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September 3, 2025

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Via ECF

Hon. John G. Koeltl
Daniel Patrick Moynihan
United States Courthouse
500 Pearl Street
New York, NY 10007-1312

Re: *Bprotocol Foundation and Localcoin Ltd. v. Universal Navigation Inc. d/b/a Uniswap Labs and Uniswap Foundation*, No. 1:25-cv-4214-JGK

Dear Judge Koeltl:

Proposed *amici curiae* DeFi Education Fund ("DEF") and Solana Policy Institute ("SPI") respectfully seek leave to file the proposed *amici curiae* brief, attached hereto as Exhibit A, in support of Defendants' motion to dismiss based on 35 U.S.C. § 101. *Amici* are U.S.-based nonpartisan research and advocacy nonprofit organizations that provide education to lawmakers about DeFi, decentralized networks, and blockchain technology.

"District Courts have broad discretion to permit or deny the appearance of amici curiae in a given case." *United States v. Ahmed*, 788 F. Supp. 196, 198 n.1 (S.D.N.Y. 1992); *see also In GLG Life Tech Corp. Securities Litigation*, 287 F.R.D. 262, 265 (S.D.N.Y. 2012). "An amicus brief should normally be allowed when . . . the amicus has unique information or perspective that can help the court beyond the help that the lawyers for the parties are able to provide." *Automobile Club N.Y. Inc v. Port Authority of N.Y. and N.J.*, No. 11 Civ. 6746 (RJH), 2011 WL 5865296, at *2 (S.D.N.Y. Nov. 22, 2011) (citations omitted). "The court is more likely to grant leave to appear as an amicus curiae in cases involving matters of public interest." *Andersen v. Leavitt*, No. 03-cv-6115 (DRH)(ARL), 2007 WL 2343672, at *2 (E.D.N.Y. Aug. 13, 2007) (citation omitted). Defendants Uniswap Labs and Uniswap Foundation have consented to this filing. Plaintiffs do not consent.

Amici have a strong interest in ensuring that technological progress in the DeFi sector is not stifled by the assertion of patents that merely claim fundamental economic concepts on existing blockchain technology. DeFi provides substantial benefits to the public; however, the enforcement of patents that claim no more than long-standing economic practices on existing blockchain technology threatens to hinder continued innovation in DeFi.

The proposed brief provides unique insights into legal and policy considerations relating to the assertion of patent claims directed to the economic practice of calculating currency exchange rates. The brief provides a historical overview of pricing and currency exchange, describing examples that trace back to ancient civilizations, and provides additional technical and historical context of blockchain technology relevant to analyzing patent eligibility under Section 101.

Amici is seeking leave to file the proposed brief seven days after the filing of the opening brief, which is consistent with the time period provided by Fed. R. App. P. Rule 29(a)(6). The brief also complies with the length provision provided by Fed. R. App. P. Rule 29(a)(5) as it contains 4,573 words, which is less than one-half the maximum length of Defendants' opening brief (9,800 words).

For the foregoing reasons, *amici* respectfully request that the Court grant leave to file the proposed brief.

Respectfully Submitted,

/s/ Omar A. Khan

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Exhibit A

IN THE UNITED STATES DISTRICT COURT
FOR THE SOUTHERN DISTRICT OF NEW YORK

BPROTOCOL FOUNDATION and LOCALCOIN LTD., Plaintiffs, v. UNIVERSAL NAVIGATION INC. d/b/a UNISWAP LABS, and UNISWAP FOUNDATION, Defendants.	Civil Action No. 1:25-cv-04214 (JGK)

[PROPOSED]
BRIEF FOR *AMICI CURIAE* DEFI EDUCATION FUND AND SOLANA POLICY INSTITUTE IN SUPPORT OF DEFENDANTS' MOTION TO DISMISS

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INTEREST OF AMICI CURIAE[1]

DeFi Education Fund ("DEF") is a U.S.-based nonpartisan research and advocacy nonprofit that advocates for sound policy for decentralized finance ("DeFi"). Solana Policy Institute ("SPI") is a U.S.-based nonpartisan nonprofit focused on educating policymakers on how decentralized networks like Solana are the future of the digital economy and why those building on and using them need legal certainty to flourish.

Amici have a strong interest in ensuring that the technological progress in DeFi is not stifled by the procurement and assertion of ineligible patents that claim fundamental economic concepts on the blockchain, such as those asserted by Plaintiffs. DeFi offers substantial benefits to the public, including low cost, peer-to-peer financial transactions, cross-border payments, transparency, and self-custody. However, enforcement of patents covering no more than fundamental economic practices threatens to hinder continued innovation in DeFi, which relies upon open-source development and the ability to employ fundamental economic practices without fear of litigation.

[1] No counsel for any party authored this brief in whole or in part, and no person or entity other than *amici* and their counsel made a monetary contribution intended to fund the preparation or submission of this brief.

I. INTRODUCTION

Patents claiming the "building blocks of human ingenuity" can undermine innovation rather than promote it, thwarting the very object of Article I, section 8, clause 8 of the U.S. Constitution to "promote the Progress of Science and useful Arts." *See Alice Corp. Pty. Ltd. v. CLS Bank Int'l*, 573 U.S. 208, 216 (2014). The asserted patents—U.S. 11,107,049 (the "'049 patent") and U.S. 11,574, 291 (the "'291 patent")—attempt to capture the fundamental and long-standing economic practices of calculating currency exchange rates in the context of a modern computing technology called the "blockchain," and their assertion stands to threaten innovation and growth in the emerging DeFi industry. The asserted patents are the latest example of a recurring pattern of patentees claiming to have invented old and abstract concepts whenever new technologies emerge—the rise of digital computers led to attempts to patent abstract ideas by merely automating them on those computers; the Internet boom led to attempts to revitalize old hat concepts by simply making them Internet-based; and more recently, innovations in blockchain and machine learning (including generative AI) have led to a similar wave of ineligible patents. The asserted patents follow this pattern by seeking to claim long-standing economic concepts used throughout human history by merely applying them to modern technology—here, the blockchain. But "do it on blockchain" patents like the ones here are no more patent-eligible than "do it on the Internet" patents were a generation before. Indeed, patent claims directed to fundamental economic practices are the very type of patent claims that the Supreme Court in *Alice* and *Bilski v. Kappos* found patent ineligible, and rightly so. Assertion of such patents risks chilling innovation in blockchain and emerging sectors such as DeFi, threatening startups and small innovators, and harming a growing industry that provides substantial benefits to the public.

For the reasons below, *amici* respectfully submit that the asserted patents should be found patent ineligible under 35 U.S.C. § 101.

II. BACKGROUND

A. Overview and History of Blockchain and DeFi

"Public Blockchain" refers to a type of database known as a distributed ledger, where data is stored across a network of decentralized computers (i.e., a computer network that is not controlled by a central entity).[2] As the term "blockchain" implies, data is organized into a chain of linked "blocks," where each block stores multiple "transactions." A transaction can be, for example, a financial transaction where a certain amount of cryptocurrency is sent from one party to another. Initially, blockchains are composed of a single starting block and grow as users submit new transactions that are continuously added in new blocks to the end of the existing chain. This process forms an ever-growing and immutable ledger or record of every transaction since the inception of that blockchain.

Because decentralized computers store and communicate copies of the blockchain (containing transaction data) rather than a central entity, security mechanisms are encoded in a blockchain protocol[3] to authenticate transactions and prevent malicious activity, such as unauthorized attempts to transfer funds from another party's account. For example, blockchains use cryptographic techniques such as hashing and digital signing to ensure the authenticity of the transactions and prevent tampering. Further, the network of computers follow a "consensus" mechanism to validate and agree upon the current state of the blockchain, and in so doing, exclude

[2] *See* DeFi 101 Packet at 6, https://www.defieducationfund.org/resources (last visited Sept. 2, 2025).

[3] A "protocol" here means a set of rules and instructions for communications between two or more computers.

illegitimate blocks and transactions.[4] A consensus mechanism incentivizes participants to agree upon valid transactions by earning financial rewards, and in some instances, are conversely penalized if they attempt to add illegitimate or altered blocks that others disagree with. In short, a blockchain is an ever-growing, immutable database maintained and validated by a network of decentralized computers.

These concepts were all well known before January 8, 2017, the provisional filing date of the asserted patents. Indeed, the concept of a "blockchain" is decades old. Blockchain concepts date back to 1991, when Stuart Haber and W. Scott Stornetta first described a cryptographically-secured chain of blocks to record digital documents (Haber and Stornetta 1991).[5] However, the concepts did not gain widespread attention until 2009 when they were incorporated into the Bitcoin whitepaper (Nakamoto 2009).[6] In 2014, Vitalik Buterin proposed Ethereum (Buterin 2014),[7] a blockchain that extended the original concept by allowing users to add short pieces of executable software programs—called "smart contracts"—to the blockchain. These smart contracts are

[4] DeFi 101 Packet at 6-7.

[5] Haber, S., Stornetta, W.S., *How To Time-Stamp a Digital Document*, J. Cryptology 3, 99-111 (1991)), *available at* https://link.springer.com/article/10.1007/BF00196791.

[6] Nakamoto, S., *Bitcoin: A Peer-to-Peer Electronic Cash System*, www.bitcoin.org (2009), https://bitcoin.org/bitcoin.pdf (last visited Sept. 2, 2025).

[7] Buterin, V., *Ethereum: A Next-Generation Smart Contract and Decentralized Application Platform* (2014), https://ethereum.org/content/whitepaper/whitepaper-pdf/Ethereum_Whitepaper_-_Buterin_2014.pdf (last visited Sept. 2, 2025).

validated and confirmed like any other transaction, and once recorded, they can be invoked by users to execute program logic.

Thus, in blockchains that support smart contracts—such as Ethereum and Solana—the blockchain is a decentralized, general-purpose computer that executes various software programs. As smart contract-enabled blockchains function as general-purpose computers, software developers have created various applications to run on these blockchains, ranging from financial services applications and supply chain tools to social media platforms, collectibles, and games.

One of the prominent industries to emerge from the advent of smart contract blockchains is DeFi. DeFi refers to an ecosystem of financial applications built on public blockchains that operate without centralized financial institutions or intermediaries like banks and provide individual users with self-custody of their assets.[8] DeFi applications use smart contracts to provide financial services such as trading, currency exchange, lending, and cross-border payments. DeFi's decentralized architecture allows for peer-to-peer financial activity without an intermediary, while leveraging the blockchain's transparency and built-in security.

B. Overview of the Asserted Patents

The asserted '049 and '291 patents share the same specification and relate to cryptocurrency exchange on a "secure ledger network," also known as "blockchain." *See, e.g.*, '049 patent at 2:36-59. The asserted patents do not purport to have invented secure ledger networks, blockchain technology, or smart contracts. *See, e.g.*, '049 patent at 1:25-2:32 (describing known blockchain technology in the "Background of the Invention"). Rather, the patents aim to address an economic problem arising from the wide variety of virtual "commodities and Tokens" on blockchains like Ethereum, and how to "determine the value of such Tokens …."

[8] *See* DeFi 101 Packet at 5.

See, e.g., *id.* at 1:62-2:32. As discussed below in Section III.B, the claims are directed to determining currency exchange rates on existing blockchain technology.

Claim 1 of the '049 patent is representative of the claims at issue. The claim recites a "secure ledger network" configured to first "validate" and "update[e] a secure ledger" with a "smart contract" ('049 patent at 26:6-15), and then to "execute a transaction" on the network to "determin[e] the price of a first cryptocurrency token" with respect to a "second cryptocurrency token" using the mathematical formula "Tr/Tt * Rr" (*id.* at 26:16-35). In the claimed mathematical formula, "(Tt) comprises a total amount of the first cryptocurrency in circulation," "(Tr) comprises a total reserve of the second cryptocurrency token," and Rr is "the reserve ratio constant" that is "predefined and is a ratio between the total reserve of the second cryptocurrency token and a token market cap." *Id.* In other words, and as explained further below, the claims are directed to the abstract idea of calculating a currency exchange rate (i.e., pricing a currency) implemented on existing blockchain technology.

III. ARGUMENT

A. The Asserted Patents Illustrate a Continued Trend of Repackaging Old Ideas By Merely Applying Them To New Technology

Every technological leap—such as the rise of personal computers, the Internet, and now with blockchain and machine learning (including generative AI)—has been accompanied by efforts to patent abstract ideas merely by applying them to the latest technological advances. As explained below, the Supreme Court and Federal Circuit have repeatedly confirmed such patents to be invalid, and the same result should hold for the asserted patents here.

The early 1970s marked the beginning of the personal computer revolution with the introduction of Intel's first microprocessors and the release of the Apple I computer. During that same period, in *Gottschalk v. Benson*, 409 U.S. 63 (1972), the Supreme Court addressed the

patentability of an application claiming an algorithm for converting numbers into binary format for use in a general-purpose digital computer. The Supreme Court held that the claimed algorithm was an abstract idea, and merely implementing the abstract idea on a general-purpose digital computer was not a patentable application of that idea.

In *Ultramercial, Inc. v. Hulu, LLC*, the Federal Circuit addressed the validity of a patent that was filed in 2001, shortly after the height of the Internet boom. 772 F.3d 709 (Fed. Cir. 2014). The patent was directed to distributing copyrighted media products over the Internet to consumers in exchange for viewing an advertisement. *Id.* at 712. The patentee argued that the patent claimed a specific method of advertising and content distribution "that was previously unknown and never employed on the Internet before." *Id.* at 714. The Federal Circuit rejected this argument, holding that the patent was not directed to patent eligible subject matter under Section 101. In particular, the Federal Circuit held that the claims were directed to the abstract idea of using advertising as an exchange or currency, and adding the "use of the Internet does not transform an otherwise abstract idea into patent-eligible subject matter." *Id.* at 715-716. The Federal Circuit emphasized that "[t]he claims' invocation of the Internet … adds no inventive concept" as it is merely an "attempt[] to limit the use … to a particular technological environment, which is insufficient to save a claim." *Id.* at 716) (internal quotation marks omitted) (quoting *Alice*, 583 U.S. at 222).

In the 2010s, the terms "blockchain" and "cryptocurrency" gained widespread attention, particularly in 2017, when the cryptocurrency market surged from $16 billion to $535 billion. That is the same year Max Rady filed his provisional patent application for recording physical signatures on the blockchain, which the Federal Circuit would later hold to be patent ineligible as discussed below in Section III.B. *Rady v. Boston Consulting Group*, No. 2022-2218, 2024 WL 1298742 (Fed. Cir. Mar. 27, 2024). Notably, this was also the same year Plaintiffs filed their

provisional application that led to the asserted patents directed to calculating currency exchange rates on the blockchain. *See* Section III.B.

Most recently, in *Recentive Analytics, Inc. v. Fox Corp.*, the Federal Circuit addressed the patentability of claims directed to the use of machine learning to generate network maps and schedules for television broadcasts and live events. 134 F.4th 1205, 1207-08 (Fed. Cir. 2025). The Federal Circuit held that such claims were not patentable under Section 101 because the claims were directed to the application of abstract ideas to generic machine learning technology. The Federal Circuit recognized that "[m]achine learning is a burgeoning and increasingly important field and may lead to patent-eligible improvements in technology," but "patents that do no more than claim the application of generic machine learning to new data environments, without disclosing improvements to the machine learning models to be applied, are patent ineligible under § 101." *Id.* at 1215-16.

As shown above, the Supreme Court and the Federal Circuit over the years have consistently expressed skepticism toward patents that seek to capitalize on emerging technologies by attempting to claim abstract ideas merely by applying them in the context of the latest technologies. That is exactly what the asserted patents do, and "do it on blockchain" patents are no more patent-eligible than "do it on the Internet" patents were a generation before. As the Supreme Court explained in *Bilski*: "The Information Age empowers people with new capacities to perform statistical analyses and mathematical calculations with a speed and sophistication that enable the design of protocols for more efficient performance of a vast number of business tasks. If a high enough bar is not set when considering patent applications of this sort, patent examiners and courts could be flooded with claims that would put a chill on creative endeavor and dynamic change." *Bilski v. Kappos*, 561 U.S. 593, 608 (2010). The asserted patents follow this trend and

similarly seek to leverage recently developed technology by claiming abstract ideas of currency exchange implemented on existing blockchain technology.

B. The Claims Are Not Patent Eligible Under the *Alice* Two-Step Framework

The Supreme Court has set forth a two-step framework for determining patent eligibility under Section 101. *Alice*, 573 U.S. at 217. First, courts "determine whether the claims at issue are directed to one of those patent-ineligible concepts." *Id.* Second, if so, courts then "consider the elements of each claim both individually and 'as an ordered combination' to determine whether the additional elements 'transform the nature of the claim' into a patent-eligible application." *Id.* ("We have described step two of this analysis as a search for an 'inventive concept'") (quoting *Mayo Collaborative Servs. v. Prometheus Lab'ys, Inc.*, 566 U.S. 66, 78-79 (2012)). As explained below, the asserted claims are not patent eligible under the Supreme Court's two-part framework set forth in *Alice*.

i. *Alice* Step 1: The Claims Are Directed To Fundamental Economic Practice Dating Back to Ancient Human Civilization

The claims are directed to the abstract idea of calculating a currency exchange rate. Claim 1 of the '049 patent recites a conventional "secure ledger" network using generic hardware, configured to perform the step of "setting the price" of one cryptocurrency token relative to another token using a mathematical formula. *See* '049 patent, claim 1; Section II.B. Similarly, claim 1 of the '291 patent recites a conventional "secure ledger" network using generic hardware, configured to perform the step of "determining the amount" of one cryptocurrency token in exchange for another token based on mathematical relationships between the two tokens. *See* '291 patent, claim 1; *see also, e.g.*, claim 4 (dependent claim reciting relationship in the form of a mathematical formula). The claims amount to nothing more than "setting the price" of a cryptocurrency token with respect to another and "determining the amount" of a cryptocurrency token in exchange for

another, all in a generic and conventional blockchain context. In other words, the claims are directed to calculating a currency exchange rate (i.e., determining a currency price).

This is an abstract idea. In particular, the asserted patents are directed to fundamental and long-standing economic activity—the very type of patent claims that the Supreme Court has repeatedly expressed concerns about. The Supreme Court's most recent decisions addressing Section 101 involved claims directed to fundamental economic practices—just like the patent claims here. The Supreme Court's *Bilski* decision held that patent claims directed to methods for hedging financial risk of price fluctuations were abstract ideas. *Bilksi*, 561 U.S. at 593. In finding the claims ineligible under Section 101, the Court explained that "[h]edging is a fundamental economic practice long prevalent in our system of commerce and taught in any introductory finance class." *Id.* at 611. In *Alice*, the Supreme Court expanded on this concern: "Like the risk hedging in *Bilski*, the concept of intermediated settlement is 'a fundamental economic practice long prevalent in our system of commerce,' ibid., and the use of a third-party intermediary (or 'clearing house') is a building block of the modern economy. Thus, intermediated settlement, like hedging, is an 'abstract idea' beyond § 101's scope." *Alice*, 573 U.S. at 220. Similar to the abstract ideas in *Bilski* and *Alice*, the concept of currency exchange is also a long-standing fundamental economic practice, and even older than the concepts of hedging and intermediated settlement. As shown in the examples below—which the Court has discretion to consider in a motion to dismiss[9]—calculating currency exchange rates and pricing have been in use in commerce for

[9] "It is within the trial court's discretion whether to take judicial notice of a longstanding practice where there is no evidence of such practice in the intrinsic record." *CardioNet LLC v. InfoBionic Inc.*, 955 F.3d 1358, 1373 (Fed. Cir. 2020).

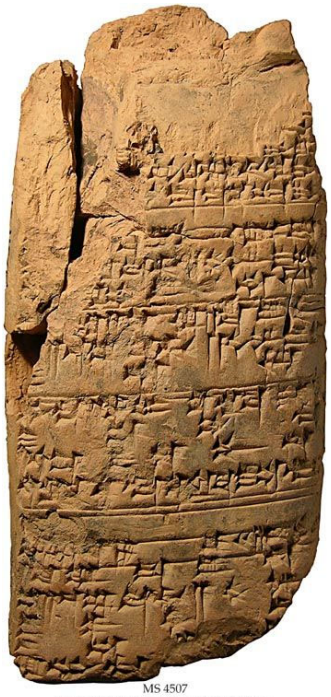
centuries, and in some cases, millennia. They are the "basic building blocks of human ingenuity" deemed unpatentable under Section 101. *See Alice*, 573 U.S. at 216.

The concept of pricing is as old as writing itself. In 3000 BCE, ancient Sumerians kept clay tablets, upon which were inscribed the earliest known forms of writing called cuneiform. The oldest known tablets were not used to record poetry or stories but to record prices. *See* Charles Fishman, *Which Price is Right?*, FAST COMPANY (Feb. 28, 2003) ("The earliest Uruk tablets aren't just the oldest pricing records ever found. They are the oldest examples of human *writing* yet discovered. In other words, when humans first took stylus to wet clay, the first thing they were compelled to record was … prices.").[10]

(Photo of a Mesopotamian receipt in Cuneiform)[11]

[10] https://www.fastcompany.com/46061/which-price-right (last visited Sept. 2, 2025).
[11] *The Oldest Writing Ever Discovered Was an Ancient Receipt! (A Brief History of Receipts)*, Hillside Electronics, November 12, 2022, https://hec.com/blogs/hillside-university/a-brief-history-of-receipts (last visited Sept. 2, 2025).

The oldest known written body of law dated around the eighteenth century BCE expressed the price of commodities—like barley, oil, wool, and salt—in shekels of silver. *See* David McWilliams, *Money: A Story of Humanity* (2024) at 27-28.



MS 4507
Law codes of Eshnunna or Hammurabi.
Babylonia, ca. 1900-1650 BC

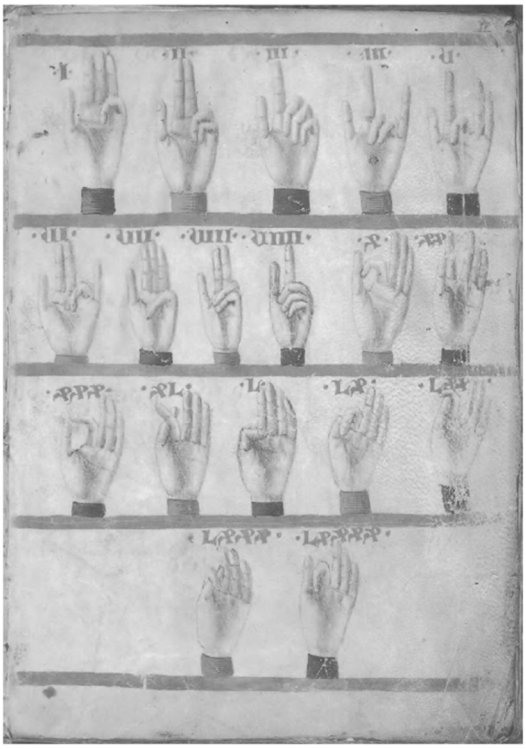
Pricing records have also been found in clay tablets during the first millennium BCE containing market quotations priced in shekels of silver. *See* Peter Temin, *Price Behavior in Ancient Babylon*, Explorations in Economic History, Vol. 39, Issue 1, 46-60 (January 2002) at 47-48.[12]

Whether humans were determining the value of one item of value (barley) in terms of another (silver) or—as described in the asserted patents—calculating the price of one cryptocurrency token in terms of another, the underlying concept is fundamentally the same. For example, the patents' specifications describe applying the claimed pricing formula to determine

[12] Available at https://economics.mit.edu/sites/default/files/2022-08/teminExplorEconHist2002.pdf (last visited Sept. 2, 2025).

that a "circle" token is worth 1 "ETH" token. *See, e.g.*, '049 patent at 9:25-51. This is the modern-day application of a concept that ancient civilizations used when determining that the price of "one gur[13] of barley is one shekel of silver." McWilliams at 28.

These ancient pricing concepts eventually evolved into the use of currencies and exchange rates, which have been a fundamental economic practice for centuries. For example, calculations for currency conversion were described in the thirteenth century by an Italian mathematician named Leonardo of Pisa—better known as Fibonacci. In his book, *Liber Abaci*, the Book of Calculation (1202), Fibonacci described mathematical calculations and concepts such as proportions and fractions and showed how they could be applied to perform currency conversions. Niall Ferguson, *The Ascent of Money* (2018) at 30-31.



Page from original manuscript *Liber Abaci*
(courtesy of Biblioteca Ambrosiana, Milan).

[13] "Gur" is an ancient Mesopotamian unit of volume.

For example, in Chapter 8 of *Liber Abaci*, Fibonacci provides his calculations for determining how many "Pisan denari" one would get for "11 Imperial denari" or how many "Genoese soldi" one would get in return for a certain amount of Pisan soldi. *See* Laurence Sigler, *Fibonacci's Liber Abaci: A Translation into Modern English of Leonardo Pisano's Book of Calculation* (2003) at 156-157 ("The Second Part of the Eighth Chapter on the Exchange of Money.").

These calculations facilitated trade involving a large variety of coinage circulating in trading hubs such as thirteenth century Sicily (*see* McWilliams at 101-109)—much like the patents' description of the modern-day problem of trading among a wide variety of cryptocurrency tokens on the blockchain. *See* '049 patent at 2:13-15; First Amended Complaint (Dkt. No. 47) ¶ 1. Again, the patents are directed to modern-day examples of old concepts.

Further, the claimed mathematical formulas' use of a "reserve ratio constant" (*see, e.g.*, '049 claim 1, '291 claim 1) is also hundreds of years old. Reserve currencies and reserve ratios date back to the early seventeenth century. Established in 1609, the Amsterdam Exchange Bank (Wisselbank) allowed merchants to hold accounts denominated in a standardized unit, called the guilder, which became a reserve currency across Europe, backed by reserves of precious metal. While Wisselbank maintained a 100% ratio between deposits and its metal reserves, the Stockholms Banco, founded in 1657, introduced a new model by lending amounts in excess of its reserve, introducing the concept of fractional reserve banking—i.e., a reserve currency backed by a reserve ratio below 100%. Ferguson at 45-46.

The foregoing examples confirm that patent claims are directed to "fundamental economic practice long prevalent in our system of commerce" and are thus ineligible abstract ideas under Section 101, just as the Supreme Court held in *Alice* and *Bilski*.

ii. *Alice* Step 2: The Claims Merely Apply the Abstract Ideas on Conventional Blockchain Technology

Nothing in the claims adds any inventive concept to the abstract idea. The claims merely describe applying the abstract idea to generic computers running a conventional blockchain network. Specifically, the claims recite generic "hardware processor[s]" and generic "computer-readable program code." *See* '291 patent, claim 1 at 25:32-36; '049 patent, claim 1 at 26:1-5. The claims further recite existing blockchain operations to "validate a smart contract" and "updating a secure ledger network … with the smart contract" and "performing an execution of the transaction." *See* '291 patent, claim 1 at 25:37-41; '049 patent, claim 1 at 26:6-16. Further, the patents admit these steps are conventional blockchain operations. *See, e.g.*, '049 patent at 1:20-2:30; 12:49-13:32 (citing "A 101 Noob Intro to Programming Smart Contracts on Ethereum" for claimed blockchain operations). As explained above in Section II.A, a smart contract-enabled blockchain is essentially a general-purpose computer because it can execute a variety of program code (smart contracts). Indeed, the patents themselves acknowledge that in Ethereum, the smart contract capability is "Turing complete," which means that "they can implement ***any logic rules*** and initiate ***any calculations*** available." '049 patent at 1:56-58 (emphasis added). In sum, the claims merely apply mathematical formulas for determining a currency exchange rate on a generic, general-purpose blockchain.

As the Supreme Court held, "[t]he introduction of a computer into the claims does not alter [step two]" and "implementing a mathematical principle on a physical machine, namely a computer, [i]s not a patentable application of that principle" nor is limiting the abstract idea to a

"particular technical environment." *Alice*, 473 U.S. at 222. Here, the mere recitation of a secure ledger network, used in a generic and existing manner, fails to render the claims patent eligible under *Alice* step two.

The Federal Circuit specifically addressed blockchain technology in *Rady v. Boston Consulting Group*, holding the "conventional use of existing blockchain technology" that does not "improv[e] the underlying blockchain technology" fails to transform an abstract idea into a patent-eligible claim. 2024 WL 1298742, at *5 (Fed. Cir. Mar. 27, 2024). In *Rady*, the asserted patent claimed a system for identifying unique signatures of physical items, such as gemstones, and recording the signatures to the blockchain. *Id.* at *1. In holding that the claims were not directed to eligible subject matter, the Federal Circuit noted that the patent specification made clear that the invention relied on conventional use of blockchain technology, including by "incorporating by reference papers describing conventional blockchain construction and performance." *Id.* at *4. Here, the asserted patents also make clear in the specifications that the alleged invention relies on conventional use of blockchain technology, citing a prior art Ethereum paper for the description of blockchain operation and smart contracts. *See, e.g.*, '049 patent at 11:60-13:39.

Plaintiffs' allegations in its Amended Complaint that the patents "improve the functionality of the blockchain" (First Amended Complaint ¶ 6) are conclusory and not supported by the patent specifications or claims. As such, the allegations cannot overcome a motion to dismiss. *See Rady*, 2024 WL 1298742, at *5 ("Because Rady failed to present nonconclusory allegations that his patent disclosed any specific technical improvements to computers, measurement devices, blockchains, or any other technology, however, the district court properly resolved the eligibility question at the pleadings stage."); *citing Simio, LLC v. FlexSim Software Prods., Inc.*, 983 F.3d 1353, 1365 (Fed Cir. 2020) ("We disregard conclusory statements when evaluating a complaint

under Rule 12(b)(6)."); *see also IBM Corp. v. Zillow Group, Inc.,* 50 F.4th 1371, 1379 (Fed. Cir. 2022) (affirming dismissal because "the district court need not accept a patent owner's conclusory allegations of inventiveness" and the complaint lacked "plausible and specific allegations that any aspect of the claims is inventive.").

C. Innovation in DeFi in the United States Would Be Stifled By Assertion of Patents Merely Directed to Fundamental Economic Practices

For the United States to be a leader in DeFi innovation, patents such as those asserted in this case that merely claim fundamental economic practices without contributing technological advancement should be found invalid under Section 101. Allowing enforcement of abstract patents would impede innovation in a rapidly developing industry.

First, DeFi applications are largely built using open source software, which is a software development philosophy where developers share their code for others to build and improve upon. Open source development fosters collaboration, accelerates innovation, and enhances security of software through peer review and transparency. Security is particularly important to the adoption of DeFi, and the open source model encourages the use of battle-tested code that is more resilient to hacking. Allowing abstract patents to be weaponized against open-source contributors would discourage developers from using open source code or from making their code public, leading to a significant chilling effect on decentralization, security, and collaboration—the very ethos of DeFi.

Second, the DeFi ecosystem provides users with the ability to engage in traditional financial services—such as trading, currency exchange, and lending—but does so by leveraging the decentralization, security, and transparency of blockchain technology. Patents that simply repackage longstanding financial concepts in a blockchain context, without offering any inventive concept or novel technical improvement, threaten to stifle legitimate innovation in this space.

Finally, as in many emerging industries, innovators are often small companies and startups that lack the resources to defend against abstract patents in protracted litigation. Even the perceived risk of patent litigation would discourage market entry and creativity, chilling a transformative financial industry that could bring many benefits to the public.

IV. CONCLUSION

For the foregoing reasons, the Court should find the asserted patents patent ineligible under Section 101.

Respectfully Submitted,

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CERTIFICATE OF COMPLIANCE

I hereby certify that according to the word count feature of the word processing program used to prepare this brief, the brief contains 4,573 words (exclusive of the cover page, certificate of compliance, table of contents, and table of authorities) and complies with Local Civil Rule 7.1 of the Southern District of New York, and the Individual Practices of Judge John G. Koeltl, Section III.D.

/s/ S. Dennis Wang

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