

Nos. 21-1281 and 22-22

In the Supreme Court of the United States

INTERACTIVE WEARABLES, LLC, PETITIONER

v.

POLAR ELECTRO OY, ET AL.

DAVID A. TROPP, PETITIONER

v.

TRAVEL SENTRY, INC., ET AL.

*ON PETITIONS FOR WRITS OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT*

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

THOMAS W. KRAUSE
Solicitor
FARHEENA Y. RASHEED
Deputy Solicitor
AMY J. NELSON
*Senior Counsel for Patent
Law and Litigation*
ROBERT J. MCMANUS
ROBERT E. MCBRIDE
*Associate Solicitors
United States Patent and
Trademark Office
Arlington, VA 22314*

ELIZABETH B. PRELOGAR
*Solicitor General
Counsel of Record*
BRIAN M. BOYNTON
*Principal Deputy Assistant
Attorney General*
MALCOLM L. STEWART
Deputy Solicitor General
AUSTIN L. RAYNOR
*Assistant to the Solicitor
General*
JOSHUA SALZMAN
STEVEN HAZEL
BEN LEWIS
*Attorneys
Department of Justice
Washington, D.C. 20530-0001
SupremeCtBriefs@usdoj.gov
(202) 514-2217*

QUESTION PRESENTED

Section 101 of the Patent Act of 1952, 35 U.S.C. 1 *et seq.*, provides that “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof,” is eligible for a patent. 35 U.S.C. 101. This Court has further clarified that “laws of nature, natural phenomena, and abstract ideas” are not patent-eligible. *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014). Petitioner in No. 21-1281, Interactive Wearables, LLC, holds patents for a wearable content player connected to a remote control that displays information about the content being played. Petitioner in No. 22-22, David Tropp, holds patents for a method of improving the process of luggage inspection using a luggage lock with a logo that identifies it as compatible with a particular master key. In separate cases, the Federal Circuit concluded that petitioners’ patents were ineligible under Section 101’s exception for abstract ideas. The question presented in each case is as follows:

Whether the claimed invention is ineligible for patent protection under the abstract-idea exception to Section 101.

TABLE OF CONTENTS

Page
Statement 1
Discussion..... 10
Conclusion 23

TABLE OF AUTHORITIES

Cases:

Alice Corp. Pty. Ltd. v. CLS Bank Int’l,
573 U.S. 208 (2014)..... 5-7, 10, 12-17, 19
Amdocs (Israel) Ltd. v. Openet Telecom, Inc.,
841 F.3d 1288 (Fed. Cir. 2016), cert. denied,
138 S. Ct. 469 (2017) 8
*American Axle & Mfg., Inc. v. Neapco Holdings
LLC*:
967 F.3d 1285 (Fed. Cir. 2020), cert. denied,
142 S. Ct. 2902 (2022) 18, 20, 21
977 F.3d 1379 (Fed. Cir. 2020) 20
American Fruit Growers, Inc. v. Brogdex Co.,
283 U.S. 1 (1931) 3
Ariosa Diagnostics, Inc. v. Sequenom, Inc.,
788 F.3d 1371 (Fed. Cir. 2015), cert. denied,
579 U.S. 928 (2016)..... 20
*Athena Diagnostics, Inc. v. Mayo Collaborative
Srvs., LLC*:
915 F.3d 743 (Fed. Cir. 2019), cert. denied,
140 S. Ct. 855 (2020) 20
927 F.3d 1333 (Fed. Cir. 2019) 22
Bilski v. Kappos, 561 U.S. 593 (2010)..... 2, 4, 12, 13, 16
Chamberlain Grp., Inc. v. Techtronic Indus. Co.,
935 F.3d 1341 (Fed. Cir. 2019), cert. denied,
141 S. Ct. 241 (2020) 20

IV

| Cases—Continued: | Page |
|--------------------------------------------------------------------------------------------------------------------------------|-----------------------------|
| <i>ChargePoint, Inc. v. SemaConnect, Inc.</i> , 920 F.3d 759 (Fed. Cir. 2019), cert. denied, 140 S. Ct. 983 (2020) | 20 |
| <i>Corning v. Burden</i> , 56 U.S. (15 How.) 252 (1854) | 4, 15 |
| <i>Diamond v. Chakrabarty</i> , 447 U.S. 303 (1980)..... | 3 |
| <i>Diamond v. Diehr</i> , 450 U.S. 175 (1981)..... | 3, 14, 17, 18 |
| <i>Funk Bros. Seed Co. v. Kalo Inoculant Co.</i> , 333 U.S. 127 (1948)..... | 3 |
| <i>Gottschalk v. Benson</i> , 409 U.S. 63 (1972)..... | 4, 13 |
| <i>International Bus. Machines Corp. v. Zillow Grp.</i> , <i>Inc.</i> , 50 F.4th 1371 (Fed. Cir. 2022) | 20 |
| <i>Le Roy v. Tatham</i> , 55 U.S. (14 How.) 156 (1853) | 3 |
| <i>Markman v. Westview Instruments, Inc.</i> , 517 U.S. 370 (1996)..... | 23 |
| <i>Mayo Collaborative Servs. v. Prometheus Labs.</i> , <i>Inc.</i> , 566 U.S. 66 (2012)..... | 4, 5, 10, 16, 17, 19 |
| <i>Parker v. Flook</i> , 437 U.S. 584 (1978) | 4, 13 |
| <i>TLI Commc'ns LLC Patent Litig., In re</i> , 823 F.3d 607 (Fed. Cir. 2016)..... | 7 |
| <i>Weisner v. Google LLC</i> , 51 F.4th 1073 (Fed. Cir. 2022) | 20 |
| <i>Yu v. Apple Inc.</i> , 1 F.4th 1040 (Fed. Cir. 2021), cert. denied, 142 S. Ct. 1113 (2022) | 20, 22 |
| Constitution and statutes: | |
| U.S. Const. Art. I, § 8, Cl. 8 | 1, 2 |
| Patent Act of 1952, 35 U.S.C. 1 <i>et seq.</i> | 2 |
| 35 U.S.C. 101 | 2-5, 7, 9-12, 14, 15, 17-23 |
| 35 U.S.C. 101-103 (2006) | 2 |
| 35 U.S.C. 102 | 2, 11, 17 |
| 35 U.S.C. 103 | 2, 11, 17 |

| Statutes—Continued: | Page |
|-----------------------------------------------------------------------------------------------------------|-------|
| 35 U.S.C. 112 (2006) | 2 |
| 35 U.S.C. 112..... | 2, 11 |
| 35 U.S.C. 112(a) | 2, 17 |
| Miscellaneous: | |
| S. 4734, 117th Cong., 2d Sess. (2022) | 22 |
| <i>2019 Revised Patent Subject Matter Eligibility Guidance</i> , 84 Fed. Reg. 50 (Jan. 7, 2019) | 21 |

In the Supreme Court of the United States

Nos. 21-1281 and 22-22

INTERACTIVE WEARABLES, LLC, PETITIONER

v.

POLAR ELECTRO OY, ET AL.

DAVID A. TROPP, PETITIONER

v.

TRAVEL SENTRY, INC., ET AL.

*ON PETITIONS FOR WRITS OF CERTIORARI
TO THE UNITED STATES COURT OF APPEALS
FOR THE FEDERAL CIRCUIT*

BRIEF FOR THE UNITED STATES AS AMICUS CURIAE

This brief is filed in response to the Court’s orders inviting the Solicitor General to express the views of the United States. In the view of the United States, each petition for a writ of certiorari should be granted on the question presented as framed in this brief.

STATEMENT

1. a. The Constitution authorizes Congress “[t]o promote the Progress of Science and useful Arts, by securing for limited Times to * * * Inventors the exclusive Right to their * * * Discoveries.” U.S. Const. Art. I, § 8, Cl. 8. The Patent Act of 1952 (Patent Act), 35

U.S.C. 1 *et seq.*, directs that “[w]hoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.” 35 U.S.C. 101. By “defin[ing] the subject matter that may be patented,” *Bilski v. Kappos*, 561 U.S. 593, 601 (2010), Section 101 confines patents to particular *types* of innovations.

To obtain a patent, an inventor “must also satisfy” additional statutory requirements, “includ[ing] that the invention be novel, nonobvious, and fully and particularly described.” *Bilski*, 561 U.S. at 602 (citing 35 U.S.C. 101-103, 112 (2006)). Those requirements complement Section 101 but serve different functions. Section 102’s novelty requirement ensures that an applicant cannot obtain exclusive rights for another’s previous discovery. Section 103’s nonobviousness requirement precludes an applicant from obtaining a patent on a merely obvious improvement over the prior art. And Section 112’s written-description and enablement requirements ensure that a patentee provides a clear description of his invention, and instructions for making and using it, so that others skilled in the art may do so after his period of protection expires. 35 U.S.C. 112(a).

A claimed invention thus might satisfy the Act’s other requirements but not Section 101, or vice versa. For example, an artistic technique for painting watercolors might be novel and nonobvious, but it would not be the *type* of innovation that has traditionally been understood to fall within the “useful Arts,” U.S. Const. Art. I, § 8, Cl. 8, and thus to warrant patent protection under Section 101. Conversely, an application for a patent on Alexander Graham Bell’s telephone would

satisfy Section 101, but it would fail today for lack of novelty.

b. Although Section 101's coverage is "expansive," it is not limitless. *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980). The Court has long recognized that "phenomena of nature" are not patent-eligible if unaltered by humankind. *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948) (citing *Le Roy v. Tatham*, 55 U.S. (14 How.) 156, 175 (1853)). Thus, although a "human-made, genetically engineered bacterium" is patent-eligible, "a new mineral discovered in the earth or a new plant found in the wild" is not. *Chakrabarty*, 447 U.S. at 305, 309. Newly discovered "'manifestations of . . . nature'"—such as Newton's "law of gravity" or Einstein's "law that $E=mc^2$ "—likewise are not patent-eligible. *Id.* at 309 (citation omitted).

Many of the Court's decisions recognizing that such discoveries are not patent-eligible can be understood as interpretations of Section 101's specific terms—"process, machine, manufacture, [and] composition of matter," 35 U.S.C. 101—based in part on history and statutory context. On this view, patent-ineligible subject matters (like natural phenomena) are patent-ineligible because they fall outside the list of subject matters in Section 101. For example, the Court has interpreted the term "process" in Section 101 by looking to the traditional usage of that term and its precursor ("art"), concluding with respect to mathematical equations that not "every discovery is * * * embraced within the statutory terms." *Diamond v. Diehr*, 450 U.S. 175, 182-185 (1981); see, e.g., *Chakrabarty*, 447 U.S. at 308-309 ("manufacture" and "composition of matter"); *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11-12 (1931) ("manufacture"); *Corning v. Burden*, 56 U.S.

(15 How.) 252, 267-269 (1854) (“machine” and “process”).

In more recent decisions, the Court has articulated another rationale for the conclusion that certain discoveries cannot be patented. In *Bilski*, the Court stated that Section 101’s terms should bear their “ordinary, contemporary, common meaning[s].” 561 U.S. at 603 (citation omitted). The Court then identified three categories of discoveries that traditionally have been viewed as outside Section 101’s scope—“laws of nature, physical phenomena, and abstract ideas”—and characterized those categories as judicially created “exceptions” to patent-eligibility that “are not required by the statutory text.” *Id.* at 601 (citation omitted).

Bilski involved a method of hedging financial risk in energy markets. 561 U.S. at 599. The Court explained that “[h]edging is a fundamental economic practice long prevalent in our system of commerce.” *Id.* at 611 (citation omitted). And it determined that the claimed invention was “not a patentable ‘process’” because “[t]he concept of hedging, described in claim 1 and reduced to a mathematical formula in claim 4, is an unpatentable abstract idea, just like the algorithms” the Court had found patent-ineligible in prior cases. *Id.* at 611 (citing *Gottschalk v. Benson*, 409 U.S. 63 (1972), and *Parker v. Flook*, 437 U.S. 584 (1978)); see *id.* at 624 (Stevens, J., concurring in the judgment) (finding the claimed hedging method patent-ineligible based instead on the meaning of “‘process’” as a “complex term[] of art developed against a particular historical background”) (citation omitted).

In *Mayo Collaborative Services v. Prometheus Laboratories, Inc.*, 566 U.S. 66 (2012), the Court reaffirmed the existence of the three implicit exceptions to

Section 101. It characterized the claims in that case as “set[ting] forth laws of nature” concerning the “relationships between concentrations of certain metabolites in the blood and the likelihood that a dosage of a thio-purine drug will prove ineffective or cause harm.” *Id.* at 77. The Court concluded that the claims had not “transformed th[o]se unpatentable natural laws into patent-eligible applications of those laws” because they did not “do significantly more than simply describe th[o]se natural relations.” *Id.* at 72, 77.

The Court subsequently described *Mayo* as “set[ting] forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts.” *Alice Corp. Pty. Ltd. v. CLS Bank Int’l*, 573 U.S. 208, 217 (2014). First, a court “determine[s] whether the claims at issue are directed to one of those patent-ineligible concepts.” *Ibid.* “If so,” the court “ask[s], ‘what else is there in the claims’” to determine whether any “additional elements ‘transform the nature of the claim’ into a patent-eligible application.” *Ibid.* (brackets altered; citations omitted).

Alice involved “a computer-implemented scheme for mitigating ‘settlement risk’ * * * by using a third-party intermediary.” 573 U.S. at 212. The *Alice* Court found it unnecessary “to delimit the precise contours of the ‘abstract ideas’ category.” *Id.* at 221. The Court explained, however, that the “abstract ideas” category had previously been held to encompass mathematical algorithms and formulas, *id.* at 218 (citation omitted); the concept of hedging against financial risk, *id.* at 219; and “method[s] of organizing human activity,” *id.* at 220. The Court concluded that the claimed invention in *Alice* itself was patent-ineligible because it was directed to

the abstract concept of “intermediated settlement” and added nothing but “generic computer implementation.” *Id.* at 219, 221. The Court noted, in that regard, that the patentee’s method claims did not “purport to improve the functioning of the computer itself” or incorporate “improved computer technology.” *Id.* at 225 (citation omitted).

2. a. Petitioner in No. 21-1281, Interactive Wearables, LLC (Interactive), holds U.S. Patent Nos. 9,668,016 (filed July 12, 2016) (’016 patent) and 10,264,311 (filed Apr. 21, 2017) (’311 patent), covering a wearable content player connected to a remote control. See *Interactive* Pet. 8-11 & n.1. The patents’ shared specification explains that earlier content players did not have a way for users to view information about the content, like the title of a song or the name of a show, while content was playing. See ’016 Patent col. 1 l. 44 - col. 2 l. 42. The remote control for Interactive’s player purports to address that shortcoming by incorporating a screen that can display information about the content being played. See, *e.g.*, *id.* at col. 19 ll. 22-26.

Specifically, claim 32 of the ’016 patent, which the district court treated as representative, recites a “wearable content player” that comprises a “receiver,” “processor,” “memory,” “first display,” and “playing device equipment” consisting of “an audio player.” *Interactive* Pet. App. 5-6 (citation omitted). It further recites that the content player is “configured to be controlled by a wireless remote control device,” which has a “second display”; is configured to “direct[] operations of the wearable content player”; and “provide[s] to the user at least a portion of the information associated with the content.” *Id.* at 6 (citation omitted).

b. Interactive brought suit in district court against respondents, Polar Electro Oy and Polar Electro Inc. (Polar), asserting that they had infringed the '016 and '311 patents through their production and sale of smart-watches designed to operate with remote controls. *Interactive* Pet. App. 3-4. Polar moved to dismiss, arguing that the asserted claims are patent-ineligible under Section 101. *Id.* at 3. The district court agreed and dismissed the complaint with prejudice. *Id.* at 3-46.

At step one of the *Alice* framework, the district court concluded that the challenged claims are directed to the abstract idea of “providing information in conjunction with media content.” *Interactive* Pet. App. 22. The court discounted the claims’ recitation of physical hardware, concluding that “the recited physical components merely provide a generic environment in which to carry out’ th[e] abstract idea,” *id.* at 25 (quoting *In re TLI Commc’ns LLC Patent Litig.*, 823 F.3d 607, 611 (Fed. Cir. 2016)), and that the patent “never suggests that the [content player] itself is improved from a technical perspective, or that it would operate differently than it otherwise could,” *id.* at 19-20 (citation omitted; brackets in original).

At step two, the district court held that the claims do not “recite any elements that individually or as an ordered combination transform the abstract idea’ of providing information in conjunction with media content ‘into a patent-eligible application of that idea.’” *Interactive* Pet. App. 33 (citation omitted). The court concluded that the claims do not reflect an “inventive concept,” *Alice*, 573 U.S. at 217 (citation omitted); see *Interactive* Pet. App. 30, because they are “defined entirely in terms of generic preexisting technology,” *Interactive* Pet. App. 34, or are “given cursory, functional

descriptions,” *id.* at 35. Even considering those components collectively, the court found that the patents do not explain how their “particular arrangement of elements was ‘a technical improvement over prior art.’” *Id.* at 36 (quoting *Amdocs (Israel) Ltd. v. Openet Telecom, Inc.*, 841 F.3d 1288, 1299 (Fed. Cir. 2016), cert. denied, 138 S. Ct. 469 (2017)).

c. A panel of the court of appeals affirmed the district court’s judgment in a non-precedential, per curiam summary order. *Interactive* Pet. App. 1-2. Interactive sought panel rehearing and rehearing en banc, which were denied. *Id.* at 48-49.

3. a. Petitioner in No. 22-22, David Tropp, is the named inventor on U.S. Patent Nos. 7,021,537 (filed Nov. 12, 2003) (’537 patent) and 7,036,728 (filed Nov. 12, 2004) (’728 patent), which claim a “method of improving airline luggage inspection.” *Tropp* Pet. App. 10a (capitalization omitted). The patents’ specifications explain that, beginning in 2003, the Transportation Security Administration (TSA) instructed passengers to leave their checked luggage unlocked so that TSA screeners could inspect luggage contents without cutting any locks. ’537 patent col. 1 ll. 13-25. Tropp’s patents provide for marketing to consumers dual-access locks with a logo signifying to TSA screeners that the lock can be opened with a master key that has been provided to them, thus allowing passengers to lock their checked bags while obviating the need for TSA to cut the locks. *Id.* at col. 2 ll. 28-49.

Specifically, claim 1 of the ’537 patent, which the courts below treated as representative, recites a “method” involving the use of a “special,” dual-access lock having both “a combination lock” and “a master key lock portion,” as well as an “identification structure”

marking the lock. *Tropp* Pet. App. 11a (citation omitted). The claim contemplates that the TSA “has agreed to process” the special lock “in accordance with a special procedure”—namely, TSA screeners will have been “provided” a master key and, upon identifying the lock’s marking, will “use the master key” to open the lock rather than cutting it. *Id.* at 11a-12a (citation omitted). The patent further recites “making available” and “marketing” the lock “in a manner that conveys to the consumers that the special lock will be subjected * * * to the special procedure.” *Id.* at 11a (citation omitted).

b. Travel Sentry, Inc. licenses to lock and luggage manufacturers and distributors a trademark for use on dual-access locks that can be opened by the TSA with a master key. *Tropp* Pet. App. 9a. Travel Sentry and its licensees, respondents here (collectively, Travel Sentry), sued Tropp for a declaratory judgment of non-infringement and invalidity, and Tropp counterclaimed for infringement. *Tropp* Pet. 7. Travel Sentry contended that the claims are patent-ineligible under Section 101. *Tropp* Pet. App. 7a.

The district court granted summary judgment to Travel Sentry. *Tropp* Pet. App. 6a-31a. At step one of the *Alice* framework, the court concluded that the claims are directed to the abstract idea of “the application of dual-access locks to airport luggage inspection.” *Id.* at 21a. And at step two, the court identified “no inventive concept,” reasoning that the claims “simply describe a well-understood and conventional device, a dual-access lock, and incorporate[] it with the fundamental economic practice of baggage inspection at airports.” *Id.* at 26a.

c. The court of appeals affirmed in a per curiam opinion. *Tropp* Pet. App. 1a-5a. At step one, the court

held that the claims are directed to an abstract idea because they “essentially describe[] the basic steps of using and marketing a dual-access lock for luggage inspection, a longstanding fundamental economic practice and method of organizing human activity.” *Id.* at 3a (citation omitted).

At step two, the court of appeals held that the claims do not reflect an “inventive concept” because they identify no “technical specifications or concrete improvements” to the lock that make it “special.” *Tropp* Pet. App. 3a (citations omitted). The court emphasized that there was “no genuine dispute about the fact that dual-access (combination/key) locks were familiar and used in luggage screening, with bags identified by a tag to enable such use.” *Id.* at 4a. The court found that Tropp had forfeited the separate argument that his patents claimed “the creation of novel physical locks with a uniform master key (that works with a variety of locks that have different locking mechanisms).” *Ibid.* (citation omitted); see *id.* at 4a-5a.

DISCUSSION

These cases provide an opportunity for the Court to clarify the proper reach and application of the abstract-idea exception to patent eligibility under Section 101. See *Alice Corp. Pty. v. CLS Bank Int’l*, 573 U.S. 208 (2014); cf. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66 (2012) (parallel exception for laws of nature). Properly construed, that exception helps cabin Section 101’s reach to patent law’s traditional bailiwick of the scientific, technological, and industrial arts. The category of patent-ineligible abstract ideas thus does not encompass quintessentially technological inventions, like the improved content player that the patentee claimed in *Interactive*. By contrast, as the

court of appeals correctly recognized, Section 101 excludes non-technological methods of organizing human activity like the luggage-inspection method claimed in *Tropp*.

Even when an invention is directed to an abstract idea, step two of the Section 101 framework protects inventions that represent a technological application of that idea. A court at step two therefore should ask whether a claimed invention sufficiently transforms an abstract idea into the *kind* of innovation eligible for patent protection. Rather than undertake that inquiry, however, the *Interactive* court placed undue emphasis on considerations of novelty, obviousness, and enablement. Although those considerations may sometimes overlap with the abstract-idea inquiry, they are the purview of different statutory provisions and perform different functions. See 35 U.S.C. 102, 103, 112. By contrast, the *Tropp* court correctly held that nothing in the claimed method transforms it into a *technological* invention.

These cases would be suitable vehicles for providing much-needed clarification in this area. While the decisions below were unanimous, the Federal Circuit has repeatedly divided in recent years over the content of the abstract-idea exception and the proper application of the two-step methodology under Section 101. By reviewing both cases, the Court can illustrate the types of claimed inventions that fall both within and without the scope of the abstract-idea exception. The Court should accordingly grant review in each case on the question presented as framed in this brief. See p. I, *supra*. Because the cases involve application of the abstract-idea exception to two very different inventions, the cases

should not be consolidated, but should be briefed and argued separately.

1. a. Section 101 authorizes the patenting of “any new and useful process [or] machine.” 35 U.S.C. 101. The claimed inventions in these cases fall within the ordinary meaning of Section 101’s terms. See *Bilski v. Kappos*, 561 U.S. 593, 603 (2010) (according the terms in Section 101 their “ordinary, contemporary, common meaning”) (citation omitted). Interactive claims a “machine”—a “tangible system”—in the form of a wearable content player and wireless remote-control device. *Alice*, 573 U.S. at 224; see *Interactive* Pet. App. 5 (patent claiming a “content player comprising” various elements) (citation omitted).¹ Tropp claims a “process” for coordinating one aspect of airport luggage inspection. *Bilski*, 561 U.S. at 606-607; see *Tropp* Pet. App. 11a (patent claiming “method of improving airline luggage inspection * * * comprising” various steps) (citation omitted).

The patent-eligibility disputes here therefore turn on the scope of the abstract-idea exception. This Court has previously declined “to delimit the precise contours of the ‘abstract ideas’ category.” *Alice*, 573 U.S. at 221. But the Court’s precedents provide certain guideposts for ascertaining the exception’s scope. Properly understood, the abstract-idea exception confines patent protection to innovations within patent law’s traditional bailiwick of the scientific, technological, and industrial arts. The exception thus precludes the patenting of both the fundamental building blocks of technological innovations and innovations in non-technological fields.

¹ Interactive’s patents also contain method claims reciting “substantially the same concept,” *Interactive* Pet. App. 6, but the court below did not analyze those claims separately, *id.* at 16.

In describing the scope of patent-eligible subject matter, the Court has explained that “[a]n idea of itself is not patentable” and that “[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.” *Alice*, 573 U.S. at 218 (citations omitted; first set of brackets in original). The abstract-idea exception thus covers purely “intellectual concepts,” like mathematical “algorithm[s].” *Gottschalk v. Benson*, 409 U.S. 63, 67, 72 (1972); see *id.* at 65 (rejecting patent on “procedure for solving a given type of mathematical problem”); *Parker v. Flook*, 437 U.S. 584, 585 (1978) (similar). “[L]ike a law of nature,” “an algorithm” is a “basic tool[] of scientific and technological work.” *Flook*, 437 U.S. at 589 (citation omitted).

The abstract-idea exception also encompasses certain “method[s] of organizing human activity.” *Alice*, 573 U.S. at 220. Strategies for achieving non-technological aims, such as improved techniques for ordering economic relationships, are largely unpatentable. Thus, the Court has rejected patents on the “concept of hedging risk,” *Bilski*, 561 U.S. at 609, and on “a method of exchanging financial obligations between two parties using a third-party intermediary to mitigate settlement risk,” *Alice*, 573 U.S. at 219. In both cases, the inventors impermissibly sought to patent “a fundamental economic practice long prevalent in our system of commerce.” *Ibid.* (quoting *Bilski*, 561 U.S. at 611). Methods of ordering economic relationships do not become patent-eligible simply because they are implemented on a “generic computer.” *Id.* at 225. But a person who invents “improved computer technology,” *ibid.* (citation omitted), may receive a patent if other statutory

conditions are satisfied, even if the main utility of that technological improvement lies in the conduct of business.

The scope of the abstract-idea exception may be further clarified by what it does *not* include. An automobile is not an abstract idea. A remote control is not an abstract idea. A camera is not an abstract idea. Generally speaking, technologies and industrial processes are not abstract ideas. See, *e.g.*, *Alice*, 573 U.S. at 223 (explaining that Section 101 does not preclude patenting an invention “designed to solve a technological problem in ‘conventional industry practice’”) (quoting *Diamond v. Diehr*, 450 U.S. 175, 177 (1981)). That understanding reflects the fact that such inventions have “historically been eligible to receive the protection of our patent laws.” *Diehr*, 450 U.S. at 184. Although borderline cases exist—and *Alice*’s two-step framework exists to assess them—quintessential, non-abstract innovations serve as useful conceptual anchors for delimiting the abstract-idea category.

b. In both *Interactive* and *Tropp*, the lower courts held that the challenged patents are directed to abstract ideas. See *Interactive* Pet. App. 22; *Tropp* Pet. App. 3a; see also *Alice*, 573 U.S. at 217. That holding was erroneous in *Interactive* but correct in *Tropp*.

The *Interactive* patents claim an invention—a wearable content player with a display, controlled by a remote control that displays information about the content being played—that falls within patent law’s traditional coverage of technological and industrial arts. See *Interactive* Pet. App. 5-6. The claim language of the *Interactive* patents recites various electronic hardware components that together compose a mechanical device. *Ibid.* The claims are directed to a “technology or

technical field.” *Alice*, 573 U.S. at 225. Taken as a whole, the claims recite the kind of “machine,” 35 U.S.C. 101, that has always been patent-eligible. See *Corning v. Burden*, 56 U.S. (15 How.) 252, 267 (1854) (“The term machine includes every mechanical device or combination of mechanical powers and devices to perform some function and produce a certain effect or result.”).

In finding the abstract-idea exception to patent-eligibility applicable, the district court concluded “that the invention of the patent is nothing more than the abstract idea of providing information in conjunction with media content.” *Interactive* Pet. App. 22 (citation omitted). But “providing information in conjunction with media content” is not an abstract idea at all. It is not a mathematical formula or “method of organizing human activity.” *Alice*, 573 U.S. at 220. Instead, it is simply the function of the claimed machine described at a high level of generality. The district court’s characterization is akin to saying that a patent for a television is directed to the “abstract idea” of displaying images and sounds. It is difficult to imagine any technological invention that could not be recharacterized as directed to an abstract idea under that approach.

In contrast, the claims in *Tropp* are directed to abstract ideas. *Tropp*’s patents do not claim a physical device, such as the lock itself. See *Tropp* Pet. App. 4a-5a (finding that *Tropp* forfeited the argument that his claims are “directed to ‘the creation of novel physical locks’”) (citation omitted). Instead, the patents claim a “method of improving airline luggage inspection” comprising various steps, which include marketing to consumers a lock that the TSA has agreed to treat in a particular way. *Id.* at 11a (citation omitted); see *id.* at 11a-12a. That claim is fundamentally directed to a “method

of organizing human activity.” *Alice*, 573 U.S. at 220. Specifically, it facilitates coordination between passengers and the TSA in order to minimize the frequency with which the TSA breaks passengers’ luggage locks. The claimed process might also be conceptualized as a method for “marketing” a lock to consumers on the promise that the TSA is less likely to break it. *Tropp* Pet. App. 11a. From that perspective, the patent claims an ineligible “fundamental economic practice.” *Bilski*, 561 U.S. at 611 (citation omitted). Under either view, the patents are directed to an abstract idea.

Tropp argues that his patents do not involve an abstract idea because they recite “specific *physical* products.” Pet. 19. But “if that were the end of the § 101 inquiry, an applicant could claim any principle of the physical or social sciences by reciting a computer system configured to implement the relevant concept.” *Alice*, 573 U.S. at 224. An interior decorator’s approach to arranging furniture involves specific physical products (a chair, sofa, etc.) but would not be patent-eligible. For similar reasons, Tropp’s patents are directed to an abstract idea.

2. a. “[A]n invention is not rendered ineligible for patent simply because it involves an abstract concept.” *Alice*, 573 U.S. at 217; see *ibid.* (“At some level, ‘all inventions . . . embody, use, reflect, rest upon, or apply laws of nature, natural phenomena, or abstract ideas.’”) (quoting *Mayo*, 566 U.S. at 71). At the second step of this Court’s framework, a court determines whether a patent “contains an ‘inventive concept’ sufficient to ‘transform’ the claimed abstract idea into a patent-eligible application.” *Id.* at 221 (quoting *Mayo*, 566 U.S. at 72, 80). The lower courts in both *Interactive* and *Tropp* held that the challenged patents lack the requisite

inventive concept. See *Interactive* Pet. App. 30, 33; *Tropp* Pet. App. 3a. That analysis was once again erroneous in *Interactive* but correct in *Tropp*.

b. Even assuming that the *Interactive* patents are directed to an abstract idea, the district court’s step-two analysis was flawed. The court concluded that the patents fail step two because they do not specify “how [the claimed invention] provides a technical improvement over the prior art.” Pet. App. 38. The court’s heavy emphasis on prior art was misplaced. Patent eligibility should turn principally not on *when* the patent is filed, but on whether the claim represents a “patent-eligible *application*” of a natural law or phenomenon or abstract idea. *Alice*, 573 U.S. at 221 (emphasis added). Although a court’s analysis of obviousness and novelty under Sections 102 and 103 may sometimes overlap with the Section 101 inquiry, see *Mayo*, 566 U.S. at 90, the inquiries should not be conflated, see *Diehr*, 450 U.S. at 190 (“The question * * * of whether a particular invention is novel is ‘wholly apart from whether the invention falls into a category of statutory subject matter.’”) (citation omitted).

The *Interactive* court further criticized the challenged patents for failing to specify, other than in “open-ended” terms, “*how*” they “provide[] a technology-based solution to a problem unique to the field of the claimed invention.” Pet. App. 37-38. But whether a patent “contain[s] a written description of the invention, and of the manner and process of making and using it, in” sufficiently “full, clear, concise, and exact terms” is the purview of the enablement requirement. 35 U.S.C. 112(a). *That* requirement—not Section 101 or the abstract-idea exception—ensures that an inventor provides sufficient

technical detail to demonstrate that he has successfully implemented the claimed invention.

The district court’s analysis in this case reflected a legitimate concern that the Interactive patents may be invalid due to anticipation, obviousness, or inadequate enablement. But applying modified versions of other doctrines in the guise of a Section 101 analysis unmoors those doctrines from the statutory text and diminishes their analytical rigor. See, e.g., *American Axle & Mfg., Inc. v. Neapco Holdings LLC*, 967 F.3d 1285, 1305 (Fed. Cir. 2020) (*American Axle*) (Moore, J., dissenting) (explaining that a “blended 101/112 analysis expands § 101, converts factual issues into legal ones and is certain to cause confusion for future cases”), cert. denied, 142 S. Ct. 2902 (2022). Section 101 should not be understood to incorporate by reference other restrictions on patentability. Rather, it addresses the distinct question whether a claimed invention covers “the type of subject matter that is eligible for patent protection.” *Diehr*, 450 U.S. at 189. Put another way, Section 101 and the abstract-idea exception screen out the sorts of non-technological innovations that do not warrant patent protection *even if* they are novel, nonobvious, and adequately enabled. Here, even assuming that Interactive’s patents are directed to an abstract idea, they transform that idea into a technological application that falls squarely within Section 101’s delineation of patent-eligible subject matter.

c. The *Tropp* court, in contrast, correctly held that the challenged patents add virtually nothing to the abstract idea of coordinating luggage inspection by marketing to consumers a lock that the TSA has agreed to treat in a particular way. “[T]o transform an unpatentable [abstract idea] into a patent-eligible *application* of

such a[n idea], one must do more than simply state the [abstract idea] while adding the words ‘apply it.’” *Mayo*, 566 U.S. at 72. Taken as a whole, the challenged claims do not transform the non-technological abstract idea at the core of the claimed method into something that is technological in character.

The *Tropp* court noted the absence of any “genuine dispute about the fact that dual-access (combination/key) locks were familiar and used in luggage screening” before Tropp filed his patent application. Pet. App. 4a. The court further held that Tropp had failed to preserve any argument that the lock referenced in his method claim represents “a concrete technical advance over earlier dual-access locks.” *Ibid.* Unlike the district court in *Interactive*, however, the court of appeals in *Tropp* did not thereby confuse novelty with patent-eligible subject matter. The court did not analyze whether Tropp’s purported *invention* (i.e., the luggage-screening *method* claimed in the patent) was novel, let alone conflate that issue with the Section 101 inquiry. Rather, the court’s reference to the conventional nature of the lock is best understood as simply confirming, at step two of the *Alice* inquiry, that the abstract idea had not been transformed into a *technological* improvement. That reference was also consistent with the *Alice* Court’s distinction between “‘improved computer technology,’” on the one hand, and use of a “‘generic computer” to implement potentially useful economic arrangements, on the other. 573 U.S. at 225 (citation omitted).

3. Recent Federal Circuit precedent reflects significant confusion over the application of this Court’s Section 101 decisions. *Interactive* and *Tropp* are suitable vehicles for providing needed clarification. The Court

should therefore grant review in both cases on the question presented as reformulated in this brief.

a. In recent years, Section 101 cases have repeatedly fractured the Federal Circuit. See, e.g., *International Bus. Machines Corp. v. Zillow Grp., Inc.*, 50 F.4th 1371 (2022); *Weisner v. Google LLC*, 51 F.4th 1073 (2022); *American Axle, supra*; *Athena Diagnostics, Inc. v. Mayo Collaborative Servs., LLC*, 915 F.3d 743 (2019), cert. denied, 140 S. Ct. 855 (2020); *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371 (2015), cert. denied, 579 U.S. 928 (2016). Ongoing uncertainty has induced “every judge on [the Federal Circuit] to request Supreme Court clarification.” *American Axle & Mfg., Inc. v. Neapco Holdings LLC*, 977 F.3d 1379, 1382 (Fed. Cir. 2020) (Moore, J., concurring).

Interactive is representative of the difficulties the court of appeals has experienced in applying Section 101. The Federal Circuit has repeatedly invoked the abstract-idea exception by describing technological inventions at a high level of generality, and it has repeatedly imported distinct patent-law doctrines into the abstract-idea analysis. See, e.g., *Yu v. Apple Inc.*, 1 F.4th 1040, 1043 (2021) (holding that claims for digital camera were “directed to the abstract idea of taking two pictures * * * and using one picture to enhance the other in some way”), cert. denied, 142 S. Ct. 1113 (2022); *Chamberlain Grp., Inc. v. Techtronic Indus. Co.*, 935 F.3d 1341, 1346 (2019) (similar regarding garage-door opener), cert. denied, 141 S. Ct. 241 (2020); *ChargePoint, Inc. v. SemaConnect, Inc.*, 920 F.3d 759, 766 (2019) (similar regarding electric vehicle charging station), cert. denied, 140 S. Ct. 983 (2020); *Yu*, 1 F.4th at 1047 (Newman, J., dissenting) (accusing majority of applying novelty considerations, which are “not the realm

of Section 101 eligibility”); *American Axle*, 967 F.3d at 1305 (Moore, J., dissenting) (contending that “the majority has imbued § 101 with a new superpower—enablement on steroids”).

The U.S. Patent and Trademark Office (USPTO) has also struggled to apply this Court’s Section 101 precedents in a consistent manner. In 2019, the agency provided its thousands of patent examiners and administrative patent judges with guidance designed to make application of judicial precedents more consistent. *2019 Revised Patent Subject Matter Eligibility Guidance*, 84 Fed. Reg. 50 (Jan. 7, 2019). That guidance noted that applying this Court’s recent Section 101 decisions “in a consistent manner has proven to be difficult”; “has caused uncertainty in this area of the law”; has made it difficult for “inventors, businesses, and other patent stakeholders to reliably and predictably determine what subject matter is patent-eligible”; and “poses unique challenges for the USPTO” itself. *Id.* at 50.

b. These cases are suitable vehicles for providing greater clarity. Because *Tropp* involves an abstract idea but *Interactive* does not, the two cases taken together provide the Court with an opportunity to clarify what kind of inventions fall on each side of the line. They also offer the chance to clarify the Court’s two-step framework and its relationship to other patent doctrines like novelty, obviousness, and enablement. Because the two cases involve the application of Section 101 to substantially different claimed inventions, the cases should not be consolidated, but should be briefed and argued separately.

The *Interactive* respondents note (Br. in Opp. 23) that the court of appeals resolved the case by summary order. But the district court provided thorough reasoning, and

its errors followed directly from governing Federal Circuit precedent. See pp. 7-8, *supra*; see also, *e.g.*, *Interactive* Pet. App. 22, 37 (relying on court of appeals precedent for contested holdings).

The *Tropp* respondents argue (Br. in Opp. 21) that, “to the extent there is any confusion over how to apply Section 101, it lies almost entirely with software and life sciences patents.” But while the difficulties in implementing this Court’s Section 101 precedents have attracted particular attention in certain fields, such as medical diagnostics, see, *e.g.*, *Athena Diagnostics, Inc. v. Mayo Collaborative Servs., LLC*, 927 F.3d 1333, 1352-1353 (Fed. Cir. 2019) (per curiam) (Moore, J., dissenting from the denial of the petition for rehearing en banc), the “inconsistency and unpredictability of adjudication” extend to “all fields,” *Yu*, 1 F.4th at 1049 (Newman, J., dissenting)—as the decision in *Interactive* illustrates. In applying Section 101 to the comparatively less complex inventions at issue in these cases, the Court can more readily draw on historical practice and precedent to clarify the governing principles, which can then be translated to other contexts. And while the *Tropp* respondents assert (Br. in Opp. 29-30) that review is unwarranted because Congress is currently considering legislation that may amend Section 101, the cited bill, see S. 4734, 117th Cong., 2d Sess. (2022), died in committee with the conclusion of the 117th Congress.

c. If the Court grants either or both of the petitions for writs of certiorari in these cases, it should reformulate the questions presented. The *Interactive* petition in particular seeks to inject issues that are not profitably addressed at this stage, including whether “patent eligibility (at each step of the Court’s two-step framework) [is] a question of law for the court based on the

scope of the claims or a question of fact for the jury based on the state of art at the time of the patent.” Pet. i. Resolution of that satellite procedural question depends on the substantive Section 101 standard, see *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384-391 (1996), and answering it would be difficult while uncertainty about the substance of that standard persists. The Court should therefore reformulate the various questions presented to ask simply whether the claimed inventions are ineligible for patent protection under the abstract-idea exception to Section 101. See p. I, *supra*.

CONCLUSION

The petitions for writs of certiorari should be granted on the question presented as framed in this brief.

Respectfully submitted.

| | |
|--------------------------------------------------------------------------|----------------------------------------------------------------------------|
| THOMAS W. KRAUSE <i>Solicitor</i> | ELIZABETH B. PRELOGAR <i>Solicitor General</i> |
| FARHEENA Y. RASHEED <i>Deputy Solicitor</i> | BRIAN M. BOYNTON <i>Principal Deputy Assistant Attorney General</i> |
| AMY J. NELSON <i>Senior Counsel for Patent Law and Litigation</i> | MALCOLM L. STEWART <i>Deputy Solicitor General</i> |
| ROBERT J. MCMANUS | AUSTIN L. RAYNOR <i>Assistant to the Solicitor General</i> |
| ROBERT E. MCBRIDE <i>Associate Solicitors</i> | JOSHUA SALZMAN |
| <i>United States Patent and Trademark Office</i> | STEVEN HAZEL |
| | BEN LEWIS <i>Attorneys</i> |

APRIL 2023