keypad"); Appx46 (describing the central system as including a storage device, operating system, and system processor); Appx44 (describing the global computer network as allowing communication between the mobile device and the central system); Appx47 (describing the interface on the central system that connects to the global computer network as a "conventional internal or external modem").

Turning to *Alice* step two (Guidance Step 2B), the Board next concluded that claim 1's additional elements, individually and in combination, do not add significantly more so as to transform the abstract idea into patent-eligible subject matter. Appx12-13. In particular, the Board found that the recited "cellular wireless device," the

servers of the "central system," and the interfaces over a "global computer network" are used in their routine and conventional manner to implement the claimed secure payment processing system, and was thus unpersuaded by Singhal's argument that the claimed subject matter is directed to the security of customer bankcard data in payment transactions rendering it "non-routine and non-conventional." *Id.*

Further, the Board noted that to the extent Singhal is arguing that the claims are directed to an inventive concept because merchants have not implemented such systems before, the *Alice/Mayo* analysis is not an evaluation of novelty or non-obviousness, but rather is a search for "an element or combination of elements that is sufficient to ensure that the patent in practice amounts to significantly more than a patent on the [ineligible concept] itself." Appx13 citing *Alice*, 573 U.S. at 217-18.

On rehearing, Singhal argued that the Board had misapplied *Alice* and again highlighted the recited "central system," "global computer network," "cellular device," and "logic stored in a memory of the wireless device" as rendering his claims not abstract and rooted in technology. Appx16-17. The Board reiterated its prior findings and explained that it had analyzed all of the claim limitations, including those Singhal had identified, and had properly applied *Alice*, the Federal Circuit's interpretation of that decision and others, and the agency's guidelines. Appx19-23. The Board again concluded that Singhal's claims are directed to an abstract idea (securely processing payments), not to an improvement in the functioning of computer or other technology, and the additional claim elements (i.e., devices,

systems, and networks) are used in their routine and conventional manner to implement the claimed secure payment processing system. *Id.*

III. Summary of the Argument

The Board correctly concluded that Singhal's claims are patent ineligible under 35 U.S.C. § 101 because they fail *Alice*'s two-step test. First, Singhal's claims are directed to the abstract idea of securely processing payments. Second, when the additional elements or limitations of the claim are considered either individually or as an ordered combination, they do not transform the abstract idea into a patent-eligible application. Singhal's assertion that an improvement to the security of a payment system is an improvement to a computer's capabilities is untenable. Singhal's claims and specification make clear that they do not recite any improvement to the underlying technology of Singhal's secure payment process. Rather, any improvement, if there is one, resides in the abstract idea itself.

None of Singhal's arguments on appeal passes muster. Accordingly, the Board's decision that Singhal's pending claims are not patent eligible should be affirmed.

IV. Argument

A. Standard of Review

Patent eligibility is a question of law that may contain underlying issues of fact. *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1342 (Fed. Cir. 2018) (citing *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1365 (Fed. Cir. 2018)). This Court reviews the Board's ultimate conclusion of patent eligibility de novo and any required fact finding

for substantial evidence. *In re Marco Guldenaar Holding B.V.*, 911 F.3d 1157, 1159 (Fed. Cir. 2018); *Duncan Parking Techs., Inc. v. IPS Grp., Inc.*, 914 F.3d 1347, 1357 (Fed. Cir. 2019).

B. The Board correctly concluded that Singhal's pending claims are not patent eligible

Section 101 provides that "[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101. In interpreting § 101, the Supreme Court has held that the statute's broad language for patent eligibility is subject to an important implicit exception for "[l]aws of nature, natural phenomena, and abstract ideas." *Alice*, 573 U.S. at 216 (citation omitted).

To determine whether an exception applies, this Court follows the Supreme Court's two-step *Alice* framework. *Interval*, 896 F.3d at 1342. First, at step one, this Court determines whether the claims at issue are "directed to" a patent-ineligible concept, e.g., an abstract idea. *Alice*, 573 U.S. at 218. If so, the analysis proceeds to step two. *See id.* at 221. Under *Alice* step two, the Court determines if the claims' additional elements, either individually or as an ordered combination, amount to significantly more to "'transform the nature of the claim' into a patent-eligible application." *Id.* at 217-18 (quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566

U.S. 66, 78 (2012)). Although each step involves its own separate inquiry, this Court has recognized that the analyses may overlap. *Interval Licensing*, 896 F.3d at 1342.

As discussed in more detail below, the Board correctly applied this legal framework to conclude that Singhal's claims are not patent eligible. In so concluding, the Board focused on illustrative claim 1. The Board first determined that claim 1 is "directed to" an abstract idea. Appx7-12 (Guidance Step 2A, Prong 1 & 2). The Board then determined that the additional claim elements did not transform the claim into a patent-eligible invention. Appx12-13 (Guidance Step 2B).

1. The Board correctly concluded that claim 1 is directed to an abstract idea

At *Alice* step one, the Board properly determined that illustrative claim 1 is directed to securely processing payments, which is a fundamental economic practice, and thus abstract. Appx7-8; Appx19. Even though the claim recites specific limitations related to how the payment is processed, Singhal cannot escape the conclusion that the pending claims are directed to an abstract concept.

The Supreme Court and this Court have repeatedly held that certain methods of organizing human activity, including fundamental economic practices, are abstract ideas. *See, e.g.*, *Alice*, 573 U.S. at 220-21 (explaining that economic practices like risk hedging are abstract ideas as methods of organizing human activity); *Inventor Holdings,* 876 F.3d at 1378 (holding that a computerized system for "local processing of payments for remotely purchased goods" is a type of fundamental business practice

that is abstract and not patent eligible); *Boom! Payments, Inc. v. Stripe, Inc.,* 839 F. App'x 528, 532 (Fed. Cir. 2021) (determining that an internet-based system that verifies the consummation of a transaction before releasing payment to a third party is directed to the abstract idea of payment escrow). And claims that merely recite performing an abstract idea on a generic computer—i.e., using the computer as a tool, rather than improving computer function—are "directed to" an abstract idea under *Alice* step one. *Inventor Holdings* at 1378 (citing *Alice*, 573 U.S. at 221-23).

Here, the Board correctly followed that precedent by evaluating each limitation of illustrative claim 1 and explaining that the claim recites "[a] secure payment system between a customer and a merchant using a sales terminal of the merchant and a central system on a global computer network," wherein the system will "authenticat[e] the [customer's wireless] device to the central system" using gathered data, and then transmit the data to the central system to "enable a payment transaction." Appx7. Considering these claim limitations, the Board concluded that the claim is directed to securely processing payments, which it analogized to this Court's precedent in *Inventor Holdings* and *Cybersource* finding similar claims abstract. Appx7-8. Moreover, in analyzing whether the claims are instead directed to a practical application, i.e., an improvement to computer or other technology, the Board specifically considered the remaining limitations—the "central system," "global computer network," "cellular wireless device," and "logic stored in the memory of the wireless device"—and concluded that there is no claimed improvement to any underlying technology and

these limitations "simply link the [abstract idea] to the technological environment of mobile devices, computer, and networks." Appx10.

Singhal attempts to show error in the Board's *Alice* step one analysis by arguing that (1) the Board characterized the claims too broadly and failed to consider the recited "wireless cellular device" and "encrypted payment data record" in its analysis, (2) the Board's analogy to cases like *Inventor Holdings* and *Cybersource* holding claims related to computerized payment abstract was in error, and (3) the claimed improvement in the security of the payment system is an improvement to the computer's capabilities and thus the Board erred in not finding that the claim is integrated into a practical application. None of these arguments have merit.

a. The Board correctly categorized claim 1 as being directed to "securely processing payments"

Singhal first argues that the Board failed to perform a proper *Alice* step one analysis by characterizing the claims too broadly and not articulating what the claims are directed to with enough specificity. Br. at 11-13. Singhal's argument fails because it both mischaracterizes the Board's analysis and does not explain how any limitation the Board allegedly overlooked would render claim 1 patent eligible. The Board did not disregard claim 1's recited "cellular wireless device," which wirelessly receives a "partial payment authorization transaction record," including particular data fields from a merchant's terminal, and wirelessly transmits the "partial payment authorization record" over "a cellular wireless communication network" to a "central

system." Br. at 11-12. The Board specifically addressed this limitation in its analysis under *Alice* step one and concluded that the limitation is used to implement the steps (data gathering, etc.) necessary to perform the abstract idea (securely process payments), and there is no indication that any underlying technology, such as the cellular device, computer system, etc., is improved by the invention. Appx9-10. Indeed, the Board found that the cellular device did just what Singhal claimed it would do—gather and transmit data—which fails to transform the claimed abstract idea into a patent eligible application. Appx10; *see also OIP Techs., Inc. v. Amazon.com, Inc.,* 788 F.3d 1359, 1363 (Fed. Cir. 2015) (holding that beyond the abstract idea of offer-based price optimization, the conventional computer activities or routine data-gathering steps fail to transform the abstract idea). Rather than identifying an abstract idea in *Alice* step one that was "untethered from the language of the claims" (Br. at 12), the Board identified the abstract idea of securely processing payments, which is derived directly from the claim language.

Further, the Board properly concluded that the claimed wireless device is simply part of the technological environment in which the invention is implemented and does not constitute an improvement in technology. Appx11. As the Board found, Singhal's specification describes the wireless cellular device as containing off-the-shelf technology. Appx11 citing Appx36.

Singhal's related assertion that the Board disregarded claim 9's recitation of creation of an "encrypted payment data record" in its step one analysis is also without

merit. Br. at 12. First, Singhal never separately argued the patent eligibility of claim 9, instead focusing only on claims 1 and 11. Appx402; Appx412. Therefore, Singhal forfeited this argument in failing to raise it before the Board. *In re Google Tech. Holdings LLC*, 980 F.3d 858, 863 (Fed. Cir. 2020). In any event, the recitation of an encrypted data record does not save Singhal's claimed invention from abstractness. Singhal does not explain how any such data record improves the functionality of the cellular device, computer, or network. *Voit Techs., LLC v. Del-Ton, Inc.*, 757 F. App'x 1000, 1003 (Fed. Cir. 2019) (holding that failing to explain how employing different types of stored format files, described as similar to encryption, improves the functioning of a computer and alters the abstract nature of claims to entering, transmitting, locating, compressing, storing, and displaying data to facilitate the buying and selling of items).

b. The Board properly analogized Singhal's claim 1 to those found to be abstract by this Court

Second, Singhal argues that *Inventor Holdings* and *CyberSource* are inapplicable to the present facts, and thus the Board's determination that the claims are directed to an abstract idea was in error. Br. at 13-15. But like the claims in *Inventor Holdings*, which were directed to a computerized method for paying for items ordered from a remote seller at a third-party's local establishment, Singhal's claim 1 is directed to a computerized method for securely processing payment at a merchant using a cellular device and central system on a global computer network, and thus is also directed to an abstract fundamental economic practice that is not patent eligible. *Inventor Holdings*

at 1378. The Board's analysis does not rely on a determination that claim 1 is identical to those in *Inventor Holdings* or *CyberSource*, or that every payment process system is abstract (Br. at 13), but rather on a determination that claim 1 is analogous to the claims in those cases because they also relate to processing payments, which is a fundamental economic practice. Appx7. The Board's reasoning is sound.

While it is true that the Court in *CyberSource* determined that the recited computational methods of verifying the validity of a payment transaction were abstract because they were drawn to a mental process and not to a fundamental economic practice (Br. at 14), the Board cited to that case merely to note that this Court had held a method and system for detecting fraud in a credit card transaction to be patent ineligible. Appx7. Significantly, in other cases, this Court has held that similar computerized or internet-based payment-type claims are fundamental economic practices that are abstract and not patent eligible. *See e.g., Credit Acceptance Corp. v. Westlake Servs.,* 859 F.3d 1044, 1054 (Fed. Cir. 2017); *Boom! Payments,* 839 F. App'x at 532 (Fed. Cir. 2021).

c. The Board correctly determined that Singhal's claim 1 does not recite an improvement to computer technology

Third, Singhal incorrectly asserts that an improvement to the security of the payment system is an improvement to the underlying technology and thus integrates the abstract idea into a practical application. Br. at 15-19. But as the Board found, Singhal's claim 1 does not improve the security of the underlying computer network

system or cellular device. Appx10-11. Claim 1 is directed to secure payment processing, and any improvement directed to that concept, would be an improvement to the abstract concept itself. And as noted above, simply storing secured data does not in itself render a fundamental economic practice not abstract. *Voit Techs.*, 757 F. App'x at 1003.

Singhal's attempt to analogize this case to the Court's decisions in *TecSec, Inc. v. Adobe Inc.*, 978 F3d 1278, 1295 (Fed. Cir. 2020); *Ancora Techs., Inc. v. HTC Am., Inc.*, 908 F.3d 1343, 1348 (Fed. Cir. 2018); and *Uniloc USA, Inc. v. ADP, Inc.*, 772 Fed. Appx. 890, 897 (Fed. Cir. 2019) is inapt. Br. at 16-18. Those cases stand for the proposition that computer-enabled inventions may be patent eligible if "the focus of the claimed advance is on a solution to 'a problem specifically arising in the realm of computer networks' or computers" and if "the claim is properly characterized as identifying a 'specific' improvement in computer capabilities or network functionality, rather than only claiming a desirable result or function." *TecSec*, 978 F.3d at 1293 (citations omitted). In *TecSec*, *Ancora*, and *Uniloc*, the Court found the claims to be patent eligible because they were directed to improving computer functionality itself. *Id.* at 1296 (finding "the claims are directed to improving a basic function of a computer data-distribution network, namely, network security"); *Ancora*, 908 F.3d at 1349 (finding that the claim "is directed to a solution to a computer-functionality problem" and "has 'the specificity required to transform a claim from one claiming only a result to one claiming a way of achieving it'") (internal citation omitted); *Uniloc*,

772 Fed. Appx. at 897 (holding that the claim's focus on the use of the file packet configured to initiate registration of an application from an application server, is not an abstract idea, but a particular improvement in the functioning of prior art application distribution networks).

Here, as the Board found, illustrative claim 1 is not directed to an improvement to computer functionality itself. Instead the claim recites a system to securely process a payment and uses computer components as a tool to perform the payment process steps. Appx10-12. That the claim recites gathering particular types of data does not alter that conclusion.

In asserting that the claimed payment system is patent eligible under *Alice* step one, Singhal makes the related argument that pre-existing payment systems did not include a cellular device in close proximity to a merchant's sales terminal which renders the payment system novel and patent eligible. Br. at 18-19. But as the Board explained, the analysis under the *Alice/Mayo* framework is not an evaluation of novelty or non-obviousness. Appx13. Novelty and nonobviousness are separate patentability requirements from eligibility, and do not inform the eligibility analysis. *Two-Way Media Ltd. v. Comcast Cable Commc'ns, LLC*, 874 F.3d 1329, 1340 (Fed. Cir. 2017) ("Eligibility and novelty are separate inquiries."); *Affinity Labs of Tex., LLC v. DIRECTV, LLC*, 838 F.3d 1253, 1263 (Fed. Cir. 2016) ("Even assuming [the claimed invention is novel], it does not avoid the problem of abstractness."). Also, increasing the proximity of the cellular device to the merchant's computer terminal does not constitute an

improvement to the underlying technology. Contrary to Singhal's assertions (Br. at 18-19), this claim is distinguishable from the claims in *EcoServices*. In *EcoServices*, the claims were directed to a specific system that improved jet engine washing, not to using a generic computer to implement an abstract idea. *EcoServices, LLC v. Certified Aviation Servs.*, LLC, 830 F. App'x 634, 642 (Fed. Cir. 2020). Here, Singhal's claims do not improve the cellular wireless device, the central system, or the global computer network, but simply use them to implement the abstract idea of payment processing. Appx11-12; Appx20-21.

2. The Board correctly concluded that the additional claim limitations do not transform the abstract idea into patent-eligible subject matter

At *Alice* step two, the Board and Examiner considered whether the additional claim elements, both individually and as an ordered combination, transform the abstract idea a patent-eligible application. The Board properly found that they do not. Appx12-13; Appx20-23.

In particular, the Board found that claim 1's recitation of generic computer components (cellular wireless device, central system, and global computer network) is not enough to transform the ineligible abstract idea into patent eligible subject matter because these components are well-understood, routine, and conventional, and are used in their routine and conventional manner to implement the secure payment processing system. Appx12-13; Appx20-23; *see also* Appx11 (finding that Singhal's specification describes using generic wireless cellular devices, central systems, and

global computer networks). The Board's approach is consistent with *Alice*, where the Supreme Court found that the mere recitation of a generic computer cannot transform a patent-ineligible abstract idea into a patent-eligible invention; if a patent's recitation of a computer amounts to a mere instruction to implement an abstract idea, that addition cannot impart eligibility. *Alice*, at 223 (citations omitted). That is precisely Singhal's claims.

In challenging the Board's step two analysis, Singhal primarily makes unfounded complaints that the Board completely ignored claim 1's "logic stored in a memory of the wireless device," and that the Board only made a cursory analysis of the remaining recited hardware components. Br. at 20-26. But the Board's fully considered the claim limitations in determining that Singhal's claims do not recite a patent-eligible invention. First, the step two inquiry considers whether the *additional claim elements* (other than the abstract idea itself) transform the nature of the claim into a patent-eligible application. *Alice*, at 217. Here, the Board considered the logic limitation in its step one analysis and found that it further illustrates that the claim is directed to a fundamental economic practice (Appx8), or at most describes data gathering steps and/or identifies the format content of the data, in order to implement the abstract idea.[2] Appx10; Appx20-21. Thus, the Board did not have to

[2] Singhal also complains that the Board cited *CyberSource* in its determination that data gathering steps cannot make an otherwise nonstatutory claim statutory. Br. at 24 citing Appx10. In particular, Singhal again argues that because *CyberSource* is directed to abstract mental processes, it is not applicable to this case. But the proposition that

consider the limitation again at step two. Second, while *Berkheimer* held that questions regarding the "routine" and/or "conventional" nature of claim limitations in step two of *Alice* are questions of fact (*Berkheimer*, 881 F.3d at 1368), the Court also acknowledged that in many cases, there is no dispute about these questions. *Id.* In *Berkheimer*, arguably unconventional improvements to computer-related technology were identified in the specification and recited in some of the claims, creating factual questions as to whether the claims perform well-understood, routine, and conventional activities in step two of the *Alice* framework. *See Berkheimer*, 881 F.3d at 1369–70. No such improvements are present here as Singhal's claim 1 merely recites generic computer-related technology that performs its routine and conventional functions. Appx12-13; Appx21. Indeed, Singhal's specification describes these computer components (cellular device, the servers of the central system, and the global computer network) in generic terms. *Id.* Moreover, these are the sort of limitations that have been found routine and conventional in other cases. *See Alice*, 573 U.S. at 223-224 ("[w]holly generic computer implementation is not generally the sort of 'additional featur[e]' that provides any 'practical assurance that the process is more than a drafting effort designed to monopolize the [abstract idea] itself.'")

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data or information gathering is not patent eligible is grounded in the fact that such steps can often be performed by conventional computers/machines or no machines at all. *Cybersource*, at 1370. And that proposition applies equally to all abstract ideas, regardless of whether they are fundamental economic concepts or mental processes. *See e.g., OIP Techs., Inc. v. Amazon.com, Inc.,* 788 F.3d 1359, 1363 (Fed. Cir. 2015).

(quoting *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 77 (2012)). The Board's decision is consistent with cases like *Alice* and *Berkheimer*.

Finally, Singhal argues that the Board failed to analyze the claim limitations as an ordered combination. But again, the Board did not err in its analysis. The Board properly looked at the additional claim elements individually and as an ordered combination, and found that they perform their routine and conventional computer functions of data gathering, etc. Appx12-13. And, therefore, there is no element or combination of elements that ensures that the claim is directed to significantly more than the abstract idea itself. Appx13.

Relatedly, Singhal attempts to equate this case with *Bascom Global Internet Services, Inc. v. AT&T Mobility LLC*, 827 F.3d 1341, 1350 (Fed. Cir. 2015) to argue that the non-conventional arrangement of elements renders his invention patentable. Br. at 27-28. But *Bascom* is inapposite. As Singhal acknowledges (Br. at 28), in *Bascom*, the specific arrangement of components of an internet filtering tool was a "technical improvement" over the prior art. In contrast, claim 1 is not limited to any particular technological solution to a technological problem. Placing a cell phone near a computer terminal is not a solution rooted in technology. And the other claim elements beyond the abstract idea—the steps performed by the wireless cellular device, computer system, and global network—amount to nothing more than data gathering and transmitting steps to implement the abstract idea. Here, as in *Alice*, the recited computer components and functions simply are being used in their ordinary

capacity. And again, even if Singhal's purported invention overcomes existing security problems with other payment systems, that improvement is directed to the abstract idea itself, and not any underlying technological components.

V. Conclusion

Because Singhal failed to demonstrate error in the Board's determination that his claims recite patent-ineligible subject matter under § 101, the Board's decision should be affirmed.

Dated: April 26, 2021

Respectfully submitted,

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CERTIFICATE OF COMPLIANCE

I certify pursuant to Fed. R. App. Proc. 32(a)(7) that the foregoing BRIEF FOR APPELLEE, DIRECTOR OF THE UNITED STATES PATENT AND TRADEMARK OFFICE complies with the type-volume limitation required by the Court's rule. The total number of words in the foregoing brief, excluding the table of contents and the table of authorities, is 5,691 as calculated using the Word® software program.

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No. 2020-2318

United States Court of Appeals for the Federal Circuit

In re: TARA CHAND SINGHAL

Appellant,

On Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. 12/928,710

REPLY BRIEF FOR APPELLANT

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MAY 27, 2021

CERTIFICATE OF INTEREST

In accordance with Federal Circuit Rule 47.4(a) and (b), counsel for Appellant Tara Chand Singhal certifies the following:

1. Represented Entities (Fed. Cir. R. 47.4(a)(1)): Tara Chand Singhal.

2. The real party in interest (Fed. Cir. R. 47.4(a)(2)): None/Not Applicable

3. Parent Corporations and Stockholders (Fed. Cir. R. 47.4(a)(3)): None/Not Applicable

4. Legal Representatives (Fed. Cir. R. 47.4(a)(4)): None/Not Applicable

5. Related Cases (Fed. Cir. R. 47.4(a)(5)): None/Not Applicable

6. Organizational Victims and Bankruptcy Cases (Fed. Cir. R. 47.4(a)(6)): None/Not Applicable

May 27, 2021

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I. REPLY ARGUMENT

The Board's errors can be traced to a failure to understand the problem being solved by the claimed invention. In the prior art bankcard-based payment system, when a customer makes a purchase at a merchant, private customer bankcard data is transferred to a merchant point-of-sale computer system for further processing and storage. Since a typical customer uses the same bankcard at a large number of merchants, the prior art operation results in that customer's private bankcard data being transferred to a large number of merchant computer systems, where it is vulnerable to hacking and theft.

The claimed invention prevents the transfer of bankcard private data to a merchant's computer systems during a payment transaction. Notably, the customer's mobile wireless device, positioned in the vicinity of a merchant point-of-sale computer system, receives a payment transaction record that *omits customer private bankcard data (*characterized in the claims as *a partial payment authorization record)* from the merchant point-of-sale computer system. Thereafter, the mobile wireless device wirelessly forwards that *partial payment authorization record* to a central system for processing the payment transaction. This powerful and unique (yet simple) operation is not a fundamental economic practice.

A. The Board's Characterization of the Allegedly Abstract Idea is Overbroad and Results in the Incorrect Conclusion That the Claims are Directed to a Fundamental Economic Practice

The Board's overbroad and incorrect characterization of the claims as being directed to "securely processing payments," leads the Board to wrongly declare that the claims are directed to a fundamental economic practice. The claims detail a specific technological way for a customer to initiate and complete a payment transaction at a point-of-sale without sending credit card or other sensitive customer information to a point-of-sale terminal. It is that claimed advance over the prior art that needs to be analyzed to ascertain whether the claims depict a fundamental economic practice. The Board did not do so, and did not establish that the claims, as properly characterized, are directed to a fundamental economic practice.

No amount of pivoting will enable the Director to escape the reality that the Board's characterization of the claims as being directed to "securely processing payments" is overbroad. The *Alice* step one "directed to" analysis called for by this Court "depends on an accurate characterization of what the claims require and of what the patent asserts to be the claimed advance." *TecSec, Inc. v. Adobe Inc.*, 978 F.3d 1278, 1294 (Fed. Cir. 2020). "The accuracy of those characterizations is crucial to the sound conduct of the inquiries into the problem being addressed and whether the line of specificity of solution has been crossed."

Id. Put differently, this Court has approached the *Alice* step one "directed to" inquiry by asking "what the patent asserts to be the 'focus of the claimed advance over the prior art.'" *Id*. at 1292.

In the present case, the focus of the claimed advance over the prior art goes well beyond merely "securely processing payments." Claim 1 expressly requires a cellular wireless device belonging to a customer that 1) wirelessly receives a specific "partial payment authorization transaction record" (that includes data fields of only a date and time of the sales transaction, transaction reference number, merchant terminal identification, and payment amount) from a "sales terminal" of a merchant (while the wireless device is in close proximity to the sales terminal); and 2) wirelessly transmits the "partial payment authorization record" over "a cellular wireless communication network" to a "central system." These features are an advance over the prior art, because they provide a specific technological way for a customer to initiate and complete a payment transaction at a point-of-sale without sending credit card or other sensitive customer information to a point-of-sale terminal.

In finding that the claims are broadly directed to "securely processing payments," the Board commits the same error noted by this Court in *TecSec*. In that case, cross-appellant Adobe argued that "the claims are directed to the impermissibly abstract idea of managing access to objects using multiple levels of

encryption." *TecSec*, 978 F.3d at 1294. This Court found that characterization to be materially inaccurate, noting that to arrive at it, Adobe had to disregard elements of the claims at issue that the specification makes clear are important parts of the claimed advance in the combination of elements. *Id*.

Similarly, to arrive at its conclusion that the claims are directed to "securely processing payments," the Board in the present case had to disregard elements of the claims at issue that the specification makes clear are important parts of the claimed advance over the prior art. For example, the claimed secure payment system is directed to a customer's cellular wireless device in close proximity to a merchant's sales terminal that wirelessly receives from the sales terminal a specific partial payment authorization transaction record, which does not include sensitive customer financial information, and thereafter wirelessly transmits the partial payment authorization record over a cellular wireless communication network to a central system. Such a system allows a customer to complete a payment transaction from the customer to the merchant without storing the customer's sensitive financial information at the merchant's terminal, thereby improving the security of the system. Appx0035.

In response to the argument that the Board's characterization of the claims is too broad, the Director indicates that the Board did not disregard the claimed "cellular wireless device," which wirelessly receives a "partial payment

authorization transaction record," including particular data fields from a merchant's terminal, and wirelessly transmits the "partial payment authorization record" over "a cellular wireless communication network" to a "central system." Director's Br. at 13. The Director posited that the Board specifically addressed these limitations in its *Alice* step one analysis and concluded that the limitations are used to implement the steps necessary to perform the abstract idea. Director's Br. at 14. The Director ultimately concludes that the Board's identified abstract idea of "securely processing payments" is not untethered from the language of the claims, but rather derived directly from the claim language. *Id*.

The Director's argument misses the mark. It is not enough to merely *derive* the allegedly abstract idea from the claim language. Rather, the Board's characterization must *include* "what the patent asserts to be the 'focus of the claimed advance over the prior art.'" And there is no denying that the simple idea of "securely processing payments" does not capture what the '710 application asserts to be the focus of the claimed advance over the prior art. Instead, the Board did not even venture beyond the first four words of the preamble ("A secure payment system") in making its characterization.

The Board's overbroad characterization of the allegedly abstract idea directly leads the Board to improperly concluding that the claims are directed to a fundamental economic practice. Given the (incorrect) starting point of "securely

processing payments," that is not a surprising result. The Appellant in no way is suggesting that the overbroad concept of securely processing payments, in a vacuum, is not a fundamental economic process. A different result, however, follows when the correct characterization is used.

For a concept to be considered a fundamental economic practice, that concept must be both 1) fundamental, and 2) long prevalent in our system of commerce. *Alice Corp. Pty. Ltd. v. CLS Bank Intern.*, 573 U.S. 208, 134 S.Ct. 2347, 2350. The Board has established neither, with respect to the claims as properly characterized. The current claims are directed to a customer's cellular wireless device in close proximity to a merchant's sales terminal that wirelessly receives from the sales terminal a specific partial payment authorization transaction record that omits sensitive customer financial information, and thereafter wirelessly transmits the partial payment authorization record over a cellular wireless communication network to a central system. The Board does nothing to show that the combination of those concepts, which reflect the focus of the claimed advance over the prior art, are 1) fundamental, and 2) long prevalent in our system of commerce. The Board's conclusion that the claims are directed to a fundamental economic practice must fall as a result.

B. The Ordered Combination of Claim Elements Represents a Non-Abstract Improvement in System Functionality

The Board is well aware that if the allegedly abstract idea is integrated into a practical application, then the claim directed to the allegedly abstract idea is not abstract. The Board is also well aware that this inquiry often turns on whether the claims focus on the specific asserted improvement in computer system functionality. *Ancora Techs., Inc. v. HTC Am., Inc.*, 908 F.3d 1343, 1347 (Fed. Cir. 2018), *as amended*, (Nov. 20, 2018) (citing *Finjan, Inc. v. Blue Coat Systems, Inc.*, 879 F.3d 1299, 1303 (Fed. Cir. 2018)). The Board, however, does not seem to be aware that it was required to analyze the claims as an ordered combination under *Alice* step one, to determine whether the claims improve computer system functionality. In fact, the combination of the claimed elements do improve a function of payment systems, namely, security.

The requirement to analyze claim elements both individually and as an ordered combination applies not only to *Alice* step two, but also to step one. *McRO, Inc. v. Bandi Namco Games America Inc.*, 837 F.32 1299, 1313 (Fed. Cir. 2016). The Director does not address Appellant's argument that the Board failed to analyze the claims as an ordered combination under *Alice* step one. This omission by the Director makes sense, because there is no denying the Board did not analyze the claims as an ordered combination with respect to *Alice* step one.

The Director does, however, take exception to the analogies to the *TecSec*, *Ancora*, and *Unlioc* cases set forth by the Appellant. Director's Br. at 17-19. Specifically, the Director argues that those cases stand for the proposition that computer-enabled inventions may be patent eligible if 1) the focus of the claimed advance is on a solution to a problem specifically arising in the realm of computer networks or computers; and 2) if the claim is properly characterized as identifying a specific improvement in computer capabilities or network functionality, rather than only claiming a desirable result or function. Director's Br. at 17. According to the Director, the present case does not meet these requirements. Director's Br. at 18-19.

The Director is wrong on both counts. First, the present claims improve the security of a computer system by using a specific technique that departs from earlier approaches to solve a specific technological computer system problem: the vulnerability of a payment computer system to hacking. *Ancora*, 908 F.3d at 1348-1349.

Second, the claims do not only claim a desirable result or function. Rather, the claims detail *how* a specific computer system problem is solved in a technological manner. For example, the claimed secure payment system is directed to a customer's cellular wireless device that wirelessly receives, from a merchant's sales terminal, a specific partial payment authorization transaction

record that does not include sensitive customer financial information, and thereafter wirelessly transmits the partial payment authorization record over a cellular wireless communication network to a central system. This claimed system shows *how* the system performs a payment transaction from a customer to the merchant without storing the customer's sensitive financial information at the merchant's terminal, thereby improving the security of the system.

C. The Board Did Not Establish that the Claim Elements as an Ordered Combination Operate in a Well-Understood, Routine, and Conventional Way

The Board, in its *Alice* step two analysis, does not provide any evidence that the ordered combination of elements beyond the allegedly abstract idea is well-understood, routine, and conventional. That failure is fatal to the Board's position and does not allow the Board or the Director to escape the reality that the ordered combination of claim elements is non-conventional, non-generic, and reflects an inventive concept.

The Director attempts to quickly dispose of, in a single four-sentence paragraph, Appellant's argument that the Board failed to properly analyze the claim elements as an ordered combination under *Alice* step two. Director's Br. at 22. But that attempt comes up short. The entirety of the Director's argument in this regard is as follows:

> Finally, Singhal argues that the board failed to analyze the claim limitations as an ordered combination. But again, the Board did not err in its analysis. The Board properly looked at the additional claim elements individually and as an ordered combination, and found that they perform their routine and conventional computer functions of data gathering, etc. Appx12-13. And therefore, there is no element or combination of elements that ensures that the claim is directed to significantly more than the abstract idea itself. Appx13.

Director's Br. at 22. The Director points to Appx12 and Appx13 as proving that the "Board properly looked at the additional claim elements individually and as an ordered combination" and that those elements "perform their routine and conventional computer functions of data gathering, etc." But those pages prove no such thing.

The Board identifies the "cellular wireless device," servers of the "central system," and interfaces over "global computer network" as limitations beyond the alleged abstract idea. Appx0012. The Board ostensibly addresses the question of whether these elements, individually and as an ordered combination, are well-understood, routine, and conventional in a single sentence: "[a]s explained above, these claimed elements appear to be used in their routine and conventional manner to implement the claimed secure payment processing system." Appx0012-0013. The "above" explanation appears to refer to page 10 of the Decision on Appeal. *See* Appx0011.

On that page, the Board points to different portions of the specification as purportedly establishing that each of the limitations beyond the alleged abstract idea

(the "cellular wireless device," servers of the "central system," and interfaces over "global computer network") are well-understood, routine, and conventional. Even if the specification does show that each of those individual elements are well-understood, routine, and conventional (which it does not), the Board does not, on this or any other page, provide any evidence whatsoever that the *ordered combination* of the elements is well-understood, routine, and conventional.

This failure is fatal. Whether something is well-understood, routine, and conventional is a factual determination that goes beyond what was simply known in the prior art. *Berkheimer v. HP Inc.*, 881 F.3d 1360, 1369 (Fed. Cir. 2018). The fact that something is disclosed in a piece of prior art does not mean it was well-understood, routine, and conventional. *Id*. Here, the Board does not even offer any proof that the ordered combination of elements beyond the allegedly abstract idea is disclosed in the prior art (which would not be enough by itself as noted above), let alone that it is well-understood, routine, and conventional. The Board's *ipse dixit* posturing is not enough to change that reality.

Further as to the merits of whether the combination of elements is well-understood, routine, and conventional, the '710 application eliminates conventional payment system security issues by eliminating the need to store customer bankcard information in a merchant computer system. When the customer makes a purchase, the customer's cellular wireless device wirelessly receives from the sales terminal a

specific record called a partial payment authorization record, which includes data fields of only a date and time of the sales transaction, a transaction reference number, a merchant terminal identification, and a payment amount. The partial payment authorization record does not include bankcard information or other sensitive customer information. The cellular wireless device thereafter wirelessly transmits the partial payment authorization record over a cellular wireless communication network to a central system, where it is stored. In this manner, the merchant need not store or transmit bankcard information at the time of the payment transaction, improving security of the payment system. This ordered combination of elements is non-conventional and non-generic and reflects an inventive concept.

II. CONCLUSION AND RELIEF REQUESTED

For the foregoing reasons and for those set forth in Appellant's Opening Brief, the Board's Decision on Appeal as to claims 1-20 should be reversed, and those claims should be found to be directed to patent-eligible subject matter, given the Board's incorrect applications of this Court's legal precedents and its failure to support its factual findings with substantial evidence.

May 27, 2021

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CERTIFICATE OF FILING AND SERVICE

I hereby certify that, on May 27, 2021, I electronically filed the foregoing with the Clerk of Court using the CM/ECF System, which will send notice of such filing to all registered users.

I further certify that, upon acceptance and request from the Court, the required paper copies of the foregoing will be deposited with United Parcel Service for delivery to the Clerk, UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT, 717 Madison Place, N.W., Washington, D.C. 20439.

May 27, 2021

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CERTIFICATE OF COMPLIANCE

1. This brief complies with the type-volume limitation of Federal Rule of Appellate Procedure 32(a)(7)(B) or Federal Rule of Appellate Procedure 28.1(e)

__X__ The brief contains 2,681 words, excluding the parts of the brief exempted by Federal Rule of Appellate Procedure 32(a)(7)(B)(iii), or

2. This brief complies with the typeface requirements of Federal Rule of Appellate Procedure 32(a)(5) or Federal Rule of Appellate Procedure 28.1(e) and the type style requirements of Federal Rule of Appellate Procedure 32(a)(6)

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NOTE: This disposition is nonprecedential.

United States Court of Appeals for the Federal Circuit

IN RE: TARA CHAND SINGHAL,
Appellant

2020-2318

Appeal from the United States Patent and Trademark Office, Patent Trial and Appeal Board in No. 12/928,710.

JUDGMENT

WALTER D. DAVIS, JR., Davidson Berquist Jackson & Gowdey, LLP, McLean, VA, argued for appellant Tara Chand Singhal.

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THIS CAUSE having been heard and considered, it is

ORDERED and ADJUDGED:

PER CURIAM (NEWMAN, O'MALLEY, and TARANTO, *Circuit Judges*).

AFFIRMED. See Fed. Cir. R. 36.

ENTERED BY ORDER OF THE COURT

September 14, 2021	/s/ Peter R. Marksteiner
Date	Peter R. Marksteiner
	Clerk of Court