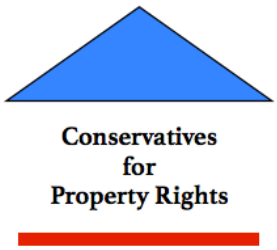

September 23, 2021

U.S. Patent & Trademark Office
600 Dulany Street
P.O. Box 1450
Alexandria, VA 22313

RE: Request for Information Regarding Patent Eligibility Jurisprudence Study (Docket No. PTO-P-2021-0032)

To whom it may concern:

Conservatives for Property Rights (CPR), a coalition of public policy organizations concerned with preserving and protecting private property rights with respect to all forms of property, respectfully provides these comments to help inform the Patent and Trademark Office's efforts regarding the Request for Information Regarding Patent Eligibility Jurisprudence Study (Docket No. PTO-P-2021-0032). CPR educates and advocates on issues related to property rights, including intellectual property.

In CPR's March 8, 2019, comments, we commended the PTO on its 2019 Revised Patent Subject Matter Eligibility Guidance. We said, "The revised guidance provides coherence and clear direction in assessing whether patent claims constitute abstract ideas under the law." The PTO guidance has been a necessary, but is not sufficient remedy to the state of patent eligibility jurisprudence. In our earlier comments, we cited Federal Circuit Judge Pauline Newman's dissent in *Athena Diagnostics v. Mayo*: "For procedures that require extensive development and federal approval, unpredictability of patent support is a disincentive to development of new diagnostic methods. The loser is the afflicted public, for diagnostic methods that are not developed benefit no one."[1] We agree with Judge Newman, only adding that patent eligibility's unpredictability puts meaningful property rights at risk.

In *Bilski v. Kappos*, *Mayo Collaborative Services v. Prometheus Laboratories*, *Association for Molecular Pathology v. Myriad Genetics*, and *Alice Corp. v. CLS Bank* between 2010 and 2014, the Supreme Court's "*Mayo-Alice* Framework" has resulted in an untenable level of unpredictability and uncertainty for inventors and patent owners. Judicially created exceptions to patent eligibility continue to stray from the straightforward language of section 101 of the patent statute, leading to conflicting, unresolvable outcomes. Former Chief Judge of the

[1] *Athena Diagnostics Inc. v. Mayo Collaborative Services*, 1717-2508 (Fed. Cir. 2019)

Federal Circuit Paul Michel and attorney Matthew Dowd call the status quo "a quagmire."[2] Former PTO Director David Kappos calls it an "unworkable situation."[3] Then-PTO Director Andrei Iancu told a U.S. House subcommittee that 101 is "the most important substantive issue of patent law right now."[4] The result of this situation is unstable property rights.

CPR views the threshold 101 question as properly broad. Whether an invention is novel, useful, and nonobvious are subsequent criteria that only warrant consideration if patent eligibility is met. It is important that patent eligibility jurisprudence accord with this statutory design because protecting and securing exclusivity to new property someone has created is not merely important as a property rights matter. It is the gateway to progress in science and useful arts as well as to U.S. economic prosperity, national security, and industrial competitiveness.[5]

In response to specific questions, we begin with: "10. Please identify how the current state of patent eligibility jurisprudence in the United States impacts the global strength of U.S. intellectual property."

Judicial rulings beginning with *Bilski* and *Alice* unduly constrict U.S patenting of computer-enabled inventions. The *Bilski-Alice* conception of "abstract ideas" has led to legal progeny that weaken U.S. IP protection of computer-implemented inventions. *Mayo-Myriad* jurisprudence conflates "laws of nature" with what we once recognized as biomedical inventions. Moreover, inventions in these now-excluded categories are patent-eligible in China and Europe.

The harmful effects of patent-eligibility jurisprudence upon our IP's global strength show up in several ways. One sign is research and development (R&D) spending. China passed the United States in R&D expenditures in 2020 and is projected to invest $621.5 billion in 2021, compared with the estimate of U.S. R&D spending of $598.7 billion.[6] Healthy, private market-based (as opposed to government command-and-control, mercantilist) R&D investment relies on reliable IP, particularly where long-range, foundational innovation in pivotal emerging technologies is concerned.[7]

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[2] Paul R. Michel and Matthew J. Dowd, "From a Strong Property Right to a Fickle Government Franchise: The Transformation of the U.S. Patent System in 15 Years," *Drake Law Review*, Vol. 69 (June 2021), p. 24

[3] David Kappos, "Section 101 Is Not Fixing Itself: A Look At Patent System Stats," *Law 360* (May 7, 2020)

[4] Steve Brachmann, "House IP Subcommittee Discusses Section 101, Fraudulent Chinese Trademark Applications During USPTO Oversight Hearing," *IPWatchdog* (May 15, 2019)

[5] See James Edwards, "Supreme Court gives China a technology innovation advantage over U.S.," *Washington Times*, July 27, 2021

[6] Statista, "Leading countries by gross research and development (R&D) expenditure worldwide in 2021"

[7] Stephen Ezell, "Moore's Law Under Attack: The Impact of China's Policies on Global Semiconductor Innovation," ITIF (February 18, 2021): "[B]ecause the [semiconductor] industry fundamentally depends on knowledge, technology, and know-how, an international system with robust IP rights—including patents, trade secrets, and trademarks—is critical to providing adequate incentives for investing significant amounts of R&D."

The U.S. Chamber of Commerce's Global Innovation Policy Center (GIPC) rates the relative strength of nations' intellectual property systems. The United States's patent system now ranks behind first-place Singapore in a tie with Japan, South Korea, and Switzerland for second. GIPC's discussion of the 2021 rankings notes patent eligibility jurisprudence weakening the U.S. patent system. It specifies "a high and sustained level of uncertainty as to what constitutes patentable subject matter in the United States. . . . The net result is that rights-holders are left without a clear sense of how decisions on patent eligibility will be made or, when granted patents are subsequently challenged or reviewed either through the courts or through the inter partes proceedings within the USPTO, which patent claims will be upheld. . . ."[8]

The 2021 Bloomberg Innovation Index downgrades the United States to 11th place. For the first time since 2018 the United States, has again fallen out of the top 10. The 2021 ranking is two spots beneath our 2020 U.S. ranking. South Korea holds first place in 2021 "mainly due to an increase in patent activity, where it ranks top, alongside a strong performance in R&D and manufacturing."[9] Meanwhile China, rated 16th, has improved from 30th in 2013.

The next question we address is: "11. Please identify how the current state of patent eligibility jurisprudence in the United States impacts the U.S. economy as a whole."

The status quo in patent eligibility diminishes and threatens to significantly degrade the U.S. economy. One area in which this shows up is startups and investment in the kinds of important technological advances that could make or break our economy over the long run. U.S. firms have witnessed the value of their patent assets decline as much as 60 percent in the last several years, formation of startups (which tend to rely on intangible assets to raise capital) has dwindled, and venture capital shifting away from IP-based, R&D-centric, early-stage companies to less significant technologies.[10] Declining startup and VC activity in patent-backed firms has dire implications for job creation, as well.

For declining investment, Judge Michel gives an example: "Money managers 'voted with their feet,' diverting funds from U.S. R&D into safer domestic investments such as entertainment and to overseas R&D. No wonder, for the scope of eligibility was broadened in Europe and Asia and even China, just as the U.S. narrowed it."[11] Further evidence comes from an Alliance of U.S. Startups and Inventors for Jobs report, finding that between 2004 and 2017 "venture

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[8] Global Innovation Policy Center, *International IP Index: Recovery Through Ingenuity,* 2021 Ninth Edition, pp. 310-311

[9] Michelle Jamrisko, Wei Lu, and Alexandre Tanzi, "South Korea Leads World in Innovation as U.S. Exits Top Ten," *Bloomberg* (Feb. 2, 2021)

[10] Paul R. Michel, "Corporate Intellectual Property Is Being Devalued by Washington," *Brink* (April 24, 2018); for more details on the role patents and IP fill for certain innovators' business models and not other business models, see Jonathan M. Barnett, "Why Big Tech Likes Weak IP," *CATO Regulation* (Spring 2021)

[11] Michel, *Brink*

capital investment decisively shifted away from patent-intensive industries."[12] The USIJ report documents the growing hesitancy of investors to back patent-intensive enterprises. It includes an example of a Cleveland Clinic invention, a cardiovascular disease diagnostic test that saw its patent invalidated on patentability grounds. Also, a law journal article reports survey research that further confirms and documents the harmful effect of patent eligibility jurisprudence on investment in patent-intensive startups and companies.[13]

We turn to question "12. Please identify how the current state of subject matter eligibility jurisprudence in the United States impacts the global strength of U.S. intellectual property and the U.S. economy in any of the following areas: a. Quantum computing; b. artificial intelligence; c. precision medicine; d. diagnostic methods; e. pharmaceutical treatments; and f. other computer-related inventions (e.g., software, business methods, computer security, databases and data structures, computer networking, and graphical user interfaces). In responding to this question, please provide concrete examples and supporting facts when possible."

Given the high importance of emerging technologies and the critical link of patents to such strategic technologies' success, the tenuous situation of patent-eligibility jurisprudence throws the patents associated with the above-listed fields into upheaval. Hanging in the balance is whether sophisticated arts and technological fields will be undercut by judicially created exceptions to 101 that limit what is patentable in America. If, say, certain 5G-related wireless microchips or genetic medical therapies are not deemed patentable or, worse, some court or PTAB invalidates the patents long after they were granted, the real-world consequences amount to America's industrial competitiveness slipping and China's advancing. In such very real scenarios, U.S. IP's global strength suffers and U.S. economic expansion is lost.[14]

For example, the National Security Commission for Artificial Intelligence final report warns of "legal uncertainties created by current U.S. patent eligibility and patentability doctrine, the lack of an effective response to China's domestic and geopolitical strategies centered on its IP institutions, and the lack of effective data protection policies. . . . [As a result,] the U.S. could lose its prime position in IP global leadership. At the same time, by strengthening its IP regimes, China is poised to 'fill the void' left by weakened U.S. IP protections, particularly for patents, as the U.S. has lost its 'comparative advantage in securing stable and effective property rights in new technological innovation.' This stark policy asymmetry has multiple significant domestic and international implications for the U.S."[15]

Further, the NSCAI report discusses the fraught situation concerning computer-implemented inventions, medical diagnostics, and biopharmaceutical therapeutics. "First, U.S. courts have severely restricted what types of computer-implemented and biotech-related

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[12] Mark F. Schultz, "The Importance of an Effective and Reliable Patent System to Investment in Critical Technologies," *Alliance of U.S. Startups & Inventors for Jobs (USIJ) Policy Report* (July 2020), p. 6

[13] David O. Taylor, "Patent Eligibility and Investment," 41 *Cardozo Law Review 2019* (2020)

[14] Innovation's role in U.S. industrial competitiveness is discussed at length, with particular attention to private property rights in patents and inventions, in CPR's 2018 report, Property Rights: The Key to National Wealth and National Security. Patent eligibility is taken up on pp. 13-14.

[15] National Security Commission for Artificial Intelligence, Final Report (March 1, 2021), p. 201

inventions can be protected under U.S. patent law. Critical AI and biotech-related inventions have been denied patent protection since 2010. Facing uncertainty in obtaining and retaining patent protection, inventors pursue trade secret protection. . . . While these impacts might not be immediate, the long-term effects on AI and other emerging technology developments and competitiveness are concerning."[16]

Finally, we answer: 13. Please identify how the current state of patent eligibility jurisprudence in the United States affects the public. For example, does the jurisprudence affect, either positively or negatively, the availability, effectiveness, or cost of personalized medicine, diagnostics, pharmaceutical treatments, software, or computer-implemented inventions?

The American people are either the beneficiaries of patented inventions or are forced to forego certain benefits of denied or invalidated patents under 101 status quo. Positive effects of those patents undisturbed by judicially created patent ineligibility include access to new or improved products, devices, or features. Some members of the public also benefit from unmolested patents economically, such as the patent owner creating jobs to manufacture the new goods. Indirect beneficiaries include parts makers, distributors, shippers, warehousers, wholesalers, retailers, etc.

Assuming patent validity remains upheld, broader members of the public also benefit from a patent's successful commercialization. Associated royalties, licensing revenues, and profits repay investors and underwrite R&D, which of course represents the innovation pipeline of continual advances in science and useful arts. Continuing to assume a patent's validity, the more sophisticated inventions such as those named in question 12 promote dynamic competition by exercising their patent exclusivity to create dynamic new markets while potential competitors learn from that patent its contributions to new knowledge and invent around the patented invention from which they learned.[17]

The flip side is the far too many patents excluded from IP protection or invalidated under currently unstable patent-eligibility jurisprudence. It denies consumers access to new goods, while the new jobs, customers, dynamic competition,[18] tax revenue, follow-on invention, flush R&D coffers fueling innovation, and higher levels of innovation and development that the patents would have led to never develop. The status quo of 101 deprives the public of general benefits enjoyed on account of secure property rights and newly created property and the array of benefits that might have accrued. The cost of current patent-eligibility jurisprudence is especially heavy where computer-implemented inventions and biomedical inventions are involved.

The status quo of 101 jurisprudence harms the public as citizens of this nation. President Reagan's Commission on Industrial Competitiveness summarizes what secure, certain, reliable patent eligibility yields: "Technological innovation is a mainstay of the American economy. It is

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[16] Ibid.

[17] See discussion of IP rights' benefits to society in CPR 2018 Property Rights report, pp. 11-12

[18] For further discussion of dynamic competition, see James Edwards, "Order of the New Day: IP Rights in Dynamic Competition," *IPWatchdog* (June 10, 2018)

the foundation of our economic prosperity, our national security, and our competitiveness in world markets."[19]

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In closing, the state of patent-eligibility jurisprudence — a real and present danger to property rights and innovative strides that reach all the way up to American economic and national security — is captured by Federal Circuit now-Chief Judge Kimberly Moore in her *American Axle* dissent, when she observed that "the majority's decision expands § 101 well beyond its statutory gate-keeping function and the role of this appellate court well beyond its authority." Judge Moore's vivid metaphor for the state of 101 jurisprudence is only exceeded by her calling out judicial activism in patent-eligibility jurisprudence: "The majority's validity goulash is troubling and inconsistent with the patent statute and precedent. The majority worries about result-oriented claiming; I am worried about result-oriented judicial action."[20]

Respectfully,

James Edwards, Ph.D.
Executive Director
Conservatives for Property Rights

Kevin L. Kearns
President
U.S. Business and Industry Council

Seton Motley
President
Less Government

David Williams
President
Taxpayers Protection Alliance

James L. Martin
Founder/Chairman
60 Plus Association

Saulius "Saul" Anuzis
President
60 Plus Association

Curt Levey
President
The Committee for Justice

Ashley Baker
Director of Public Policy
The Committee for Justice

[19] President's Commission on Industrial Competitiveness, quoted in CPR *Property Rights* report, p. 10

[20] Judge Kimberly Moore, dissent in *American Axle & Manufacturing v. Neapco Drivelines*, as quoted in Nancy Braman, "CAFC Rejects Method for Manufacturing Propshafts Under 101; Judge Moore Calls Majority Analysis 'Validity Goulash'," *IPWatchdog* (October 4, 2019)