No. 13-298

FEB 26 2014

IN THE

Supreme Court of the United States

ALICE CORPORATION PTY. LTD.,

Petitioner,

—v.—

CLS BANK INTERNATIONAL, ET AL.,

Respondents.

ON WRIT OF CERTIORARI TO THE UNITED STATES COURT OF APPEALS FOR THE FEDERAL CIRCUIT

BRIEF OF THE AMERICAN CIVIL LIBERTIES UNION AS AMICUS CURIAE IN SUPPORT OF RESPONDENTS

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INTEREST OF AMICUS[1]

The American Civil Liberties Union ("ACLU") is a nationwide, nonprofit, nonpartisan organization with more than 500,000 members dedicated to the principles of liberty and equality embodied in the Constitution and this nation's civil rights laws. Since its founding in 1920, the ACLU has frequently appeared before this Court in cases involving the First Amendment, both as direct counsel and as *amicus curiae*. It also represented petitioners in the last case arising under Section 101 of the Patent Act decided by this Court, *Association for Molecular Pathology v. Myriad Genetics, Inc.*, 133 S. Ct. 2107 (2013). This case raises fundamental issues regarding freedom of thought, inquiry, and speech that implicate important constitutional values. The proper resolution of this case is, therefore, a matter of significant concern to the ACLU and its membership throughout the country.

STATEMENT OF THE CASE

This is a challenge to a series of computer-related patent claims on the grounds that the claims reach unpatentable subject matter. Alice Corporation ("Alice") controls a number of patents directed at the resolution of settlement risk in financial transactions. Pet. App. 3a. Alice's patents address that risk by relying on a trusted third party to record the financial transactions occurring between two

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[1] The parties have lodged blanket letters of consent to the filing of *amicus* briefs with the Clerk of the Court. No counsel for a party authored this brief in whole or in part, and no person other than *amicus curiae*, its members, or its counsel made a monetary contribution to its preparation or submission.

parties and to ensure that the parties' accounts are irrevocably adjusted at the end of the day to reflect any overall credit or debit – what the courts below have described as a form of escrow. Pet. App. 28a.

Alice obtained three types of related patent claims: method claims, claims on computer-readable media, and claims on the computer system. Claim 33 of the '479 Patent is representative of the asserted method claims:

> 33. A method of exchanging obligations as between parties, each party holding a credit record and a debit record with an exchange institution, the credit records and debit records for exchange of predetermined obligations, the method comprising the steps of:
>
> (a) creating a shadow credit record and a shadow debit record for each stakeholder party to be held independently by a supervisory institution from the exchange institutions;
>
> (b) obtaining from each exchange institution a start-of-day balance for each shadow credit record and shadow debit record;
>
> (c) for every transaction resulting in an exchange obligation, the supervisory institution adjusting each respective party's shadow credit record or shadow debit record, allowing only these transactions that do not result in the value of the shadow debit record being

> less than the value of the shadow credit record at any time, each said adjustment taking place in chronological order; and
>
> (d) at the end-of-the-day, the supervisory institution instructing ones [*sic*] of the exchange institutions to exchange credits or debits to the credit record and debit record of the respective parties in accordance with the adjustments of the said permitted transactions, the credits and debits being irrevocable, time invariant obligations placed on the exchange institutions.

Pet. App. 26a-27a.

In other words, Alice claims a method with the following steps: 1) create shadow or secondary financial records for two parties; 2) obtain the starting balance information; 3) add and subtract from the parties' balances based on transactions that occur during the day, but disallow any transactions for which the parties do not have adequate funds according to the secondary records; and 4) instruct the exchange institution to execute a final credit or debit on the parties' accounts at the end of the day to reflect the balance from the secondary records. On its face, this method could be carried out using pencil, paper, and telephone; the parties, however, agreed that the patent provides that a computer will facilitate the process, although there is no specific software code or new computer technology (beyond a computer that is capable of implementing the method) that is claimed. Pet. App. 27a-28a.

The media and system claims are derivative of the method claims. The media claims are on any computer-readable medium, such as a computer disk, that contains a program code to carry out the method. Pet. App. 32a-33a. Similarly, the system claims are on any "data processing systems" that comprise a data storage unit that contains the secondary credit and debit records and a computer that can carry out the described method of escrow. Pet. App. 35a-36a.

CLS Bank International and CLS Services Ltd. ("CLS Bank") filed suit against Alice seeking a declaratory judgment of patent noninfringement, invalidity, and unenforceability, and Alice counterclaimed. Pet. App. 4a. The U.S. District Court for the District of Columbia invalidated all of the challenged claims under Section 101, concluding that Alice's method claims "are directed to an abstract idea of employing an intermediary to facilitate simultaneous exchange of obligations in order to minimize risk." Pet. App. 6a, 214a. The court invalidated the system and media claims for the same reasons, concluding that the abstract concept at the heart of the method claims would be monopolized through the media and system claims. Pet. App. 6a-7a, 231a, 236a-37a.

Upon appeal, a divided panel of the U.S. Court of Appeals for the Federal Circuit reversed, upholding all of the patent claims. Pet. App. 132a-33a. The Federal Circuit granted CLS Bank's petition for en banc rehearing, and issued a per curiam affirmance. Pet. App. 1a-2a, 239a-41a. Seven of the ten judges affirmed the district court's decision that the method and media claims are

patent-ineligible, Pet. App. 2a-3a, and an evenly split court affirmed the district court's ruling on the system claims, Pet. App. 1a-2a. The court also filed five concurring and dissenting opinions, along with "additional reflections" by Chief Judge Rader. Pet. App. 2a (Lourie, J., concurring), Pet. App. 41a (Rader, C.J., concurring in part and dissenting in part), Pet. App. 85a (Moore, J., dissenting in part), Pet. App. 99a (Newman, J., concurring in part and dissenting in part), Pet. App. 113a (Linn, J., dissenting), Pet. App. 126a (Rader, C.J., additional reflections).

This Court then granted Alice's petition for certiorari on the following question: "Whether claims to computer-implemented inventions – including claims to systems and machines, processes, and items of manufacture – are directed to patent-eligible subject matter within the meaning of 35 U.S.C. § 101 as interpreted by this Court?"

SUMMARY OF ARGUMENT

This case can be resolved based on the Court's existing Section 101 precedent prohibiting patents on "abstract ideas." We do not repeat those arguments here. Instead, this brief highlights how the prohibition against patenting abstract ideas that this Court has developed as a matter of statutory interpretation is animated and compelled by core constitutional values embodied in both the First Amendment and Article I's mandate that "patents promote the Progress of Science."

The impact of the First Amendment on the patent system has rarely been addressed by either the Patent Office or the courts. Like all Article I

powers, however, the government's authority to issue patents is subject to the constraints of the First Amendment. The tension between the First Amendment and an overbroad grant of intellectual property rights is perhaps more obvious in copyright, where expression is the very subject matter of copyright protection. It is not surprising, therefore, that copyright law has integrated First Amendment accommodations in significant ways, including through the fair use doctrine and the distinction between ideas and expression. But, overbroad patents can also undermine the marketplace of ideas and the free flow of information that the First Amendment was designed to preserve, as this case demonstrates and as *Myriad Genetics* implicitly recognized. Like the fair use doctrine, therefore, the abstract ideas doctrine serves as a constitutional safety valve by disallowing patents on pure knowledge, thought, and speech.

Because Alice's patent claims monopolize knowledge, thought, and speech, they are invalid as a matter of patent law, which can and must be construed to avoid the constitutional problems that would otherwise arise if the patents were upheld under Section 101. Alice's method claims patent the economic practice of using a third party to guarantee financial exchanges, a form of escrow. Just as this Court invalidated the patents involved in *Bilski* because they impermissibly patented the abstract idea of hedging risk, *Bilski v. Kappos*, 130 S. Ct. 3218, 3229-32 (2010), Alice's claims exclude others from using the concept of escrow and improving on it. The fact that Alice's method claims are implemented by a computer does not change this analysis; regardless of whether the financial reconciliation at

the end of each day is accomplished by computer or pencil and paper, the practical effect of the patent is still to monopolize an idea. *See Gottschalk v. Benson*, 409 U.S. 63, 67-68, 71-72 (1972). Others cannot devise new software code or computer design to execute the process of settling risk relying on a third party, or add steps that would make the method more effective or tailored to a specific context without risking infringement liability.

Alice's attempt to narrow the definition of "abstract ideas" to "fundamental truths" that would include mathematical formulas, while advocating for the patenting of other "disembodied concepts," compounds the constitutional problems. Neither patent law nor the First Amendment permits the government to establish a hierarchy of knowledge in this fashion.

Alice's reliance on computer implementation to save its claims is also troubling because programming code itself deserves First Amendment protections. Alice's patents stop others from developing programming code that addresses settlement risk through a third party, and that in turn threatens to chill expressive communication among programmers. Given the risk of patent liability, patents that cover all possible forms of software can be used to restrict protected speech.

The media and system claims are invalid for the same reasons as the method claims. In this case, it does not matter whether the government-granted monopoly on thought, knowledge, or speech takes the form of a patent claim on a method, machine, or article of manufacture, because all of these claims are on the abstract idea of addressing settlement risk

though a third party. The media and system claims do not have any additional features that limit encroachment on thought and speech.

If including computer implementation in a patent claim could automatically render any abstract idea patent-eligible – as Alice contends – then almost any idea capable of being expressed in code could be patented. The Court should therefore take this opportunity to reaffirm Section 101's central role as a guarantor of breathing space for what the Constitution protects: freedom of thought and speech, as well as promotion of scientific and technological innovation.

ARGUMENT

Amicus agrees with CLS Bank that these patents cannot survive Section 101 of the Patent Act. This brief highlights how First Amendment doctrine provides a basis for analyzing patent law's regulation of what this Court's Section 101 jurisprudence has referred to as "abstract ideas." By construing Section 101 to bar the patent claims in this case, the Court can and should avoid the constitutional problems that would otherwise arise if these claims are allowed to stand. *See, e.g., Skilling v. United States*, 130 S. Ct. 2896, 2929-30 & n.40 (2010); *NLRB v. Catholic Bishop of Chicago*, 440 U.S. 490, 500-01 (1979). However, even if these patents survive scrutiny under the Patent Act, they impermissibly claim thought, knowledge, and speech in violation of the First Amendment, and interfere with scientific inquiry and technological advancement.

I. PATENT LAW CANNOT BE USED TO MONOPOLIZE ABSTRACT IDEAS, THOUGHT, AND SPEECH WITHOUT VIOLATING THE CONSTITUTION.

The structure of intellectual property is created by Article I, section 8, clause 8 of the Constitution, which covers copyright and patents: Congress has the power "[t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries." Like other legislative powers conferred by Article I, the power to award copyrights and patents is limited by the First Amendment. In copyright, where the potential conflict between copyright law and the First Amendment is more obvious, the Supreme Court has suggested that the First Amendment requires doctrines, like the idea/expression distinction, that are incorporated into the statute. *Eldred v. Ashcroft,* 537 U.S. 186, 219 (2003); *Harper & Row Publishers, Inc. v. Nation Enters.*, 471 U.S. 539, 556 (1985). *See also Salinger v. Colting*, 641 F. Supp. 2d 250, 255 (S.D.N.Y. 2009), *vac'd on other grounds*, 607 F.3d 68 (2d Cir. 2010); *Maxtone-Graham v. Burtchaell*, 631 F. Supp. 1432, 1435-36 (S.D.N.Y. 1986).

Although the Section 101 doctrine prohibiting patenting of abstract ideas and natural phenomena has not been described previously as compelled by the First Amendment, there can be little doubt that patents giving control over intellectual concepts and abstract knowledge or ideas – and thus limiting free thought – would violate the First Amendment. The ability to think without constraint is an essential

attribute of human autonomy and a cornerstone of the First Amendment. *See* Laurence Tribe, *American Constitutional Law* § 12-1 (2d ed. 1988); Thomas Emerson, *The System of Freedom of Expression* 6 (1970). In Justice Harlan's words, "No other approach would comport with the premise of individual dignity." *Cohen v. California*, 403 U.S. 15, 24 (1971). Or, as Justice Brandeis famously stated in an opinion joined by Justice Holmes, the First Amendment protects the "freedom to think as you will and to speak as you think." *Whitney v. California*, 274 U.S. 357, 375 (1927) (Brandeis, J., concurring). Echoing that theme, *Palko v. Connecticut*, 302 U.S. 319, 326-27 (1937), described "freedom of thought and speech" as "the matrix, the indispensable condition, of nearly every other form of freedom." And *Griswold v. Connecticut* said, "The right of freedom of speech ... includes not only the right to utter or to print, but the right to ... freedom of inquiry, freedom of thought ...." 381 U.S. 479, 482 (1965). *See also United States v. Reidel*, 402 U.S. 351, 355-56 (1971); *Stanley v. Georgia*, 394 U.S. 557, 564-66 (1969).

The unhindered potential to consider ideas, intellectual concepts, and abstract knowledge is necessary for freedom of thought and speech. The vast majority of patents do not directly target thought or speech, and for that reason, courts generally have not needed to examine the First Amendment implications of patent law. However, this Court has recently invalidated a method patent in part on the ground that it attempted to claim a thought process, much like the claim at issue in this case. *See Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1302 (2012) (invalidating

claims for method of determining drug efficacy because they "tell a treating doctor to measure metabolite levels and to consider the resulting measurements in light of the statistical relationships they describe. In doing so, they tie up the doctor's subsequent treatment decision whether that treatment does, or does not, change in light of the inference he has drawn using the correlations."); *see also Lab. Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 136 (2006) (Breyer, J., dissenting from dismissal of writ of certiorari) (arguing that the patent claim for correlating metabolite levels with vitamin deficiency is invalid under Section 101 because the claim simply "instructs the user to (1) obtain test results and (2) think about them").

In the copyright context, the Court has made clear that the Constitution does not allow monopolization of facts or ideas, describing "the Copyright Act's distinction between copyrightable expression and uncopyrightable facts and ideas," as well as the fair use doctrine, as "First Amendment protections." *See Harper & Row*, 471 U.S. at 560. "No author may copyright his ideas or the facts he narrates." *Id.* at 556. This First Amendment prohibition should apply with equal force to patents. Just as copyright cannot become "an instrument to suppress facts," *id.* at 559, patents may not restrict thought or pure knowledge without running afoul of the Constitution. The Patent Act is a constitutionally valid exercise of congressional power, but that does not shield individual patents from constitutional scrutiny. *Cf. Harper & Row Publishers*, 471 U.S. at 556-60 (subjecting copyright to First Amendment analysis). The First Amendment thus provides a foundational reason why Section 101 must disqualify

patents that preempt or restrict scientific thought. "Phenomena of nature, though just discovered, *mental processes*, and *abstract intellectual concepts* are not patentable, as they are the basic tools of scientific and technological work." *Benson*, 409 U.S. at 67 (emphasis added). *See also Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 132 S. Ct. 1289, 1293 (2012); *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130-31 (1948); Gary L. Francione, *Experimentation and the Marketplace Theory of the First Amendment*, 136 U. Pa. L. Rev. 417, 428 (1987).

When speech or thought is restricted based on its content, traditional First Amendment principles require that the government show that the restriction survives strict scrutiny – i.e., that the government has a compelling state interest and the restriction is narrowly tailored to achieve that interest. *Brown v. Entertainment Merchants Ass'n*, 131 S. Ct. 2729, 2738 (2011). There can be no compelling governmental interest in granting an exclusive license on knowledge, thought, abstract ideas, or every possible expression of those ideas. If, for example, the government decided to encourage innovation in mathematics by granting specific universities exclusive rights to use certain mathematical concepts, that exclusivity would be unconstitutional. Indeed, the First Amendment is based on the opposite premise – that progress is best achieved through a marketplace of ideas, not through a government-conferred monopoly over abstract ideas.

While the Copyright Act has addressed constitutional concerns within the statute through a number of doctrines, such as fair use, 17 U.S.C. §

107, the prohibition on issuing copyrights on facts or ideas, 17 U.S.C. § 102, and the distinction between ideas and expression, *Harper & Row Publishers*, 471 U.S. at 556, patent law does not contain "built-in First Amendment accommodations," *Eldred*, 537 U.S. at 219, to nearly the same extent. The law has recognized that music, art, and literature are excluded from the definition of patentable "useful arts," *see, e.g.,* Ex parte Lundgren, No. 2003-2088, 2004 WL 3561262, at *26 (B.P.A.I. Apr. 20, 2004) (per curiam), but these categories fall far short of addressing all thought and speech protected under the First Amendment. The Federal Circuit sharply narrowed the experimental use defense to patent infringement liability, so that university researchers engaged in projects that had "arguably no commercial application whatsoever" cannot invoke the defense if their research "furthers the institution's legitimate business objectives," including "educating and enlightening students and faculty participating in these projects," "increas[ing] the status of the institution," and "lur[ing] lucrative research grants, students and faculty." *Madey v. Duke Univ.*, 307 F.3d 1351, 1361-63 (Fed. Cir. 2002). The printed matter exception, which prohibits a patent where the only novel or nonobvious aspect of the subject matter is information contained in texts, speech, or diagrams, does not apply where the patent claims knowledge that exists within the human mind. *See* Kevin Emerson Collins, *Prometheus Labs., Mental Steps, and Printed Matter*, 50 Hous. L. Rev. 391, 421-29 (2012) (discussing how the printed matter exception would exclude a patent that claimed new instructions for the use of an already existing drug, but would not invalidate the patent at

issue in *Mayo v. Prometheus*, which controlled the ability of a physician to mentally correlate metabolite levels with drug efficacy). Other patent law criteria, such as novelty and obviousness, do not directly address the thought and speech concerns that might arise with patents.

The prohibition on patenting abstract ideas under Section 101 is therefore the primary mechanism through which any constitutional concerns about monopolizing thought, ideas, and speech can be resolved. While the Section 101 exception to patent eligibility must not be interpreted over broadly so as to disallow almost any patent, *Mayo*, 132 S. Ct. at 1293, too narrow an interpretation – particularly where abstract ideas are implicated – would likely result in patents that infringe First Amendment rights.

II. ALICE'S CLAIMS PATENT KNOWLEDGE, THOUGHT, AND SPEECH IN VIOLATION OF THE CONSTITUTION.

A. The Patents Impermissibly Monopolize Knowledge, Thought, and Speech.

The patents in this case would be unconstitutional even if they are deemed permissible under Section 101. The method claims here would surely be invalid if performed by people using traditional, non-computer methods. That is because these patents directly claim abstract knowledge, thought, and speech – specifically, the economic practice of using a third party to guarantee exchanges, a form of escrow. Pet. App. 28a, 33a, 39a-40a. The claimed methods exclude others from using

the economic practice of turning to a third party to guarantee exchanges. They encompass all software codes and all computers that can execute the method. They encompass use of this practice regardless of the type of transactions, obligations, parties, or exchange institutions involved. Pet. App. 218a-19a, 231a-32a.

In *Bilski*, the Court invalidated a number of patent claims covering a process for hedging risks of price changes in the commodities market. *Bilski*, 130 S. Ct. at 3218-3221. The Court held that the "concept of hedging" was "an unpatentable abstract idea." *Id.* Just as "hedging is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class," *id.* at 3231, the concept of escrow is a fundamental economic practice that is properly considered "part of the storehouse of knowledge of all men." *Funk Bros.*, 333 U.S. at 130. *See also Le Roy v. Tatham*, 55 U.S. 156, 175 (1852) ("A principle, in the abstract, is a fundamental truth; an original cause; a motive; these cannot be patented, as no one can claim in either of them an exclusive right.").

The steps of Alice's method claim are also problematic because they are mental processes that a human can carry out. Humans think by means of algorithm, carrying out mental steps to reach conclusions. Allen Newell, *Response: The Models Are Broken, The Models Are Broken*, 47 U. Pitt. L. Rev. 1023, 1025 (1986) (defining an algorithm as a "conditional sequence of steps or operations for solving a class of problems"). In *Benson* and *Flook*, the Court observed that the algorithm at issue in each could be performed by humans, using standard mental processes, even though the patents called for

implementation by a computer. *Parker v. Flook*, 437 U.S. 584, 586 (1978) ("Although the computations can be made by pencil and paper calculations, the abstract of disclosure makes it clear that the formula is primarily useful for computerized calculations producing automatic adjustments in alarm settings."); *Benson*, 409 U.S. at 67 ("The mathematical procedures can be carried out in existing computers long in use, no new machinery being necessary. And as noted, they can also be performed without a computer.").[2] The concern raised in *Benson* and *Flook* applies to Alice's patents – the method of escrow set out by Alice could be reduced to an algorithm of mathematical operations that would occur as financial transactions are processed and could be carried out without resort to a computer. Upholding Alice's claims "in practical effect would be a patent on the algorithm itself." *Benson*, 409 U.S. at 72.[3]

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[2] In the early years of reviewing software patents, the Patent Office likewise took the position that a process could not be patented if it could be performed by a person in his or her head or with the aid of pencil and paper, even if the patentee intended to assert only the rights to computer implementation of the method. Pamela Samuelson, *Benson Revisited: The Case Against Patent Protection for Algorithms and Other Computer Program-Related Inventions*, 39 Emory L.J. 1025, 1043-44 (1990).

[3] *Diamond v. Diehr*, 450 U.S. 175 (1981), did not present this issue. There, the Court upheld a method claim that incorporated computation of a mathematical formula into an industrial process of transforming uncured synthetic rubber, because the process required, at a minimum, the physical steps of operating a rubber-molding press. *Id.* at 179 n.5, 183.

Alice attempts to argue that its claims go beyond the concept of escrow by pointing to their implementation by a computer, the creation of shadow records, and the chronological adjustment of the accounts as the transactions occur. Pet. Br. 49-50. As the district court and a plurality of the Federal Circuit correctly held, these limitations are routine and conventional; the basis for the claim remains the concept of third party-intermediated escrow. Pet. App. 28a, 33a, 39a-40a, 214a, 230a. Alice did not invent the computer, nor did it invent using a third party to guarantee exchanges. Its method of addressing settlement risk is not limited to a particular software code or computer. Pet. App. 29a-30a, 39a. It is not limited to a particular kind of implementation – e.g., tailoring the method to situations where the exchange institution is a credit card company, debit card company, or a bank. Pet. App. 30a, 220a. In short, Alice's claim does not involve a "particular application" of the concept of escrow that qualifies as "inventive." *See Mayo*, 132 S. Ct. at 1299 (citing *Flook*, 437 U.S. at 594).

Moreover, the features Alice points to – the computer implementation, the creation of shadow records, and the chronological adjustment of balances – are similar to the features of the *Benson* claim that did not rescue it from invalidity. *Benson* involved a patent on a method for converting binary-coded decimal (BCD) numerals to pure binary numerals that had analogous features to those on which Alice relies. For example, the Court noted, "[t]he method sought to be patented varies the ordinary arithmetic steps a human would use by changing the order of the steps, changing the symbolism for writing the multiplier used in some steps, and by taking

subtotals after each successive operation." *Benson*, 409 U.S. at 67. But because the method claim in *Benson* was so "abstract and sweeping as to cover both known and unknown uses of the BCD to pure binary conversion," the practical effect of the patent was to monopolize an idea. *Id.* at 68. Alice's patents likewise monopolize the concept of third party-intermediated escrow. Adding implementation by a computer, even where use of the computer is essential to the claim, cannot transform an unpatentable algorithm into patentable subject matter, *id.* at 71-72, and it does not change the First Amendment values at stake.

One could imagine the concepts of lending or the attorney-client relationship being described as methods in patents similar to Alice's patents. A patentee could seek exclusivity over a method of lending where the lender, using a computer, seeks collateral from the borrower and determines the monthly repayment, or a method of creating an attorney-client relationship that provides for a retainer agreement to be offered and returned via computer. But without more elaboration and specification, such patents would improperly seek to monopolize the abstract concepts and economic practices of lending and developing client relationships, without making any truly "inventive" contribution. They create barriers for others who want to think about and improve upon the basic concept.

Here, others cannot build upon the concept of third party-intermediated escrow patented by Alice. They face direct infringement liability if they come up with any new program or computer that uses a

third party to guarantee exchanges, regardless of how closely associated it may be to actual software or hardware produced by Alice. Even if they chose not to actually create the code or computer, but simply to study the problem and publish a new code or computer design, they could be held liable for inducing infringement. *See* 35 U.S.C. § 271(b). Section 271(b) inducement extends liability to anyone "who advises, encourages, or otherwise induces others to engage in infringing conduct," *Akamai Techs., Inc. v. Limelight Networks, Inc.*, 692 F.3d 1301, 1307 (Fed. Cir. 2012) (en banc) (per curiam), so long as the accused inducer acted with knowledge that the induced acts constitute patent infringement, *Global-Tech Appliances v. SEB S.A.*, 131 S. Ct. 2060, 2068 (2011). Thus, any entity that knowingly publishes or disseminates software code or hardware design with an explanation of how it might increase the efficiency or accuracy of third-party escrow accounts of the sort involved here could potentially be held liable for inducement, if it is determined that the publication instructed or encouraged individuals who subsequently infringe. *See* Dan L. Burk, *Patenting Speech*, 79 Tex. L. Rev. 99, 149 (2000); *cf. Metabolite Labs., Inc. v. Lab. Corp. of Am. Holdings*, 370 F.3d 1354, 1365 (Fed. Cir. 2004) (holding that the publication of Continuing Medical Education articles and other pieces advising doctors about the correlation between elevated total homocysteine and cobalamin/folate deficiency could constitute inducement).

Because broad patents on economic practices or computer implementation of abstract ideas are difficult to avoid, they are often litigated, creating obstacles for innovation. *See* James Bessen &

Michael J. Meurer, *Patent Failure: How Judges, Bureaucrats, and Lawyers Put Innovators At Risk* 152 (2008) (concluding that financial patents are 27 times more likely and software patents are twice as likely to be litigated than other types of patents); *see also* Bronwyn H. Hall, *Business and Financial Method Patents, Innovation, and Policy* 13 (Nat'l Bureau of Econ. Research, Working Paper No. 14868, 2009), *available at* http://www.nber.org/papers/w14868.pdf?new_window=1 (studies showed a 30% litigation rate for financial patents, compared to 1-2% rate for patents overall). One study found that litigation costs for business method and software patents amounted to billions of dollars and substantially exceeded profits from those patents between 1996 and 1999. *See* Bessen & Meurer, at 142-44. As a result, the patent system "likely provided a net disincentive for innovation for the firms who fund the lion's share of industrial [research and development]." *Id.* at 144.

Alice's patents create a content-based restriction that embraces abstract ideas and prevents others from devising their own software code or computer design to execute the method of third party-intermediated escrow or adding new features or steps to make the process more effective or efficient. The presumption against such content-based regulation under the First Amendment further bolsters the invalidation of Alice's patents under the Section 101 doctrine prohibiting patents on abstract ideas.

B. The Constitution Does Not Permit the Government to Grant Monopolies on Pure Knowledge, Thought, or Abstract Ideas, Regardless of Whether They Are Deemed "Truths" or "Disembodied Concepts."

Alice argues that only "fundamental truths" cannot be patented under Section 101, and attempts to distinguish these truths from "disembodied concepts," which it contends are patent-eligible. Pet. Br. 21-29. Alice explains that it views an abstract idea "as a preexisting, fundamental truth, *i.e.*, 'mathematical formulas and the like,'" *id.* at 23, and states that other "disembodied 'abstract ideas'" may be patent-eligible "because it cannot be said that each and every mental conception is a 'basic tool[] of scientific and technological work,'" *id.* at 27. Alice then focuses on the absence of a mathematical formula in its claims to argue that the claims do not monopolize fundamental truths.

Beyond the overarching First Amendment problem with granting monopolies on knowledge, thought, and ideas, discussed *supra*, Alice's position raises additional constitutional concerns. It empowers the government to decide whether a piece of pure knowledge qualifies as a patent-ineligible "truth," or is merely a disembodied mental concept or idea that can be monopolized through patent protection. The constitutional mandate that patents "promote the Progress of Science and useful Arts" is undermined if the government is authorized to determine upfront whether an abstract concept is a basic scientific or technological tool that can be monopolized. *See* U.S. Const., art. I, § 8, cl. 8; *see*

also Lab. Corp. of Am. Holdings, 548 U.S. at 126-27 (Breyer, J., dissenting from dismissal of writ of certiorari) (noting "that sometimes *too much* patent protection can impede rather than 'promote the Progress of Science and useful Arts,' the constitutional objective of patent and copyright protection" (emphasis in original)); *Graham v. John Deere Co.*, 383 U.S. 1, 5 (1966) (noting that the Patent Clause "is both a grant of power and a limitation."). The Constitution instead requires that thought, ideas, and pure knowledge be protected from such regulation in order to give breathing space for scientific inquiry.

Alice's position also calls on the Court to place higher value on mathematical formulas or subject matter that is reducible to mathematical formulas over other abstract concepts when deciding what types of knowledge or thought is subject to patent protection. But the First Amendment does not permit monopolies on thought based on the government's judgment of their worth. *Cf. United States v. Stevens*, 559 U.S. 460, 470 (2010) ("The First Amendment's guarantee of free speech does not extend only to categories of speech that survive an ad hoc balancing of relative social costs and benefits."). In *Bilski*, although one of the challenged claims for hedging risk was reduced to a mathematical formula, others were not; they simply described methods for hedging risk, generally and in specific contexts. *Bilski*, 130 S. Ct. at 3223-24. If a patent claim had not described the method as a mathematical formula, would the method of hedging risk be a patent-eligible "disembodied concept" in Alice's view? The Court's reasoning did not turn on the depiction of the method as a formula. Instead, the Court warned that Section

101 cannot be sidestepped through draftsmanship. *See id.* at 3230-31. And it is difficult here to distinguish the method of hedging risk from the method of resolving settlement risk – the concept of a fundamental economic practice is at the heart of both sets of claims.

Furthermore, Alice's narrow definition of abstract ideas conflicts with the scientific method, which does not complacently anoint "truths," but instead requires those that engage in scientific inquiry to continue to test hypotheses against available evidence and refine their theories accordingly. Scientific propositions are always subject to testing, as new evidence may uncover a deeper or more accurate understanding. Under Alice's theory, however, a "disembodied concept" could be monopolized because it does not yet rise to the level of "truth," even when it is an abstract intellectual concept that can serve as the basis for further inquiry. The Court has often said that Einstein could not patent the theory of relativity. *Mayo*, 132 S. Ct. at 1293. But could he have patented the "disembodied concepts" he developed that ultimately led to $E = mc^2$? And how should the Court treat formulas that are superseded by more precise knowledge, as Newton's law of mechanics was by Einstein's theory of relativity?

The Court already has acknowledged that "[c]ourts and judges are not institutionally well suited to making the kinds of judgments needed to distinguish among different laws of nature." *Id.* at 1303. Contriving a new concept/truth distinction within the abstract ideas doctrine would only undermine the "bright-line prohibition" the Court

has adopted in interpreting Section 101 to prohibit patents on building blocks. *Id.* Such an approach would inevitably lead to patents that impermissibly regulate thought and ideas based on content and interfere with scientific progress.

C. The Claims Cover Programming Code That Itself Deserves First Amendment Protection.

Alice's reliance on software implementation to prove patent eligibility only exacerbates the First Amendment problems inherent in allowing patents on abstract ideas, because the programming code used to create computer-readable software can also function as speech entitled to First Amendment protection. *See Universal Studios, Inc. v. Corley*, 273 F.3d 429, 445-46 (2d Cir. 2001); *Junger v. Daley*, 209 F.3d 481, 483 (6th Cir. 2000); *Bernstein v. Dep't of State*, 922 F. Supp. 1426, 1434-36 (N.D. Cal. 1996) [*Bernstein I*]; *see also Bernstein v. Dep't of Justice*, 176 F.3d 1132, 1140-41 (9th Cir.) [*Bernstein II*], *reh'g en banc granted and opinion withdrawn*, 192 F.3d 1308 (9th Cir. 1999). Where a patent excludes others from developing computer programming code related to a certain subject, the threat of patent liability threatens to chill much of the expressive communication among programmers about that subject. In other words, by patenting the computer implementation of an abstract concept, a private entity can use government protection to preempt all programming-related discussion about the patented topic. First Amendment concerns thus militate against allowing patent protection for abstract ideas – such as the escrow process – simply because they are implemented through software.

Programming code may serve both functional and expressive purposes.[4] *See Junger*, 209 F.3d at 484. On the one hand, programming code serves a functional purpose insofar as it is used to command the operation of a computer. *See Corley*, 273 F.3d at 448. On the other hand, programming code serves an expressive purpose insofar as it is used to communicate among individuals. "[P]rogrammers communicating ideas to one another," for example, "almost inevitably communicate in code, much as musicians use notes." *Id.* *See also Junger*, 209 F.3d at 484 ("[F]or individuals fluent in a computer programming language, source code is the most efficient and precise means by which to communicate ideas about cryptography."); *Bernstein II*, 176 F.3d at 1141. Although programming code is distinct from natural languages insofar as it can serve either functional or expressive purposes, the functional capacity of programming code does not negate its "simultaneously expressive nature" or otherwise "preclude constitutional protection." *Junger*, 209

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[4] Computer software comes in two forms: object code and source code (collectively, "programming code"). "Object code represents computer instructions as a sequence of binary digits (0s and 1s) that can be directly executed by a computer's microprocessor. Source code represents the same instructions in a specialized programming language, such as BASIC, C, or Java." *Junger*, 209 F.3d at 483. "Source code has the benefit of being much easier to read (by people) than object code, but as a general matter, it must be translated back to object code before it can be ready by a computer. This task is usually performed by a program called a compiler." *Corley*, 273 F.3d at 439. Although source code ordinarily cannot be executed on its own, some languages, such as PERL, can be executed by a computer without conversion to machine-readable code. Burk, *supra*, at 117 & n.111.

F.3d at 484. *See also Corley*, 273 F.3d at 447; *Bernstein II*, 176 F.3d at 1142.

Other features of programming code as a language, such as its relative obscurity to non-programmers and technical subject matter, do not alter the constitutional analysis. Although code may seem opaque to non-programmers, "the ease with which a work is comprehended is irrelevant to the constitutional inquiry." *Corley*, 273 F.3d at 446. *See also Hurley v. Irish-Am. Gay, Lesbian & Bisexual Grp.*, 515 U.S. 557, 569 (1995) (stating that the First Amendment "unquestionably" shields the "painting of Jackson Pollock, music of Arnold Schöenberg, or Jabberwocky verse of Lewis Carroll"). Nor does it matter that communications made in programming code often concern programming instructions or other forms of "dry information, devoid of advocacy, political relevance, or artistic expression." *Corley*, 273 F.3d at 446. As this Court has made clear, "the creation and dissemination of information are speech within the meaning of the First Amendment." *Sorrell v. IMS Health Inc.*, 131 S. Ct. 2653, 2667 (2011). *See also, e.g.*, *Rubin v. Coors Brewing Co.*, 514 U.S. 476, 481 (1995) ("information on beer labels" is speech). Because programming code is used to convey information among individual programmers, it qualifies as speech within the meaning of the First Amendment.

In the software context, patents on abstract ideas interfere with third parties' right to use programming code for expressive purposes because the mere publication or other dissemination of programming code within the patent's claims may expose the publisher to liability for patent

infringement. Where a patent's claims cover an entire abstract concept, such as the concept of escrow, *all* programming-related speech on that concept at least potentially exposes the speaker to some form of infringement liability. In this case, for example, the printed publication of new programming code related to the process of escrow, together with an explanation of how that code might be implemented, could potentially expose the publisher to liability for inducing infringement of Alice's patents. *See supra* p. 19. In other cases, where the claimed invention extends only to functionally defined software (e.g., "program code configured to cause a computer to perform X function"), the publication of any related programming code, even in an academic journal, could also qualify as a form of *direct* infringement. *See Finjan, Inc. v. Secure Computing Corp.*, 626 F.3d 1197, 1204-05 (Fed. Cir. 2010) (holding that the defendant's distribution of "locked" or disabled code as part of its product qualified as direct infringement of the plaintiff's software systems patent, because the plaintiff's "non-method claims describe capabilities without requiring that any software components be 'active' or 'enabled.'"); *see also Warner-Jenkinson Co. v. Hilton Davis Chem. Co.*, 520 U.S. 17, 36 (1997) (holding that direct infringement does not require intent).

Nor would it be possible for academic journals, researchers, and other non-profit entities to claim immunity from infringement liability. Although the common law recognizes an "experimental use" defense to infringement liability, the defense, as currently construed, provides almost no safe harbor for individuals seeking to use programming code for

expressive purposes. *Madey*, 307 F.3d at 1361-62 (to avail itself of the "very narrow" experimental use defense, the defendant must establish that its infringing actions were "for amusement, to satisfy idle curiosity, or for strictly philosophical inquiry"). This narrow definition of the experimental use defense would provide no protection to technology-related periodicals, academic journals, research organizations, or any other entities that publish or disseminate programming code in connection with their legitimate business activities.

Given the potential for infringement liability to chill the expressive use of programming code, there is a significant risk that allowing private parties to monopolize abstract ideas will preempt not just innovation, but large amounts of programming-related speech. Indeed, in fields dependent on computer implementation – such as cryptography – allowing patents on abstract ideas could effectively preempt almost *all* speech on the patented topic.

D. Alice's Media and System Claims Give Rise to the Same Constitutional Concerns as the Method Claims.

Lastly, in this context, the media and system claims must be held invalid for the same reasons as the method claims. This Court has held that the Section 101 inquiry must focus on the eligibility of what is patented, not on the form that the claim takes. Abstract ideas, laws of nature, and products of nature are not patentable, based "on the more fundamental understanding that they are not the kind of 'discoveries' that the statute was enacted to protect." *Flook*, 437 U.S. at 593. Clever draftsmanship cannot rescue a claim that otherwise

falls short of the Section 101 threshold. The Court's "cases warn us against interpreting patent statutes in ways that make patent eligibility 'depend simply on the draftman's art' without reference to the 'principles underlying the prohibition against patents for [natural laws].'" *Mayo*, 132 S. Ct. at 1294 (alteration in original) (quoting *Flook*, 437 U.S. at 593).

This principle is especially vital when constitutional values are at stake. It is irrelevant whether the government-granted monopoly on thought, knowledge, ideas, or speech takes the form of a patent claim on a method, machine, or article of manufacture. In the context of computer-related claims, this concern is particularly salient, as computer-related claims can be easily written as claims on methods, machines, or articles of manufacture. Samuelson, *supra*, at 1130-31 ("There is no fixed dividing line between computer programs and computers because anything that can be implemented in software can also be implemented in hardware."); Newell, *supra*, at 1026 ("[I]t is not possible to do anything in computer science without having it be almost immediately related to use, with only small efforts of the imagination.").

Here, there is no meaningful distinction between the method claims on the one hand, and the media and system claims on the other. The media and system claims recite the same basic elements as the method claims. Pet. App. 32a-36a. Alice's method, medium, and system claims cover all programming codes that could potentially carry out the process of escrow, regardless of whether the code is used for expressive purposes. Nor has Alice

pointed to any characteristic of the media and system claims that would warrant treating those claims differently than the method claims. It may well be that other patents contain invalid computer-related method claims but valid media and system claims, where the latter are based on an inventive concept other than an abstract idea; that is not the case with Alice's patents.

CONCLUSION

For the reasons stated above, the judgment of the court of appeals should be affirmed.

Respectfully submitted,

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