

**IN THE UNITED STATES DISTRICT COURT  
FOR THE EASTERN DISTRICT OF TEXAS  
MARSHALL DIVISION**

RMAIL LIMITED,

Plaintiff,

v.

AMAZON.COM, INC., PAYPAL, INC., and  
SOCIETY FOR WORLDWIDE INTERBANK  
FINANCIAL TELECOMMUNICATION SCRL  
D/B/A SWIFT,

Defendants.

CASE NO. 2:10-CV-00258-JRG

**DEFENDANT PAYPAL, INC.'S MOTION FOR PARTIAL  
SUMMARY JUDGMENT OF INVALIDITY UNDER 35 U.S.C. SECTION 101**

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## I. INTRODUCTION

Defendant PayPal, Inc. moves under Fed. R. Civ. P. 56(a) for partial summary judgment of invalidity of all 51 claims of the asserted '334 patent (Pellikaan Decl., Ex. B) and claims 30-70 of the '219 patent (*id.*, Ex. A), under Section 101 of the Patent Act, 35 U.S.C.

In March of this year, the U.S. Supreme Court reconfirmed that Section 101—which identifies what can be patented—“contains an important implicit exception. ‘[L]aws of nature, natural phenomena, and abstract ideas’ are not patentable.” *Mayo Collaborative Serv. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012) (“*Prometheus*”) (citations omitted). “[A]bstract intellectual concepts are not patentable, as they are the basic tools of scientific and technological work.’ And monopolization of those tools through the grant of a patent might tend to impede innovation more than it would tend to promote it.” *Id.* (citation omitted). *Accord Bilski v. Kappos*, 130 S. Ct. 3218, 3235 (2010) (“*Bilski*”). The challenged patent claims are invalid under this law because they claim an abstract idea.

The asserted patents address a problem faced by anyone sending information to a recipient via a third-party intermediary: how to prove later, if needed (i.e., how to authenticate), what was sent, to whom, and when. These patents’ alleged solution is a mathematical one. They use mathematical functions to calculate data that other mathematical functions use to verify (authenticate) the timing, content, and destination of the message. The challenged patent claims are invalid because they encompass this abstract, mathematical idea *per se*, rather than being limited to some particular hardware implementation using the idea.

The parties agree that this issue is ripe for decision. “Rmail agrees that targeted early summary judgment motion practice can lay this dispute to rest early in this litigation.” (Dkt. 52-1, p. 3.) It is one of pure law for the Court, requiring neither discovery nor claim construction. Invalidating patent claims covering unpatentable ideas belonging to the public, serves the public interest. *Cf. Blonder Tongue Labs., Inc. v. Univ. of Ill. Found.*, 402 U.S. 313, 343 (1971). And, it is wasteful to saddle technology companies with discovery burdens on patent claims that never should have issued. Finally, removing these 92 claims now will serve judicial economy.

**II. STATEMENT OF ISSUES TO BE DECIDED AND STATEMENT OF UNDISPUTED MATERIAL FACTS**

The issue is whether the challenged claims are invalid under 35 U.S.C. § 101 for encompassing patent-ineligible subject matter. No disputed facts are material to this motion.

**III. THE PATENT OFFICE HAS NOT EXAMINED THESE CLAIMS UNDER THE CORRECT LEGAL STANDARD**

Section 101 defines the types of inventions eligible for patenting (if other conditions are met) as “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof.” 35 U.S.C. § 101; *see also id.* § 100. However, a patent cannot effectively preempt a fundamental principle such as an abstract idea (e.g., a mathematical algorithm), a mental process, or a natural phenomenon. A claim encompassing such excluded subject matter violates Section 101 even if it ostensibly recites a “process” or other category listed in Section 101. *Bilski*, 130 S. Ct. at 3235 (2010); *Prometheus*, 132 S. Ct. at 1303-04.

The Patent Office examined the patents in suit during the late 1990s and early 2000s. At that time, the Patent Office applied what is a significantly more liberal patent-eligibility standard than the one which trial courts must apply today. Starting in the early 1990’s, the Court of Appeals for the Federal Circuit (the Patent Office’s reviewing court) had departed from existing Supreme Court precedent, to adopt that more permissive rule. The Federal Circuit allowed the patenting of abstract ideas so long as they produced “a number which ha[d] a specific meaning,” *AT&T Corp. v. Excel Commc’ns, Inc.*, 172 F.3d 1352, 1359 (Fed. Cir. 1999), *abrogated by In re Bilski*, 545 F.3d 943, 960 n.19 (Fed. Cir. 2008) (*en banc*), or some other “useful, concrete, and tangible” number or result, *State Street Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1373 (Fed. Cir. 1998), *abrogated by In re Bilski*, 545 F.3d at 960 n.19. This standard had obvious flaws. Abstract knowledge often produces a number having “a specific meaning”—such as the area of a circle or the amount of taxes owed.

Although the Patent Office is now reexamining the asserted patents, it does not consider Section 101 during reexamination proceedings.

**IV. FIVE SUPREME CORUT DECISIONS EXPLAIN THIS LAW**

In its two recent decisions on Section 101, the U.S. Supreme Court embraced and relied upon as useful “guideposts” a trilogy of its prior rulings from 1972 to 1981. *See Bilski*, 130 S. Ct. at 3231; *Prometheus*, 132 S. Ct. at 1294-95. These older decisions are not, therefore, merely of historical interest. Rather, per the Supreme Court, they—and the claims they considered—are a logical starting point for any analysis under Section 101.

Movant appends to this Motion as Appendix 1 the five independent claims being challenged, to facilitate their comparison to the claims considered by the Supreme Court.

**A. 1972 – 1981: The *Benson – Flook – Diehr* Trilogy**

In *Gottschalk v. Benson*, 409 U.S. 63 (1972) (“*Benson*”), the Court rejected claims seeking to patent a mathematical algorithm used to convert digitally stored numbers from one encoding format to another. The claims specified that the algorithm used a particular hardware element of a programmable digital computer, called a “reentrant shift register”:

The method of converting signals from binary coded decimal form into binary which comprises the steps of

- (1) storing the binary coded decimal signals *in a reentrant shift register*,
- (2) shifting the signals to the right by at least three places, until there is a binary ‘1’ in the second position of *said register*,
- (3) masking out said binary ‘1’ in said second position of *said register*,
- (4) adding a binary ‘1’ to the first position of *said register*,
- (5) shifting the signals to the left by two positions,
- (6) adding a ‘1’ to said first position, and
- (7) shifting the signals to the right by at least three positions in preparation for a succeeding binary ‘1’ in the second position of *said register*.

*Id.* at 73-74 (App. Op. Ct.) (emphases added).

Despite being restricted to this specific type of hardware, the claim improperly sought to protect an abstract idea in violation of Section 101. Although the mathematical operations could

be performed without a computer, *id.* at 67, the algorithm had “no substantial practical application” other than with programmable digital computers. *Id.* at 71. Therefore, tying the algorithm to such devices could not save the claim, because granting the claim “would wholly pre-empt the [algorithm] and in practical effect would be a patent on the algorithm itself.” *Id.*, 409 U.S. at 71-72. See *Bilski*, 130 S. Ct. at 3230 (explaining *Benson*); *Prometheus*, 132 S. Ct. at 1301 (same).

In *Parker v. Flook*, 437 U.S. 584 (1978) (“*Flook*”), the Court rejected under Section 101 claims reciting a data-processing algorithm used in a process for chemical conversion of hydrocarbons, including the following claim:

1. A method for updating the value of at least one alarm limit on at least one process variable involved in a process comprising the catalytic chemical conversion of hydrocarbons wherein said alarm limit has a current value of “Bo + K” wherein Bo is the current alarm base and K is a predetermined alarm offset which comprises:

- (1) Determining the present value of said process variable, said present value being defined as PVL;
- (2) Determining a new alarm base B1, using the following equation: “ $B1 = Bo(1.0 - F) + PVL(F)$ ” where F is a predetermined number greater than zero and less than 1.0;
- (3) Determining an updated alarm limit which is defined as  $B1 + K$ ; and thereafter
- (4) Adjusting said alarm limit to said updated alarm limit value.

*Id.* at 596-97 (App. Op. Ct.).

*Flook*’s data processing invention used “some type of computer in accordance with a mathematical control equation.” *In re Flook*, 559 F.2d 21, 22 (CCPA 1977), *rev’d sub nom. Parker v. Flook*, 437 U.S. 584 (1978). The Supreme Court rejected the claim, despite its assumed use of a computer and its limitation to a specific practical application (catalytic hydrocarbon conversion), because it preempted the algorithm in that field of use and technological environment. *Flook*, 437 U.S. at 594-95. See *Bilski*, 130 S. Ct. at 3230 (explaining *Flook*); *Prometheus*, 132 S. Ct. at 1298-99 (same). Therefore, one may not patent a

mathematical algorithm or other abstract idea even if the claim is limited to a particular field of use or technical environment. *Bilski*, 130 S. Ct. at 3230.

This abstractness exception to patentability does not mean, however, that all patent claims reciting a mathematical algorithm are necessarily invalid. In *Diamond v. Diehr*, 450 U.S. 175 (1981) (“*Diehr*”), the Court approved a patent claim which recited a formula within it. That claim survived because it also positively recited a patentable combination of particular physical steps using a particular physical machine to transform a particular physical article (*viz.*, curing synthetic rubber). *Id.* at 184. These particular non-algorithmic process steps included “installing rubber in a press,” “closing the mold,” and “automatically opening the press at the proper time.” *Id.* at 187. The claim consequently did not preempt substantially all practical implementations of the recited algorithm in any field of use. *Id.* at 192-93. “When a claim containing a mathematical formula implements or applies that formula in a structure or process which, when considered as a whole, is performing a function which the patent laws were designed to protect (*e.g.*, transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.” *Id.* at 192.

As the Supreme Court this year explained, those additional steps in *Diehr*:

included ‘installing rubber in a press, closing the mold, constantly determining the temperature of the mold, constantly re-calculating the appropriate cure time through the use of the formula and a digital computer, and automatically opening the press at the proper time.’ *Id.* at 187. It nowhere suggested that all these steps, or at least the combination of those steps, were in context obvious, already in use, or purely conventional. And so the patentees did not seek to pre-empt the use of [the] equation, but sought ‘only to foreclose from others the use of that equation in conjunction with all of the other steps in their claimed process.’

*Prometheus*, 132 S. Ct. at 1298-99 (parallel citations omitted).

**B. 2010: *Bilski***

In *Bilski*, the Supreme Court endorsed and followed the above precedents, and unanimously declared ineligible for patenting claims directed to communications among parties, including method claim 1, which recited the following steps:



- (a) initiating a series of transactions between said commodity provider and consumers of said commodity wherein said consumers purchase said commodity at a fixed rate based upon historical averages, said fixed rate corresponding to a risk position of said consumers;
- (b) identifying market participants for said commodity having a counter-risk position to said consumers; and
- (c) initiating a series of transactions between said commodity provider and said market participants at a second fixed rate such that said series of market participant transactions balances the risk position of said series of consumer transactions.

*Bilski*, 130 S. Ct. at 3223-24.

The claims were invalid because they “attempt[ed] to patent the use of the abstract idea of hedging risk in the energy market and then instruct the use of well-known random analysis techniques to help establish some of the inputs into the equation.” *Id.*, at 3231.

The Court confirmed that an important, albeit non-exclusive, consideration for policing this abstractness exclusion to patentability is the “machine-or-transformation” test. Specifically, if a patent claim reciting an abstract idea fails to restrict that abstract idea to a particular machine or particular transformation of a particular article, that is “a useful and important clue” that the claim preempts that abstract idea and thus is invalid under 35 U.S.C. § 101. *Id.* at 3227.

**C. 2012: *Prometheus***

In *Prometheus*, the Supreme Court unanimously affirmed a trial court’s grant of summary judgment invalidating claims of two issued patents under Section 101. This latest Supreme Court ruling on Section 101 supports several points of law on which this motion rests.

First, *Prometheus* noted the importance of this “abstract idea” exception: “The Court has long held that this provision contains an important implicit exception. ‘[L]aws of nature, natural phenomena, and abstract ideas’ are not patentable.” *Prometheus*, 132 S. Ct. at 1293 (citations omitted).

Second, *Prometheus* rejected the U.S. Government’s invitation (echoing some recent Federal Circuit opinions) to demote Section 101 in favor of analyzing validity of patent claims

under other sections of the Patent Act. *Id.* at 1303. Nor did the court require that the idea's ineligibility for patenting be manifest, as had some Federal Circuit panels.

Third, *Prometheus* confirmed the continued vitality of the analysis in *Flook*, which dismissed as inadequate any routine or conventional activities recited in a patent claim:

Moreover, “[t]he chemical processes involved in catalytic conversion of hydrocarbons[,] . . . the practice of monitoring the chemical process variables, the use of alarm limits to trigger alarms, the notion that alarm limit values must be recomputed and readjusted, and the use of computers for ‘automatic monitoring-alarming’” were all “well known,” to the point where, putting the formula to the side, there was no “inventive concept” in the claimed application of the formula. “[P]ost-solution activity” that is purely “conventional or obvious,” the Court wrote, “can[not] transform an unpatentable principle into a patentable process.”

*Prometheus*, 132 S. Ct. at 1299 (citations omitted).

Applying this principle, the Court dismissed several steps recited in the claims as merely requiring a particular technological environment, or “well-understood, routine, conventional activity previously engaged in by scientists who work in the field.” *Id.* at 1298.

Fourth, *Prometheus* explained that a “narrow and specific” law of nature, etc. is no more patent-eligible than a broad one. *Id.* at 1302, 1303. Thus, it is irrelevant whether an algorithm can be expressed briefly or, instead, requires an entire chalkboard.

Finally, *Prometheus* invalidated issued patent claims, which enjoyed the same presumption of validity enjoyed by all issued patent claims under 35 U.S.C. § 282. *Id.* at 1305.

## V. THE PATENTS IN SUIT

### A. The Alleged Invention Inputs Data Into Mathematical Algorithms

The asserted patents do not purport to describe a new composition, machine, or gadget, or a new technique for transforming some physical material or article. Rather, they suggest inputting certain data into mathematical algorithms for use in a certain business field.

The asserted '219 patent (U.S. Patent No. 6,182,219, “'219”) and '334 patent (U.S. Patent No. 6,571,334, “'334”) have essentially the same written description, the same drawings, and the same title, “Apparatus and Method for Authenticating the Dispatch and Contents of Documents.” (*See Pellikaan Decl.*, Exs. A and B, respectively.) Their field of business is one

where a third party forwards a message from a sender to a recipient. (E.g., '334 at 3:26-30, 4:3-6.) The patents acknowledge that such third-party dispatching services already existed, which forwarded electronic messages from senders to receivers, and returned to the sender a "delivery report" with information about that dispatch:

E-mail and other electronic messages forwarding services are commonly used today. The sender sends a message to the dispatching service which, in turn, forwards the message to the destination and provides the sender with a delivery report which typically includes the date and time of the dispatch, the recipient's address, the transmission completion status, and sometimes even the transmitted data, the number of pages delivered, the recipient's identification information, and so on.

(*Id.* at 2:36-44.)

A problem long-addressed by such services is one also well known to courts: someone later disputes the delivery of the message or the authenticity of the facts in the delivery report: "Sometimes, when a dispute arises between the sending and receiving party of the exchanged information, the receiving party may raise the claim that he never received the information, that the received information was different from what the sender claims to have sent, or the receiving party may even attempt to forge the received information." (*Id.* at 1:28-34.)

The patents acknowledge that mathematical "algorithms" were "known in the prior art" and "widely used" "for encrypting and for authenticating digital data and/or its author," and "for security and for authentication purposes." (*Id.* at 2:13-22.) The idea of these patents—which is an abstract idea ineligible for patenting under controlling Supreme Court precedent—is to input delivery-report type data (e.g., message content, destination address, and time information) into these known mathematical algorithms in order "to provide the sender with evidence he can use to prove both the dispatch and its contents." (*Id.* at 2:59-63.) In other words, the idea is to generate and mathematically "secure" (for later mathematical verification) data already conventionally collected (a delivery report) by using mathematical algorithms that were already used to generate and "secure" data for the same authentication purpose.

Fig. 7 in each patent (see, e.g., '334 at 15:52-16:65) illustrates an alleged embodiment:

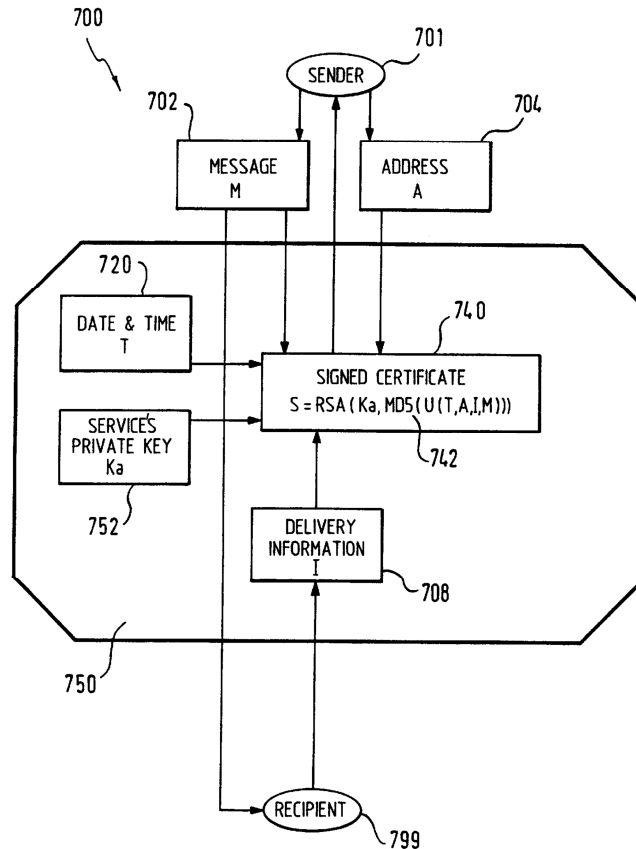


Fig. 7

E-MAIL AUTHENTICATION SERVICE  
USING DIGITAL SIGNATURES

Block 740 represents a “signed certificate” (S) which is a number calculated by the mathematical function written in that block, which function includes the known mathematical algorithms called “MD5” and “RSA.” (E.g., ’334 at 16:7-40.) The data input to these algorithms is the conventional “delivery report” type of data, as shown in Fig. 7, including the content of the message (M) forwarded by the third-party service, the destination address for the message (A), and a “time indication” (T). (*Id.*) Due to the mathematical properties of these algorithms, this calculated number S “constitutes an non-repudiable evidence [sic] witnessed by the service for the dispatch and its contents,” which “can at any later time be authenticated and verified by any third party both for integrity and originality by means of the service’s public key.” (’334 at 16:41-50.)

**B. The Patents Are Immersed In Mathematics**

The patents' algorithms are mathematical algorithms. For example, the patents refer throughout to "mathematical association," "mathematical method," "mathematical association method," "mathematical association function," "mathematical relation," etc. (E.g., '334 at 5:30-33, 8:36-37, 9:45-46, 10:20-36, 10:54-56, 11:10-11, 12:19-21, 12:22-24, 13:56-61, 14:32-40, 14:46-48, 15:25-28.)

The patents do not purport to invent any new processors, circuits, or other devices or mechanisms for performing the needed computations. On the contrary, the patents admit that such mathematical functions were already "well known" and "widely used" to authenticate digital data. (E.g., '334 at 11:43.) For example, it was "known in the prior art" to use such mathematical functions "for authenticating digital data and/or its author." (*Id.* at 2:13-15.)

**C. The Patents Tout That Their Solution Is *Not* Restricted To A Particular Device Or Application**

The patents tout that their idea has no limit to its application. While they purport to describe some particular hardware implementations of the idea, they proclaim that their "invention" encompasses "all types" of information, "all types" of dispatch methods, and "all types" of methods and devices for associating and "securing" the authentication information:

The present invention encompasses *all types of information being dispatched*, such as that found on paper documents or within electronic documents and other electronic data, and all types of dispatch methods, such as transmission via facsimile machines, modems, computer networks, electronic mail systems and so forth, or manually such as via registered mail or courier services. (*Id.* at 4:3-9.) (Emphasis added.)

The present invention also encompasses *all types of methods and apparatuses which provide and/or associate the dispatch information with the contents* in a relatively secure or reliable manner. (*Id.* at 4:19-22.) (Emphasis added.)

In other words, the patents declare that their "invention" is not a new machine or new gadget or new way of transforming some physical article, but rather is a broadly applicable concept of applying mathematical algorithms to delivery-report data.

**D. The Challenged Patent Claims Encompass  
Inputting Data Into Mathematical Algorithms,  
Or The Data Output From That Mathematical Operation**

It is the patent claims themselves that are the subject of a Section 101 analysis. Here, the challenged patent claims are not limited to any particular hardware or other particular physical implementation. Instead, they recite the idea itself, of collecting delivery report data and subjecting it to mathematical algorithms to generate authentication data, “secure” it, and render it tamper-resistant. While the patents purport to describe some particular hardware implementations of their idea, such as an EPROM-based microcontroller (’334 at 13:27-35), neither the patents nor the challenged claims are limited to any particular device or implementation. For example, none of the 92 challenged patent claims requires:

- a computer;
- a computer processor, logic circuit, keyboard, monitor or other computer part;
- the Internet or World Wide Web;
- a computer program, software or other computer-executable instructions;
- any storage or memory having a particular physical data structure; or
- a hard disk, random-access memory (RAM), or any computer-readable media.

This motion challenges all 51 claims of the ’334 patent, including its three independent claims, 1, 18, and 35, and challenges claims 30-70 of the ’219 patent, including independent claims 30 and 60. Appendix 1 lists these five independent claims.

’219 Claim 60 (’219 at 24:3-28)

Claim 60 recites four steps: (1) receiving content data, (2) providing a time-related indicia, (3) associating content data with other data, and (4) securing at least part of the data output by the third step—the last two steps performed by an “authenticator.” It does not require a particular machine to perform any of these positively recited steps of the claim. It could be a general-purpose computer, but it does not have to be. It could be the EPROM microcontroller mentioned in the patents or an application-specific integrated circuit (ASIC). It could be a computing device yet to be invented. It could be an antique encryption device from World War

II. It could be mathematician at the CIA. It could be an extraterrestrial. The point is that the claim does not say. As in *Flook* and *Bilski*, the claim preempts using any device or system or service capable of performing the necessary math.

The claim language is set forth below, using italics to identify mathematical algorithms and underlining to identify data gathering, respectively:

60. A method of authenticating a dispatch and contents of the dispatch transmitted from a sender to a recipient, comprising the steps of:

receiving content data representative of the contents of the dispatch originated from the sender and being electrically transmitted to said recipient, and a destination of the dispatch;

*providing an indicia relating to a time of transmission of the dispatch, said time related indicia being provided in a manner resistant to or indicative of tampering by either of the sender and the recipient;*

*associating, by an authenticator functioning as a non-interested third party with respect to the sender and the recipient, the content data with dispatch record data which includes at least said time related indicia and an indicia relating to the destination of the dispatch, to generate authentication data which authenticate the dispatch and the contents of the dispatch; and*

*securing, by said authenticator, at least part of the authentication data against tampering of the sender and the recipient;*

*wherein at least one of the steps of associating and securing utilizes mathematical association methods for a selected portion of a combination of the content data and the dispatched record data.*

(’219 at 24:3-28.)

The italicized language encompasses (i.e., is broad enough to cover) a series of mathematical calculations, such as digital signature calculations, to make certain data tamper-resistant, to associate certain data with other data, and to “secure” the data resulting from the associating step. This claim recites a mathematical journey from one number to another. Like all of the challenged independent claims, it imposes no restriction whatsoever on what device performs its mathematical algorithms.

In other words, the public cannot, by using some machine excluded by these claims, use the abstract ideas recited in these claims in the recited field (e.g., perform the recited mathematical operations on the recited data in the field of third-party message forwarding) free

of a risk of infringement. That is because these claims encompass use of all types of devices capable of performing the recited data processing steps. They leave no safe-harbor devices for the public. That is what it means to preempt an abstract idea.

Of course, no mathematical function is useful unless data is input to allow the function to generate an output. Here, the rest of the claim language, which is underscored above, simply requires gathering certain data to input to the mathematical algorithms.

'219 Claim 30 ('219 at 21:39-22:9)

Claim 30 likewise encompasses gathering data (underscored below) and using it in mathematical algorithms (italicized below), without restriction to any particular device:

30. A method for authenticating that certain information has been transmitted from a sender via a dispatcher to a recipient, comprising the steps of:

providing a set A comprising a plurality of information elements  $a_1, \dots, a_n$ , where said information element  $a_1$  is originated from the sender and comprising the contents of the information being electronically transmitted to said recipient, and said one or more information elements  $a_2, \dots, a_n$  comprising dispatch-related information and comprise at least the following elements:

$a_2$ --a time indication associated with said dispatch; and

$a_3$ --information describing the destination of said dispatch,

*and wherein at least said information element  $a_2$  is provided in a manner that is resistant to or indicative of tampering by either of said sender and said recipient;*

*associating, by an authenticator functioning as a non-interested third party with respect to the sender and the recipient, said dispatch-related information with said element  $a_1$  by generating authentication-information comprising a representation of at least said elements  $a_1, a_2$  and  $a_3$ , said representation comprising a set of one or more elements, each comprising a representation of one or more elements of said set A; and*

*securing, by said authenticator, at least part of said authentication-information against tampering of said sender and recipient;*

*wherein at least one of the steps of associating and securing comprises the step of generating a new set B, said set B comprising one or more information elements  $b_1, \dots, b_m$ , each element  $b_i$  comprising a representation of a subset  $S_i$ , said representation being expressive as a function  $F_i$  of the elements of said subset  $S_i$ ,*



*where said subset Si comprises a digital representation of at least one element of said set A, and where said A functions Fi can be different.*

'334 Claim 1 ('334 at 19:19-51)

'334 claim 1 is slightly different. Like the above claims, it recites gathering data ("content data," "destination of the dispatch," "dispatch record data"). But, rather than positively recite performing the algorithm's steps of associating, securing, etc., claim 1 instead recites receiving "a representation of authentication data," where the "authentication data" had already been generated by applying an algorithm. In other words, this claim is directed to a later point in time, after the mathematical functions have been used. It, too, recites the algorithm, but more passively than in the '219 claims. This distinction, however, is not material to this motion. This claim equally lacks any restriction to any particular device and preempts use of the recited algorithm with any sort of machine or device.

'334 Claim 35 ('334 at 22:11-44)

This claim also is directed to a later point in time, and it invokes additional mathematical algorithms. Its nominal "method" compares a representation of "authentication data" calculated using mathematical algorithms to other data, to see if they match. Again, this difference in claim language is not material. This claim, like the others, and like the claims in, e.g., *Flook*, is directed to inputting data into mathematical algorithms, without restricting the device that performs the required mathematical calculations.

'334 Claim 18 ('334 at 20:50-21:12)

This claim is not even nominally a method. Claim 18 instead is directed to data that is output from a mathematical algorithm. This literally claimed "authentication data" is just as abstract as any other series of numbers. It has no mass and no molecules and no particular physical attributes of any kind. Just as *Flook* could not patent the algorithm for updating an alarm limit, nor could *Flook* have patented the alarm limit value calculated thereby.

Dependent Claims

('219 at 22:10-24:2, 24:29-58; '334 at 19:52-20:48, 21:13-22:10, 22:45-24:20)

The “dependent” claims that directly or indirectly incorporate these five independent claims, likewise encompass abstract ideas. The limitations added by the dependent claims modify the abstract idea, such as by limiting the type of data collected for input to the algorithms or by modifying the algorithms themselves. None of these dependent claims requires a particular microcontroller or any other particular device or machine for performing the mathematical algorithms the claims encompass. For example, '334 dependent claims 13 and 47, and '219 dependent claims 35 and 36, each identify “a computer” as an *optional* element that may be—but need not be—used. This confirms that none of these challenged claims requires a computer.

**E. The “Authenticator” Is Not Limited To A Particular Machine**

Rmail argues that the claims’ “authenticator” is a particular machine that renders the claimed subject matter patent eligible. (Dkt. 52-1.) Rmail is incorrect.

First, as noted, the patents declare that their “invention” encompasses “all types of apparatus” able to perform the described mathematical functions: “the present invention also encompasses *all types of methods and apparatus* which provide and/or associate the dispatch information with the contents in a relatively secure or reliable manner.” ('334 at 4:19-22; '219 at 4:16-19.) (Emphasis added.) Thus, although embodiments of the “authenticator” could be particular machines, the claims do not *require* the “authenticator” to be any particular machine.

Second, the challenged claims recite no structure for the “authenticator.” The claims say what the “authenticator” does, not what it is.

Third, Rmail has identified no device capable of performing the functions attributed to the “authenticator” that is not an “authenticator.” If the “authenticator” were indeed restricted to a particular, specific machine, contrary to the patents’ description, then it would be easy to identify machines that do what an authenticator does, but that lack the particular structure required of an authenticator. But, Rmail has identified no such machine.

Fourth, '334 claim 13 recites that “said authenticator comprises at least one element of the group consisting of a facsimile machine, a modem, a network interface card (NIC), a computer, a communication line, a communication network, an E-Mail system, an EDI system, and a message transmission forwarding service.” This indicates that the “authenticator” of the other claims (which lack this language) need not include any of the elements recited here. It also indicates that the “authenticator” of this dependent claim 13 may be a “service,” not a device.

**F. No Claim Requires A Particular Transformation Of A Particular Article**

Unlike *Diehr*, none of these challenged claims requires any particular physical article, nor does any challenged claim require any particular transformation of a physical article.

**VI. THESE CLAIMS ARE LIKE THOSE REJECTED BY THE SUPREME COURT**

**A. Flook**

Like the rejected claims in *Flook*, the challenged patent claims are directed to use of data processing algorithms including a mathematical algorithm. Both sets of claims’ “methods” take data input (here: dispatch delivery report data; *Flook*: values for process variable and alarm base) and, using some unspecified computing entity, perform the mathematical algorithm, and generate output data (here: “secured” authentication data; *Flook*: an updated alarm limit). Further, neither set of claims restricts the method to any particular device. Any device capable of performing the steps is encompassed. Therefore, each set of claims preempts the abstract algorithm encompassed by the claim.

If anything, the rejected claims in *Flook* had a smaller preemptive footprint than the challenged claims here. In *Flook*, the claims were limited to a particular application environment, namely a catalytic hydrocarbon conversion process. That is not so here. As quoted above, the asserted patents tout that there is no limit on the content of the message data being processed. It could be financial data, engineering data, military data, medical data, or any other data.

**B. Benson**

As noted above, the Supreme Court rejected the data processing claims in *Benson* even though they required a specific element of a programmable digital computer, a reentrant shift register, because practicing the claims' algorithm as a practical matter required that element. Here, likewise, the challenged claims recite only what is required by their abstract algorithm. For example, the claims recite an "authenticator," without restricting that "authenticator" to any particular machine or structure. Instead, the "authenticator" is whatever is capable of performing the mathematical functions needed to convert the input data into authentication data. As in *Benson*, this does not restrict the claims' preemptive footprint, or make them patent eligible.

**C. Diehr**

None of the challenged claims is like the claims approved in *Diehr*. None of the challenged claims has a counterpart to the physical, material-transformative steps recited in the *Diehr* claims, such as "installing rubber in a press," "closing the mold," and "automatically opening the press at the proper time." The method in *Diehr* transformed physical articles from one state to another. That is not true here.

Rmail's attempt to analogize the challenged patent claims to those in *Diehr* is as follows: "An authenticator is a tangible, particular structural item, much as a 'press' was in the Supreme Court case *Diamond v. Diehr*." (Dkt. 52-1, p. 1.) This is incorrect. As explained above, the "authenticator" is not *limited to* any particular device and is not even limited to a structural device. As '334 claim 13 states, the authenticator may comprise a service, namely a "message transmission forwarding service." And, as the patents proclaim, their "present invention" "encompasses all types of methods and apparatuses which provide and/or associate the dispatch information with the contents in a relatively secure or reliable manner," (e.g., '334 at 4:19-22), which is the stated role of the "authenticator." Thus, unlike the claims in *Diehr*, these claims are not *limited to* a particular machine or device.

Rmail further argues that the authenticator "is so structural, the patents-in-suit recite that an embodiment of it can fit in a box." (Dkt. 52-1, p. 1.) The key language here is "an

embodiment.” What matters under Section 101 is whether a claim is *limited to requiring* a particular machine, not that it is *broad enough to encompass* using a particular machine—which would be true of virtually any claim directed to an abstract idea, such as “Add two numbers to produce their sum.” Here, some embodiments of an “authenticator” “fit in a box,” some do not. Some embodiments of devices capable of performing the algorithms in *Benson*, *Flook*, and *Bilski* “fit in a box,” and some do not. The material point is that the challenged claims do not *limit* this “authenticator” to any particular structure. If it had, then the public would be free to use the ideas recited in these claims by using some different structure capable of performing the needed operations.

**D. Bilski**

In *Bilski*, the Supreme Court rejected claims that limited their abstract idea to one field of use and added some well-known techniques. Here, at least some of the claims are limited to the third-party dispatch service business identified in the Background of the patents, but that too is a “field of use” restriction that cannot save the claims. And, per *Bilski*, gathering data to input into mathematical functions is merely a routine extra-solution step, inadequate under Sec. 101.

**E. Prometheus**

Although the technical field is very different, for purposes of the Section 101 analysis the challenged claims are not materially different from those patent claims invalidated in *Prometheus*. Both sets of claims recite an abstract algorithm at some length; both sets limit the algorithm to a field of use; and neither require any particular device for applying the algorithm. The *Prometheus* claims are invalid even though they depend on some physical transformations (in a human body); here the claims recite no physical transformations of any particular article.

\* \* \*

In sum, it is clear that for purposes of Section 101 these 92 challenged patent claims are in all material respects like those rejected in *Benson*, *Flook*, *Bilski*, and *Prometheus*, and unlike those approved in *Diehr*. Therefore, this Court should rule these claims invalid under Section 101 of the Patent Act.

**VII. PUBLIC POLICY FAVORS QUICKLY INVALIDATING SUCH PATENTS**

There is an important public policy reason favoring trial courts quickly invalidating patent claims that never should have been granted in the first place. It is the same reason why we have a patent system: to spur invention.

Patent protection is, after all, a two-edged sword. On the one hand, the promise of exclusive rights provides monetary incentives that lead to creation, invention, and discovery. On the other hand, that very exclusivity can impede the flow of information that might permit, indeed spur, invention, by, for example, raising the price of using the patented ideas once created, requiring potential users to conduct costly and time-consuming searches of existing patents and pending patent applications, and requiring the negotiation of complex licensing arrangements.

*Prometheus*, 132 S. Ct. at 1305.

**VIII. CONCLUSION**

For the foregoing reasons, PayPal respectfully requests that the Court grant its motion that claims 1-51 of the '334 patent and claims 30-70 of the '219 patent are invalid under 35 U.S.C. § 101.

Respectfully submitted,

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**CERTIFICATE OF SERVICE**

The undersigned hereby certifies that on May 4, 2012 a true and correct copy of the above and foregoing document has been served on all counsel of record who are deemed to have consented to electronic service via the Court's CM/ECF system per Local Rule CV-5(a)(3).

*/s/Derrick W. Toddy*  
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