

No. 08-964

In the Supreme Court of the United States

BERNARD L. BILSKI AND RAND A. WARSAW,
PETITIONERS

v.

DAVID J. KAPPOS, UNDER SECRETARY OF COMMERCE
FOR INTELLECTUAL PROPERTY AND DIRECTOR,
UNITED STATES PATENT AND TRADEMARK OFFICE

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

BRIEF FOR THE RESPONDENT

CAMERON F. KERRY
General Counsel

QUENTIN A. PALFREY
Associate General Counsel

JOAN BERNOTT MAGINNIS
*Assistant General Counsel
U.S. Department of
Commerce
Washington, D.C. 20230*

RAYMOND T. CHEN
*Solicitor and Deputy
General Counsel*

THOMAS W. KRAUSE
SCOTT C. WEIDENFELLER
*Associate Solicitors
U.S. Patent and Trademark
Office
Alexandria, VA 22313*

ELENA KAGAN
*Solicitor General
Counsel of Record*

MALCOLM L. STEWART
Deputy Solicitor General

TONY WEST
Assistant Attorney General

GINGER D. ANDERS
*Assistant to the Solicitor
General*

SCOTT R. MCINTOSH
MARK R. FREEMAN
*Attorneys
Department of Justice
Washington, D.C. 20530-0001
(202) 514-2217*

QUESTION PRESENTED

Whether a method of hedging financial risk that neither concerns the use of a particular machine or apparatus nor effects a transformation of matter into a different state or thing is eligible for patent protection under 35 U.S.C. 101.

TABLE OF CONTENTS

	Page
Opinions below	1
Jurisdiction	1
Constitutional and statutory provisions involved	2
Statement	2
Summary of argument	8
Argument:	
I. Section 101 protects industrial and technological processes, and it excludes methods directed to organizing human activity	11
A. Section 101 sweeps broadly but imposes meaningful limits on the scope of patent protection	11
B. The term “process” in Section 101 encompasses technological and industrial processes but excludes methods of organizing human activity	15
1. The historical meaning of the terms “process” and useful “art” demonstrates that only technological and industrial processes are patent-eligible	16
2. The statutory context confirms that only technological and industrial methods are patent-eligible “processes”	26
C. A patent-eligible “process” under Section 101 is one that concerns the operation of a particular machine or apparatus or effects a transformation of matter into a different state or thing	29
1. This Court has consistently used the machine-or-transformation test to identify patent-eligible processes	29

IV

Table of Contents—Continued:	Page
2. A process is patent-eligible if it concerns the operation of a machine or effects a transformation of matter into a different state or thing	33
3. The machine-or-transformation test accommodates evolving technology	36
4. The alternative tests for patent-eligibility proposed by petitioners and amici do not appropriately limit patent protection	44
II. Section 273 does not implicitly expand the categories of patent-eligible subject matter in Section 101	46
III. The court of appeals correctly rejected petitioners' claimed method of hedging financial risk under Section 101	51
Conclusion	55

TABLE OF AUTHORITIES

Cases:

<i>Alappat, In re</i> , 33 F.3d 1526 (Fed. Cir. 1994)	39
<i>American Fruit Growers, Inc. v. Brogdex Co.</i> , 283 U.S. 1 (1931)	13, 26, 44
<i>AT&T Corp. v. Excel Commc'ns, Inc.</i> , 172 F.3d 1352 (Fed. Cir.), cert. denied, 528 U.S. 946 (1999)	5
<i>Bonito Boats, Inc. v. Thunder Craft Boats, Inc.</i> , 489 U.S. 141 (1989)	12, 13, 22, 44
<i>Boulton v. Bull</i> , 126 Eng. Rep. 651 (C.P. 1795)	20
<i>Chicago Sugar-Refining Co. v. Charles Pope Glucose Co.</i> , 84 F. 977 (7th Cir. 1898)	30
<i>Cochrane v. Deener</i> , 94 U.S. 780 (1877)	<i>passim</i>

Cases—Continued:	Page
<i>Comiskey, In re</i> , 554 F.3d 967 (Fed. Cir. 2009)	50
<i>Corning v. Burden</i> , 56 U.S. (15 How.) 252 (1854)	13, 14, 26, 32, 43
<i>Cowles Co. v. Frost-White Paper Mills</i> , 174 F.2d 868 (2d Cir. 1949)	30
<i>Dann v. Johnston</i> , 425 U.S. 219 (1976)	39
<i>Diamond v. Chakrabarty</i> , 447 U.S. 303 (1980)	11, 12, 13, 26, 28, 44
<i>Diamond v. Diehr</i> , 450 U.S. 175 (1981)	<i>passim</i>
<i>eBay Inc. v. MercExchange, L.L.C.</i> , 547 U.S. 388 (2006)	43
<i>Eldred v. Ashcroft</i> , 537 U.S. 186 (2003)	17
<i>Expanded Metal Co. v. Bradford</i> , 214 U.S. 366 (1909)	25, 30, 33
<i>Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.</i> , 535 U.S. 722 (2002)	41, 43
<i>Funk Bros. Seed Co. v. Kalo Inoculant Co.</i> , 333 U.S. 127 (1948)	34
<i>Garcia v. United States</i> , 469 U.S. 70 (1984)	48
<i>Gottschalk v. Benson</i> , 409 U.S. 63 (1972)	<i>passim</i>
<i>Graham v. John Deere Co.</i> , 383 U.S. 1 (1966)	19, 21
<i>Holland Furniture Co. v. Perkins Glue Co.</i> , 277 U.S. 245 (1928)	30
<i>Hotel Sec. Checking Co. v. Lorraine Co.</i> , 160 F. 467 (2d Cir. 1908)	24
<i>J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.</i> , 534 U.S. 124 (2001)	12, 43, 49, 50
<i>Jarecki v. G.D. Searle & Co.</i> , 367 U.S. 303 (1961)	26

VI

Cases—Continued:	Page
<i>Kewanee Oil Co. v. Bicron Corp.</i> , 416 U.S. 470 (1974)	13, 46
<i>King, In re</i> , 801 F.2d 1324 (Fed. Cir. 1986)	54
<i>KSR Int’l Co. v. Teleflex Inc.</i> , 550 U.S. 398 (2007)	43
<i>Laboratory Corp. of Am. Holdings v. Metabolite Labs., Inc.</i> , 548 U.S. 124 (2006)	13
<i>Microsoft Corp. v. AT&T Corp.</i> , 550 U.S. 437 (2007)	38, 39
<i>Miller v. Electro Bleaching Gas Co.</i> , 276 F. 379 (8th Cir. 1921), cert. denied, 257 U.S. 660 (1922)	30
<i>O’Reilly v. Morse</i> , 56 U.S. (15 How.) 62 (1854)	45, 54
<i>Parker v. Flook</i> , 437 U.S. 584 (1978)	<i>passim</i>
<i>Patton, In re</i> , 127 F.2d 324 (C.C.P.A. 1942)	24
<i>Paulik v. Rizkalla</i> , 760 F.2d 1270 (Fed. Cir. 1985)	19
<i>P.E. Sharpless Co. v. Crauford Farms, Inc.</i> , 287 F. 655 (2d Cir. 1923)	30
<i>Pennock v. Dialogue</i> , 27 U.S. (2 Pet.) 1 (1829)	19
<i>Pfaff v. Wells Elecs., Inc.</i> , 525 U.S. 55 (1998)	25
<i>Prometheus Labs., Inc. v. Mayo Collaborative Servs.</i> , No. 2008-1403, 2009 WL 2950232 (Fed. Cir. Sept. 16, 2009)	40
<i>Risdon Iron & Locomotive Works v. Medart</i> , 158 U.S. 68 (1895)	30
<i>State Street Bank & Trust Co. v. Signature Fin. Group, Inc.</i> , 149 F.3d 1368 (Fed. Cir. 1998), cert. denied, 525 U.S. 1093 (1999)	5, 6, 10, 40, 47, 51
<i>Shell Dev. Co. v. Watson</i> , 149 F. Supp. 279 (D.D.C. 1957), aff’d, 252 F.2d 861 (D.C. Cir. 1958)	14, 26
<i>The Telephone Cases</i> , 126 U.S. 1 (1888)	14, 30

VII

Cases—Continued:	Page
<i>Tilghman v. Proctor</i> , 102 U.S. 707 (1881)	31, 32
<i>United States v. Williams</i> , 128 S. Ct. 1830 (2008)	26
<i>Waxham v. Smith</i> , 294 U.S. 20 (1935)	30
<i>Whitman v. American Trucking Ass'ns</i> , 531 U.S. 457 (2001)	48
<i>Yuan, In re</i> , 188 F.2d 377 (C.C.P.A. 1951)	22, 30
Constitution and statutes:	
U.S. Const. Art. 1, § 8, Cl. 8 (Patent Clause)	2, 11, 22
Act of April 10, 1790, ch. 7, 1 Stat. 110	14
Act of Feb. 21, 1793, ch. 11, 1 Stat. 318	11
§ 1, 1 Stat. 319	14
Act of July 4, 1836, ch. 357, 5 Stat. 117	16
First Inventor Defense Act of 1999, Pub. L. No. 106-113, § 4302(a), 113 Stat. 1501A-555 (35 U.S.C. 273)	<i>passim</i>
35 U.S.C. 273(a)(3)	46, 49
35 U.S.C. 273(b)	46
35 U.S.C. 273(b)(1)	47
Patent Act of 1952, 35 U.S.C. 1 <i>et seq.</i>	9
35 U.S.C. 100(b)	14, 15, 27
35 U.S.C. 101	<i>passim</i>
35 U.S.C. 102	39, 46
35 U.S.C. 103	39, 43, 46
35 U.S.C. 112	39, 46
35 U.S.C. 141	5
35 U.S.C. 283	43

VIII

Miscellaneous:	Page
145 Cong. Rec. 30,634 (1999)	48
Robert I. Coulter, <i>The Field of the Statutory Useful Arts: Part II</i> , 34 J. Pat. Off. Soc’y 487 (1952)	16, 18
Tench Coxe:	
<i>A Statement of the Arts and Manufactures of the United States of America for the Year 1810 (1814)</i>	17, 18
<i>An Address to an Assembly of the Friends of American Manufactures (1787)</i>	17
Daniel Defoe, <i>A General History of Discoveries and Improvements in Useful Arts (1727)</i>	17
1 Anthony William Deller, <i>Walker on Patents (1937)</i>	14
B.S. Everitt, <i>The Cambridge Dictionary of Statistics (3d ed. 2006)</i>	52
<i>The Federalist</i> No. 8 (Alexander Hamilton) (Rossiter ed., 1961)	18
P.J. Federico:	
<i>Operation of the Patent Act of 1790, 18 J. Pat. Off. Soc’y 237 (1936)</i>	22
<i>The First Patent Act, 14 J. Pat. Off. Soc’y 237 (1932)</i>	23
Michael O. Finkelstein & Bruce Levin, <i>Statistics for Lawyers (1990)</i>	52
H.R. Rep. No. 1923, 82d Cong., 2d Sess. (1952)	17, 28
H.R. Rep. No. 287, 106th Cong., 1st Sess. (1999)	47
H.R. Rep. No. 464, 106th Cong., 1st Sess. (1999)	47

IX

Miscellaneous—Continued:	Page
<i>Johnson's Dictionary of the English Language, in Minature</i> (Joseph Hamilton ed., C. Whittingham 1818)	17
W. Kenrick, <i>An Address to the Artists and Manufacturers of Great Britain</i> (1774)	17
George Logan, <i>A Letter to the Citizens of Pennsylvania, on the Necessity of Promoting Agriculture, Manufactures, and the Useful Arts</i> (1800)	17
Karl B. Lutz, <i>Patents and Science: A Clarification of the Patent Clause of the U.S. Constitution</i> , 18 Geo. Wash. L. Rev. 50 (1949)	17, 18
14 <i>The Papers of Thomas Jefferson</i> (Julian P. Boyd ed., Princeton University Press 1958)	18
Malla Pollack, <i>The Multiple Unconstitutionality of Business Method Patents: Common Sense, Congressional Consideration, and Constitutional History</i> , 28 Rutgers Computer & Tech. L.J. 61 (2002)	20, 22, 23, 24
2 <i>The Records of the Federal Convention of 1787</i> (Max Farrand ed., 1966)	22
Giles S. Rich, <i>Principles of Patentability</i> , 28 Geo. Wash. L. Rev. 393 (1960)	27
1 William C. Robinson, <i>The Law of Patents for Useful Inventions</i> (1890)	25
Arthur H. Seidel, <i>The Constitution and a Standard of Patentability</i> , 48 J. Pat. Off. Soc'y 5 (1966)	17
S. Rep. No. 1979, 82d Cong., 2d Sess. (1952)	14, 28

Miscellaneous—Continued:	Page
United States PTO, <i>Interim Examination Instructions for Evaluating Subject matter Eligibility Under 35 U.S.C. § 101</i> (Aug. 24, 2009)	38, 39, 53
Edward C. Walterscheid:	
<i>The Early Evolution of the United States Patent Law: Antecedents (Part 2)</i> , 76 J. Pat. & Trademark Off. Soc’y 849 (1994)	21
<i>To Promote the Progress of Science and Useful Arts: The Background and Origin of the Intellectual Property Clause of the United States Constitution</i> , 2 J. Intell. Prop. L. 1 (1994)	22
<i>To Promote the Progress of Useful Arts: American Patent Law and Administration, 1798-1836</i> (1998)	23
1 Noah Webster, <i>An American Dictionary of the English Language</i> (1828)	16
Eric Wertheimer, <i>Underwriting: The Poetics of Insurance in America, 1722-1872</i> (Stanford University Press 2006)	24
5 <i>Writings of Thomas Jefferson</i> (Washington ed. 1871)	11
Bennet Woodcroft, <i>Alphabetical Index of Patentees of Inventions, from March 2, 1617 (14 James I) to October 1, 1852 (16 Victoriae)</i> (2d ed. 1857)	20

In the Supreme Court of the United States

No. 08-964

BERNARD L. BILSKI AND RAND A. WARSAW,
PETITIONERS

v.

DAVID J. KAPPOS, UNDER SECRETARY OF COMMERCE
FOR INTELLECTUAL PROPERTY AND DIRECTOR,
UNITED STATES PATENT AND TRADEMARK OFFICE

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

BRIEF FOR THE RESPONDENT

OPINIONS BELOW

The opinion of the court of appeals (Pet. App. 1a-143a) is reported at 545 F.3d 943. The decision of the Board of Patent Appeals and Interferences (Pet. App. 146a-205a) is unreported.

JURISDICTION

The judgment of the court of appeals was entered on October 30, 2008. The petition for a writ of certiorari was filed on January 28, 2009, and was granted on June 1, 2009. This jurisdiction of this Court rests on 28 U.S.C. 1254(1).

**CONSTITUTIONAL AND STATUTORY
PROVISIONS INVOLVED**

Article I, Section 8, Clause 8 of the Constitution provides:

The Congress shall have Power * * * [t]o promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries[.]

35 U.S.C. 101 provides:

Whoever 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.

STATEMENT

This case arises from a decision of the United States Patent and Trademark Office (PTO) rejecting all claims in petitioners' patent application for lack of patent-eligible subject matter under 35 U.S.C. 101. Pet. App. 2a. The en banc court of appeals affirmed. *Id.* at 1a-143a.

1. Petitioners seek to patent a method of hedging various consumer cost risks in the purchase and sale of commodities. Pet. App. 2a-3a; see J.A. 10-23 (U.S. Patent Application No. 08/833,892). Petitioners' claims describe a "risk management method" that would offset consumer cost risks associated with, for example, fluctuations in weather during the winter, "essentially guarantee[ing] the customer a normal winter [by] lock[ing] in a payment stream (a fixed energy bill) for whatever period the consumer wishes." J.A. 11 (Summary of the Invention). This reduction of risk would be accom-

plished by arranging offsetting transactions with “counterparties,” such as energy utilities, “that have an opposite appetite for the risk” of weather-related costs. J.A. 14-15.

Claim 1 of petitioners’ application encompasses a method for hedging risk in any commodities transaction:

A method for managing the consumption risk costs of a commodity sold by a commodity provider at a fixed price comprising the steps of:

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

Pet. App. 2a-3a. The other 10 claims in the application recite more specific variations on this hedging method. *Ibid.*

Although entitled “Energy Risk Management Method,” J.A. 10, the patent application’s claim language is broad, and stresses that the claimed method is not limited to energy prices or weather risks. “[I]t is to be distinctly understood that the present method can be used

for any commodity to manage consumption risk in a fixed bill price product.” J.A. 11. In addition, as the court of appeals observed, nothing in the claimed method requires actual commodities to change hands, so that the method can be carried out using options, Pet. App. 3a; nor does the method specify steps for identifying counterparties or carrying out the transactions.

2. The PTO examiner rejected the application for lack of patent-eligible subject matter under 35 U.S.C. 101. Pet. App. 4a. An expanded five-judge panel of the PTO’s Board of Patent Appeals and Interferences (Board) affirmed the examiner’s decision. *Id.* at 146a-205a. The Board emphasized that petitioners’ claims “do not recite any specific way of implementing the steps; do not expressly or impliedly recite any physical transformation of physical subject matter, tangible or intangible, from one state into another; do not recite any electrical, chemical, or mechanical acts or results; * * * and do not involve making or using a machine, manufacture, or composition of matter.” *Id.* at 150a. Rather, the claimed method involves only the manipulation of “financial risks and legal liabilities of the commodity provider, the consumer, and the market participants having a counter-risk position to the consumer.” *Id.* at 182a. The Board concluded that a process claim of this kind is not patent-eligible under 35 U.S.C. 101. Pet. App. 182a.

The Board also found petitioners’ hedging method unpatentable on the independent ground that the claimed method is so broad as to preempt “any and every possible way of performing the steps of the plan” for managing consumption risk. Pet. App. 184a. Stressing that the claims involve no specific physical steps or other concrete limitations, the Board concluded that the claim

is “directed to the ‘abstract idea’ [of hedging consumption risk] itself, rather than a practical implementation of the concept.” *Ibid.*

3. a. Petitioners appealed to the United States Court of Appeals for the Federal Circuit. See 35 U.S.C. 141. After briefing and argument before a three-judge panel, but before the panel issued a decision, the court of appeals *sua sponte* ordered that the appeal be heard en banc. Pet. App. 144a. The court directed the parties to file supplemental briefs addressing, *inter alia*, whether the court should reconsider or overrule *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), cert. denied, 525 U.S. 1093 (1999), and *AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352 (Fed. Cir.), cert. denied, 528 U.S. 946 (1999), the cases on which many patent applicants had relied in urging that any series of steps having a “useful, concrete, and tangible result” qualifies as a patent-eligible process. Pet. App. 144a-145a.

b. The en banc court of appeals affirmed the Board’s decision. Pet. App. 1a-143a. After reviewing this Court’s precedents discussing the patent eligibility of processes, *id.* at 7a-12a, the court concluded that a claimed process qualifies for patent protection if “(1) it is tied to a particular machine or apparatus, or (2) it transforms a particular article into a different state or thing.” *Id.* at 12a; see *id.* at 12a-13a (citing *Diamond v. Diehr*, 450 U.S. 175, 192 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 788 (1877)). The court of appeals observed that this Court had applied the “machine-or-transformation test” in *Diehr*, and that such an approach is consistent with this Court’s earlier decisions construing Section 101 and its

predecessor provisions. Pet. App. 14a & n.8; see *id.* at 15a-16a (“[t]ransformation and reduction of an article ‘to a different state or thing’ is *the* clue to the patentability of a process claim that does not include particular machines”) (quoting *Benson*, 409 U.S. at 70, and *Cochrane*, 94 U.S. at 788) (emphasis added by court of appeals); *id.* at 16a-17a (same) (quoting *Diehr*, 450 U.S. at 184). The court recognized that “future developments in technology and the sciences may present difficult challenges” in applying that test, and acknowledged the possibility that the Federal Circuit (or this Court) “may in the future refine or augment the test or how it is applied.” *Id.* at 17a. The court of appeals stated, however, that “for the present case” the machine-or-transformation test is controlling. *Id.* at 17a & n.12.

The court of appeals also identified two “corollary” principles, each drawn from this Court’s cases, governing application of the machine-or-transformation test. First, “mere field-of-use limitations are generally insufficient to render an otherwise ineligible process claim patent-eligible.” Pet. App. 18a (citing *Diehr*, 450 U.S. at 191-192). Second, “insignificant post[-]solution activity will not transform an unpatentable principle into a patentable process.” *Id.* at 19a (quoting *Diehr*, 450 U.S. at 191-192); *ibid.* (citing *Flook*, 437 U.S. at 590).

The court of appeals rejected statements in its own decisions that were inconsistent with the machine-or-transformation test. Pet. App. 21a-27a. In particular, the court revisited the oft-quoted language in *State Street Bank* and related cases suggesting that any process that yields a “useful, concrete and tangible result” is eligible for patent protection. *State Street Bank*, 149 F.3d at 1373; see Pet. App. 22a-23a (collecting cases). The court explained (*id.* at 23a-24a) that, although that

formulation “may in many instances provide useful indications of whether a claim is drawn to a fundamental principle or a practical application of such a principle” (by which the court meant “laws of nature, natural phenomena, and abstract ideas,” *id.* at 8a n.5), the “result” standard is not by itself sufficient to distinguish patent-eligible from ineligible processes.

The court of appeals concluded that petitioners’ claimed hedging method “entirely fails the machine-or-transformation test.” Pet. App. 32a. The court stressed that the claimed process does not transform matter into a different state or thing, but at most involves modifications “of public or private legal obligations or relationships, business risks, or other such abstractions.” *Ibid.* The court further explained that petitioners’ claims do not require the use of any particular machine or apparatus. *Ibid.* The court also stated that “claim 1 would effectively pre-empt any application of the fundamental concept of hedging” the consumer cost risk of a commodity. *Id.* at 36a. Accordingly, the court concluded that petitioners’ “claim is not drawn to patent-eligible subject matter under [Section] 101.” *Id.* at 37a.

c. Judge Dyk, joined by Judge Linn, filed a concurring opinion reviewing the history of Section 101. Pet. App. 38a-59a. The concurring judges concluded that “the unpatentability of processes not involving manufactures, machines, or compositions of matter has been firmly embedded in the statute since the time of the Patent Act of 1793.” *Id.* at 38a. Those judges stressed in particular that “[t]here is no suggestion in any of this early [history] of process patents that processes for organizing human activity were or ever had been patentable.” *Id.* at 50a.

d. Judges Newman (Pet. App. 60a-105a), Mayer (*id.* at 106a-133a), and Rader (*id.* at 134a-143a) filed separate dissenting opinions. Of the dissenters, only Judge Newman would have held petitioners' claims patent-eligible under Section 101, on the ground that they described "a 'process' set out in successive steps," and did not preempt a fundamental principle. See *id.* at 100a-101a; *id.* at 104a. Judge Mayer would have held that process claims "directed to a method of conducting business," including petitioners' claims, are categorically ineligible for patent protection. *Id.* at 106a. Judge Rader would have rejected petitioners' application solely on the ground that it seeks to patent an abstract idea. *Id.* at 134a; see *id.* at 139a.

SUMMARY OF ARGUMENT

This case presents the question whether petitioners' claimed hedging method is a patent-eligible "process" under 35 U.S.C. 101. Interpreted in light of the historical scope and development of the patent laws, as well as the statutory context, the term "process" encompasses all technological and industrial processes, broadly conceived. But it does not extend patent-eligibility beyond those bounds, to methods of organizing human activity that are untethered to technology—*e.g.*, methods by which people conduct economic, social, or legal tasks, such as entering into contracts, playing poker, or choosing a jury. Such methods fall outside of the broad expanse of technological and industrial fields that "the statute was enacted to protect." *Parker v. Flook*, 437 U.S. 584, 593 (1978). Because petitioners' hedging method relates solely to human conduct, untethered to any technology—any machine or transformation of matter—it falls outside the coverage of Section 101.

I. The historical understanding of the term “process” and its statutory precursor “art” demonstrates that technological and industrial processes are the “types which have historically been eligible to receive the protection of our patent laws.” *Diamond v. Diehr*, 450 U.S. 175, 184 (1981). Methods of organizing human activity are not patent-eligible “process[es]” within the meaning of Section 101. When Congress enacted the initial patent statutes in 1790 and 1793, the processes deemed eligible for patent protection were those involving the “useful arts”—namely, the fields of technology and industry, as opposed to the fields of general knowledge and economic endeavor. This Court and others applied that approach, emphasizing the technological nature of patent-eligible processes, through the enactment of the current statute, the Patent Act of 1952, 35 U.S.C. 1 *et seq.* The statutory context confirms this understanding of “process,” as the term appears together with other categories of patent-eligible subject matter—machines, compositions of matter, and manufactures—that “are things made by man[,] and involve technology.” Pet. App. 194a.

This Court has long recognized that the distinguishing feature of a technological process is that it concerns a particular machine or apparatus or effects a transformation of matter to a different state or thing. See, *e.g.*, *Diehr*, 450 U.S. at 184; *Cochrane v. Deener*, 94 U.S. 780 (1877). That understanding of the term “process” in Section 101 continues to provide an appropriate framework for distinguishing methods that involve technology—including claims concerning software and other modern technologies—from those that do not. In contrast, petitioners’ proposed definition, which would encompass any series of steps culminating in a useful re-

sult, whether or not technological in nature, Pet. Br. 43-44, would permit patents for a vast swath of human activities far removed from the essential purposes and historical scope of the patent laws.

II. Congress's enactment of 35 U.S.C. 273 does not suggest that methods of organizing human activity are patent-eligible "processes" under Section 101. Congress enacted Section 273 in response to *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (Fed. Cir. 1998), which held that inventions that otherwise satisfy Section 101's requirements should not be excluded from patent protection simply because they relate to business activities. Section 273 provides an affirmative defense to protect businesses that had been using methods previously regarded as unpatentable. Congress's decision to limit the practical impact of *State Street* in that manner does not suggest that Congress viewed *State Street* as extending patent protection to non-technological methods of organizing human activity, much less that it approved or impliedly ratified such a drastic expansion of patent-eligible subject matter.

III. Petitioners' method for hedging risk in the purchase and sale of commodities—a technique for organizing human activity untethered to technology—is not a "process" eligible for patent protection under 35 U.S.C. 101. Petitioners' claimed method is not directed to the operation of a particular machine or apparatus, nor does it involve the transformation of matter into a different state or thing. Petitioners' hedging method is also ineligible for a patent on the independent ground that it would preempt the abstract idea of hedging consumption risk.

ARGUMENT

I. SECTION 101 PROTECTS INDUSTRIAL AND TECHNOLOGICAL PROCESSES, AND IT EXCLUDES METHODS DIRECTED TO ORGANIZING HUMAN ACTIVITY

A. Section 101 Sweeps Broadly But Imposes Meaningful Limits On The Scope Of Patent Protection

1. The Patent Clause of the Constitution authorizes Congress “[t]o promote the Progress of * * * useful Arts, by securing for limited Times to * * * Inventors the exclusive Right to their * * * Discoveries.” U.S. Const. Art. 1, § 8, Cl. 8. Congress has exercised that authority in the Patent Act, which provides, in relevant part:

Whoever 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.

Section 101 defines in “expansive terms” the categories of patent-eligible inventions. *Diamond v. Chakrabarty*, 447 U.S. 303, 308 (1980). Thomas Jefferson, an author of the Act of Feb. 21, 1793 (1793 Patent Act), ch. 11, 1 Stat. 318, desired that “ingenuity should receive a liberal encouragement,” and broad and flexible patent laws are integral to that goal. See *Chakrabarty*, 447 U.S. at 308-309 (quoting 5 *Writings of Thomas Jefferson* 75-76 (Washington ed. 1871)). Consistent with that intent, “[t]he subject-matter provisions of the patent law have been cast in broad terms to fulfill the constitutional and statutory goal of promoting ‘the Progress of Science and the useful Arts’ with all that means for the social

and economic benefits envisioned by Jefferson.” *Id.* at 315; see *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int’l, Inc.*, 534 U.S. 124, 130 (2001) (“In choosing such expansive terms as ‘manufacture’ and ‘composition of matter,’ modified by the comprehensive ‘any,’ Congress plainly contemplated that the patent laws would be given wide scope.”) (quoting *Chakrabarty*, 447 U.S. at 308).

“Broad,” however, does not mean unbounded. Although the prospect of patent protection may create incentives for research and innovation that would not otherwise occur, the restrictions imposed by the patent laws entail social costs as well. For instance, patent protection may have the effect of excluding would-be competitors who could produce a patented invention more efficiently, thereby inhibiting post-invention competition and innovation. The Patent Act therefore “reflects a balance between the need to encourage innovation and the avoidance of monopolies which stifle competition without any concomitant advance in the ‘Progress of Science and useful Arts.’” *Bonito Boats, Inc. v. Thunder Craft Boats, Inc.*, 489 U.S. 141, 146 (1989).

Section 101 reflects Congress’s determination that, for specified categories of subject matter (processes, machines, manufactures, and compositions of matter), the goal of fostering innovation may justify the restrictions on post-invention competition that the patent laws impose. Section 101 also makes clear, however, that inventions falling outside those broad but bounded categories are ineligible for patent protection even if they satisfy the Patent Act’s other requirements. “[N]o patent is available for a discovery, however useful, novel, and nonobvious, unless it falls within one of the express categories of patentable subject matter of 35 U.S.C.

§ 101.” *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 483 (1974). By “bring[ing] certain types of invention and discovery within the scope of patentability while excluding others,” the Patent Act of 1952 “seeks to avoid the dangers of overprotection just as surely as it seeks to avoid the diminished incentive to invent that underprotection can threaten.” *Laboratory Corp. of Am. Holdings v. Metabolite Labs., Inc.*, 548 U.S. 124, 127 (2006) (*LabCorp*) (Breyer, J., dissenting from dismissal of a writ of certiorari). In this important respect, the federal patent laws “determine not only what is protected, but also what is free for all to use.” *Bonito Boats*, 489 U.S. at 151.

2. In applying Section 101 and its predecessors to specific inventions, the Court has provided a concrete definition for each of the four statutory categories. See, e.g., *Diamond v. Diehr*, 450 U.S. 175, 184 (1981) (“Transformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.”) (quoting *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972), and *Cochrane v. Deener*, 94 U.S. 780, 787-788 (1877)); *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.”); *American Fruit Growers, Inc. v. Brogdex Co.*, 283 U.S. 1, 11 (1931) (“manufacture” means “anything made for use from raw or prepared materials,” including by “giving to these materials new forms, qualities, properties, or combinations, whether by hand-labor or by machinery”); *Chakrabarty*, 447 U.S. at 308 (“composition of matter” means “all compositions of two or more substances and . . . all composite articles, whether they be

the results of chemical union, or of mechanical mixture, or whether they be gases, fluids, powders or solids”) (quoting *Shell Dev. Co. v. Watson*, 149 F. Supp. 279, 280 (D.D.C. 1957), *aff’d*, 252 F.2d 861 (D.C. Cir. 1958) (citing 1 Anthony William Deller, *Walker on Patents* § 14, at 55 (1937))).

For more than a century, the Court has used essentially the same formulation to define a patent-eligible “process.” In *Diehr*, the Court “determine[d] [the] meaning” of the term “process” in Section 101, 450 U.S. at 182, by canvassing the Court’s historical understanding of that term and its statutory precursor, “art.” The Court observed that, “[a]lthough the term ‘process’ was not added to 35 U.S.C. § 101 until 1952, a process has historically enjoyed patent protection because it was considered a form of ‘art’ as that term was used in the 1793 Act.” *Ibid.*¹ For that reason, the Court explained, “[a]nalysis of the eligibility of a claim of patent protection for a ‘process’ did not change with the addition of that term to § 101.” *Id.* at 184. The Court summed up its longstanding construction as follows: “Transformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim

¹ Congress first added the phrase “new and useful process” to Section 101 in the 1952 recodification of the patent laws, substituting it for “new and useful art.” The term “art” had appeared in the Act of April 10, 1790 (1790 Patent Act), ch. 7, 1 Stat. 110; in the 1793 Patent Act, which encompassed “any new and useful art, machine, manufacture or composition of matter, or any new and useful improvement [thereof],” 1793 Patent Act § 1, 1 Stat. 319; and in every subsequent patent statute until 1952. As used in those statutes, “art” was construed to be “practically synonymous with process or method.” S. Rep. No. 1979, 82d Cong., 2d Sess. 5 (1952); see, e.g., *The Telephone Cases*, 126 U.S. 1, 533 (1888); *Corning*, 56 U.S. (15 How.) at 267; cf. 35 U.S.C. 100(b) (“process” means “process, art or method”).

that does not include particular machines.” *Ibid.* (citations omitted); see, e.g., *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Cochrane*, 94 U.S. at 788; pp. 29-33, *infra*.² Such “[i]ndustrial processes,” the Court concluded, “are the types which have historically been eligible to receive the protection of our patent laws.” *Diehr*, 450 U.S. at 184.

B. The Term “Process” In Section 101 Encompasses Technological And Industrial Processes But Excludes Methods Of Organizing Human Activity

Petitioners contend that the term “process” in Section 101 sweeps beyond innovations satisfying the machine-or-transformation test and encompasses any series of steps that culminates in a useful result, so long as it is not in essence a fundamental principle or abstract idea. Pet. Br. 43-44. That open-ended definition would extend patent protection to methods, such as petitioners’ claimed process for hedging consumption risk in commodity markets, that involve the organization of human activity alone and do not include any technological or industrial component. Petitioners’ near-boundless conception of “process” cannot be reconciled with the meaning that the term takes from its history and statutory context.

² As the *Diehr* Court noted, 450 U.S. at 181 n.6, Section 100(b), also added in 1952, provides a definition of “process”: “The term ‘process’ means process, art, or method, and includes a new use of a known process, machine, manufacture, composition of matter, or material.” 35 U.S.C. 100(b); see Pet. App. 7a n.3.

1. The historical meaning of the terms “process” and useful “art” demonstrates that only technological and industrial processes are patent-eligible

a. The term “process” and its statutory precursor, “art,” have historically been understood as limited to technological and industrial methods. The 1790 Patent Act was entitled “An Act to Promote the Progress of Useful Arts,” as was the 1793 Patent Act and subsequent statutes. See Robert I. Coulter, *The Field of the Statutory Useful Arts: Part II*, 34 J. Pat. Off. Soc’y 487, 490 (1952) (Coulter); see also Act of July 4, 1836, ch. 357, 5 Stat. 117. In eighteenth century usage, “useful arts” referred to the activities of skilled artisans and workers, especially in the fields of manufacturing and engineering, and stood in juxtaposition to the “liberal” and “fine” arts. See Coulter 493-500; *id.* at 498 (the “fundamental attribute of the useful arts” was that they involved “controlling the forces and materials of nature and putting them to work in a practical way for utilitarian ends serving mankind’s physical welfare”).

Noah Webster’s first American dictionary, for example, defined “art” as “[t]he disposition or modification of things by human skill, to answer the purpose intended,” such as “the *art* of building or engraving.” 1 Noah Webster, *An American Dictionary of the English Language* (1828) (Webster). Webster appended the following comment: “Arts are divided into *useful* or *mechanic*, and *liberal* or *polite*. The mechanic arts are those in which the hands and body are more concerned than the mind; as in making clothes, and utensils. These arts are called *trades*. The liberal or polite arts are those in which the mind or imagination is chiefly concerned; as poetry, music and painting.” *Ibid.* Consistent with Webster’s definition, numerous writings at the time used the phrase

“useful arts” to refer to manufacturing processes and other applied trades.³

The drafters of the early patent statutes and other influential figures in early patent law sometimes contrasted the useful arts with the field of general knowledge and learning, which at the time was known as “science.”⁴ See, e.g., Arthur H. Seidel, *The Constitution and a Standard of Patentability*, 48 J. Pat. Off. Soc’y 5, 11-12 & n.14 (1966) (Seidel) (citing contemporaneous editions of Samuel Johnson’s *A Dictionary of the English Language*); *Johnson’s Dictionary of the English Language, in Miniature* 192 (Joseph Hamilton ed., C. Whittingham 1818). Tench Coxe, an early proponent of manufacturing, described as separate fields the “useful arts and manufactures” and the “sciences and the fine arts.” See *A Statement of the Arts and Manufactures of the United States of America for the Year 1810*, at xlix

³ See, e.g., Daniel Defoe, *A General History of Discoveries and Improvements in Useful Arts* (1727) (providing history of technological developments); Tench Coxe, *An Address to an Assembly of the Friends of American Manufactures* 17 (1787) (describing manufactured goods and processes as “useful arts”); *id.* at 18 (describing progress in the “useful arts” as having produced improvements in various manufactures, from ships to whips to watches); George Logan, *A Letter to the Citizens of Pennsylvania, on the Necessity of Promoting Agriculture, Manufactures, and the Useful Arts* 12-13 (1800) (referring to manufacturing processes as “useful arts,” and emphasizing the relationship of a country’s prosperity to its progress in the useful arts); W. Kenrick, *An Address to the Artists and Manufacturers of Great Britain* 21-38 (1774) (contrasting the “useful arts” with the “polite arts”).

⁴ The useful “arts” are the domain of patent law, while the promotion of “science”—general knowledge and learning—is the constitutional object of copyright law. See *Eldred v. Ashcroft*, 537 U.S. 186, 192-193 (2003); H.R. Rep. No. 1923, 82d Cong., 2d Sess. 4 (1952); Karl B. Lutz, *Patents and Science: A Clarification of the Patent Clause of the U.S. Constitution*, 18 Geo. Wash. L. Rev. 50, 51 (1949) (Lutz).

(1814) (Coxe); see also Webster, “art.” Similarly, Thomas Jefferson described two “inventions” patented in England—an iron bridge and steam power—as falling within the field of “arts,” while describing “science” as encompassing more general fields of knowledge. 14 *The Papers of Thomas Jefferson* 697-699 (Julian P. Boyd ed., Princeton University Press 1958) (letter to Joseph Willard, Mar. 24, 1789).

Notably, the fields of pure finance and business, unconnected to technology or industry, were viewed as falling within the “sciences,” but not within the “useful arts.” In a discussion of progress in industrial fields as well as the surrounding political and economic system, Tench Coxe described “the mechanical and chemical branches” as separate from “the system of labor and political economy.” Coxe at 1. He also noted that foreign investors were now comfortable investing in the “manufactures and the useful arts,” just as they had long invested in the realms of “commerce, navigation, stocks, banks and insurance companies.” *Ibid.* Similarly, Alexander Hamilton distinguished in *The Federalist* No. 8 between “the arts of industry, and the science of finance.” *The Federalist* No. 8, at 69 (Alexander Hamilton) (Clinton Rossiter ed., 1961).

In sum, because the initial patent statutes were intended to foster the “useful arts,” they were directed to technological and industrial inventions, as opposed to fields of purely human activity—including financial and economic activity unconnected to technology—which fell within the sciences or liberal arts. See Lutz 54 (“The term ‘useful arts,’ as used in the Constitution and in the titles of the patent statutes is best represented in modern language by the word ‘technology.’”); see also Coulter 499 (“‘useful arts’ must be understood to include not

only [contemporaneous] industrial and manufacturing arts,” but also innovations in other evolving “technological fields”); *Paulik v. Rizkalla*, 760 F.2d 1270, 1276 (Fed. Cir. 1985) (en banc) (“The exclusive right, constitutionally derived, was for the national purpose of advancing the useful arts—the process today called technological innovation.”); Pet. App. 193a-194a (noting petitioners’ concession before the Board that “technological arts” and “useful arts” are synonymous). The term “art,” as the statutory precursor to the “process” category of patent-eligible inventions, should be understood in that light.

b. The historical development of American patent law confirms that the patent system, in extending protection to the useful arts, was not understood to encompass non-technological methods directed to organizing human activity. See generally Pet. App. 38a-59a (Dyk, J., concurring); *id.* at 106a-110a (Mayer, J., dissenting).

Early American patent laws, including the 1790 and 1793 Patent Acts, were enacted against the backdrop of the English patent system and borrowed extensively from its principles and practice. See *Pennock v. Dialogue*, 27 U.S. (2 Pet.) 1, 18 (1829) (Story, J.); *Graham v. John Deere Co.*, 383 U.S. 1, 5 (1966); see also Pet. App. 41a-42a (Dyk, J., concurring). The pertinent terms of the English Statute of Monopolies authorized patents only for the “working or making of any manner of new manufactures within this realm.” *Id.* at 45a (Dyk, J., concurring) (quoting statute). That provision left no room in English practice for patents on methods of organizing human activity. *Id.* at 46a (Dyk, J., concurring).

To the extent that process patents were granted in England in the late eighteenth century—the permissibility of process patents under the Statute of Monopolies

was an unsettled question, see Pet. App. 45a-50a (Dyk, J., concurring)—they overwhelmingly involved manufacturing processes. For example, James Watt received a patent in 1769 for a method of reducing the amount of steam required to operate a steam engine. See generally *Boulton v. Bull*, 126 Eng. Rep. 651 (C.P. 1795). An index of contemporaneous English patents later published by Bennet Woodcroft, a prominent figure in English patent law, included a wide variety of manufacturing methods but essentially no examples of patents on business strategies or other human activities.⁵ See generally Bennet Woodcroft, *Alphabetical Index of Patentees of Inventions, from March 2, 1617 (14 James I) to October 1, 1852 (16 Victoriae)* (2d ed. 1857) (Woodcroft); Pet. App. 46a-47a (Dyk, J., concurring) (citing Woodcroft); see also Malla Pollack, *The Multiple Unconstitutionality of Business Method Patents: Common Sense, Congressional Consideration, and Constitutional History*, 28 Rutgers Computer & Tech. L.J. 61, 95-96 (2002) (Pollack).

⁵ Patents may occasionally have been granted on non-technological processes. For example, a few patents were granted for lotteries, but it is unclear whether these patents simply authorized the conduct of the lotteries. See Pollack 94-95 & n.126. The primary known example of a process patent directed to a human activity appears to have been a patent granted in England in 1778 to John Knox for a “[p]lan for assurances on lives of persons from 10 to 80 years of age.” Woodcroft 324; see Pollack 95; Pet. App. 53a (Dyk, J., concurring). As the concurring judges below noted, however, “[t]here is no indication that Knox’s patent was ever enforced or its validity tested, or that this example led to other patents or efforts to patent similar activities.” *Id.* at 54a (Dyk, J., concurring). The existence of so few patents of this kind in the annals of English patent law strongly suggests that such matters were considered unpatentable.

The English antecedents of early American patent law thus did not suggest that methods of organizing human activity were eligible for patent protection. See Pet. App. 45a-50a (Dyk, J., concurring). Nor is there any evidence that the drafters of the 1790 Act, in using the phrase “useful arts,” intended to depart from English practice by extending patent protection to monopolies for such methods, unconnected to any machine or manufacturing process. To be sure, as petitioners emphasize (Br. 47-49), the Framers of the Constitution gave American patent law a broader scope than English law by adopting the term “useful arts” rather than “manufacture,” the limitation used in the English Statute of Monopolies. But this formulation was likely designed principally to eliminate doubt as to the patentability of technological and industrial processes—a question that was unsettled in English law in 1789. See Pet. App. 45a-46a (Dyk, J., concurring).

Indeed, the opposition of the drafters of early American patent statutes to English business monopolies would have made them reluctant to extend patents to methods of organizing human economic and social activity, unconnected to any technology. The federal patent laws were “written against the backdrop of the practices—eventually curtailed by the Statute of Monopolies—of the Crown in granting monopolies to court favorites in goods or businesses.” *Graham*, 383 U.S. at 5. These monopolies vested grantees with the sole right to supervise or engage in a trade. See Edward C. Walterscheid, *The Early Evolution of the United States Patent Law: Antecedents (Part 2)*, 76 J. Pat. & Trademark Off. Soc’y 849, 863-864 (1994). Like many of the Framers of the Constitution, Thomas Jefferson was deeply opposed to government-granted trade monopolies—so much so

that he only slowly came to support the idea of limited protection for the creators of inventions. *Bonito Boats*, 489 U.S. at 147; see P.J. Federico, *Operation of the Patent Act of 1790*, 18 J. Pat. Off. Soc’y 237, 239-242 (1936). It is difficult to imagine that Jefferson, who once expressed disappointment at the lack of a constitutional prohibition on monopolies, see *id.* at 240, would have understood the 1793 Patent Act (which he helped to draft) to authorize patents for non-industrial, non-technological processes, including business strategies and financial schemes as such. Patents on these items would simply have seemed too close to granting monopolies over the practice of business itself.⁶ See *In re Yuan*, 188 F.2d 377, 380 (C.C.P.A. 1951) (the Framers “were familiar with the long struggle over monopolies so prominent in English history, where exclusive rights to engage even in ordinary business activities were granted so frequently by the Crown”).

The historical record of eighteenth-century American patent practice reveals no pattern of granting patents for methods of organizing human activity, divorced from any kind of technology. No human-activity patents

⁶ Similarly, had the Framers understood patent protection to contemplate broad monopolies on methods directed to business-related techniques and other human activities, untethered to any technological or industrial innovation, the inclusion of the Patent Clause in the Constitution likely would have been hotly debated. But the Clause was adopted without debate or dissent. See Edward C. Walterscheid, *To Promote the Progress of Science and Useful Arts: The Background and Origin of the Intellectual Property Clause of the United States Constitution*, 2 J. Intell. Prop. L. 1, 26 & n.88 (1994) (citing 2 *The Records of the Federal Convention of 1787* at 509-510 (Max Farrand ed., 1966)). Given the Framers’ suspicion of government-sanctioned business monopolies, that silence is telling. See *id.* at 37-38; Pollack 111-112.

were granted by the first Congress itself or approved by the “Patent Board” under the Patent Act of 1790, of which Jefferson was a member and the de facto administrator.⁷ See Pet. App. 54a-55a (Dyk, J., concurring); Edward C. Walterscheid, *To Promote the Progress of Useful Arts: American Patent Law and Administration, 1798-1836*, at 173-178 (1998) (*Progress of Useful Arts (1998)*); Pollack 107-108. Between 1793 and 1836, patents were granted based on registration rather than examination, and thus are not reflective of any systematic interpretation of patent-eligible subject matter, see *Progress of Useful Arts (1998)*, at 195, 243; but after 1836, examples of human-activity patents are similarly rare.⁸ See Pet. App. 54a-55a & n.18 (Dyk, J., concurring).

Thus, patents directed to the organization of human activities, including novel business and financial techniques, were rarely if ever issued during the eighteenth

⁷ Although petitioners rely (Br. 50-51) on a 1789 application for “spheres, hemispheres, maps, charts, and tables, on * * * principles of magnetism,” in which the inventor asserted that he had discovered methods of using magnetism to determine longitude, that application sought the exclusive right to sell *products* made using those methods. See P.J. Federico, *The First Patent Act*, 14 J. Pat. Off. Soc’y 237, 239-240 (1932); *Progress of Useful Arts (1998)*, at 82.

⁸ In the court of appeals, petitioners and their amici relied on an 1840 patent involving lottery schemes. As Judge Dyk noted in his concurring opinion, however, that patent involved a method for manufacturing lottery tickets, and similar examples—including an “insurance policy” written on two cards—also involved either manufacturing processes or articles. See Pet. App. 54a-55a & n.18 (Dyk, J., concurring). Although occasional patents may have been granted for claimed inventions directed to non-technological financial methods, cf. *Double Rock Amicus Br. 30-32*, there is no indication that such patents were the norm, or that they were ever tested through litigation or licensing.

and nineteenth centuries. That absence is especially telling because entrepreneurial enterprises, and with them myriad financial innovations, flourished in the early republic and thereafter. See Pollack 105-106; Pet. App. 53a-54a (Dyk, J., concurring). Among these were new methods of risk management, and in particular, new methods for providing insurance against various risks. See Eric Wertheimer, *Underwriting: The Poetics of Insurance in America, 1722-1872*, at 3-6 (Stanford University Press 2006). In view of the explosion of commerce in the late eighteenth century and the continuing evolution and creation of financial and risk-management methods over the next century, the lack of any corresponding wave of patents on methods of commerce, insurance, and other human activities suggests that subjects not related to any technological or industrial process were simply not considered the province of patent law.

c. In accordance with the established understanding of the term “useful art” as limited to technological processes, courts prior to 1952 rejected efforts to obtain or enforce patents on an “art” of organizing human activity or business, when that art was unconnected to any specific apparatus or industrial process. See, e.g., *Hotel Sec. Checking Co. v. Lorraine Co.*, 160 F. 467, 469 (2d Cir. 1908) (“A system of transacting business disconnected from the means for carrying out the system is not, within the most liberal interpretation of the term, an art.”); see also, e.g., *In re Patton*, 127 F.2d 324, 327-328 (C.C.P.A. 1942); see Pet. App. 108a-109a (Mayer, J., dissenting).

This Court repeatedly expressed a similar understanding. In 1876, the Court defined “an art” “[i]n the language of the patent law” as “an act, or a series of

acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.” *Cochrane*, 94 U.S. at 788. The Court subsequently clarified that the operation of particular machines and the generation of useful mechanical results were also patent-eligible processes, quoting a treatise for the proposition that “an art cannot be practised except by means of physical agents, through which the force is brought in contact with or directed toward its object.” See *Expanded Metal Co. v. Bradford*, 214 U.S. 366, 383, 385-386 (1909) (quoting 1 William C. Robinson, *The Law of Patents for Useful Inventions* § 167, at 250 (1890)); *The Telephone Cases*, 126 U.S. at 533-537 (1888). The Court’s early interpretation of the phrase “new and useful art” in the patent statute thus reflected its understanding that “art” had a practical, technological scope.

d. Against the backdrop of this settled understanding, Congress recodified the patent laws in 1952, substituting the word “process” for “art” in Section 101. Because “[a]nalysis of the eligibility of a claim of patent protection for a ‘process’ did not change with the addition of that term to § 101,” *Diehr*, 450 U.S. at 184, Section 101 in its current form should be read to incorporate the established understanding, reflected in historical practices and in this Court’s decisions, that processes lacking any industrial or technological application are ineligible for patent protection. See *id.* at 182-184; see also, *e.g.*, *Pfaff v. Wells Elecs., Inc.*, 525 U.S. 55, 63 (1998) (patent system is designed to encourage “the creation and the public disclosure of new and useful advances in technology”).

2. *The statutory context confirms that only technological and industrial methods are patent-eligible “processes”*

The other categories of patent-eligible subject matter listed in Section 101 confirm that the term “process” does not encompass non-technological methods of organizing human activity. Under the “commonsense” canon of *noscitur a sociis*, “a word is given more precise content by the neighboring words with which it is associated.” *United States v. Williams*, 128 S. Ct. 1830, 1839 (2008) (citing *Jarecki v. G.D. Searle & Co.*, 367 U.S. 303, 307 (1961)). This interpretive tool, the Court has observed, “is often wisely applied where a word is capable of many meanings in order to avoid the giving of unintended breadth to the Acts of Congress.” *Jarecki*, 367 U.S. at 307.

The other three statutory categories of patent-eligible subject matter identified in Section 101—“machine, manufacture, or composition of matter”—all “are things made by man[,] and involve technology.” Pet. App. 194a.⁹ The focus of Section 101 as a whole thus reinforces the understanding that the term “process” is limited to technological and industrial methods and excludes fundamentally dissimilar methods directed to such human activities as sports moves, marketing techniques,

⁹ See *Corning*, 56 U.S. (15 How.) at 267 (a machine is a “mechanical device * * * to perform some function and produce a certain effect or result”); *American Fruit Growers*, 283 U.S. at 11 (“manufacture” means “anything made for use from raw or prepared materials”); *Chakrabarty*, 447 U.S. at 308 (“composition of matter” means “all compositions of two or more substances and . . . all composite articles” that can result from, among other things, “chemical union” or “mechanical mixture” (quoting *Shell Dev. Co.*, 149 F. Supp. at 280)).

and estate planning strategies.¹⁰ Petitioners' construction of "process" as any series of steps culminating in a useful result thus would unmoor the term from the other categories listed in Section 101.

Had Congress intended patent-eligibility to be so open-ended, it could have provided simply: "Whoever makes any new and useful invention or discovery, or any improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." Congress chose instead to identify discrete categories of patent-eligible subject matter that, while broad, share a technological focus. As Judge Giles Rich, one of the principal authors of the 1952 Patent Act, observed:

Invaluable though it may be to individuals, the public, and national defense, the invention of a more effective organization of the materials in, and the techniques of teaching a course in physics, chemistry, or Russian is not a patentable invention because it is outside of the enumerated categories of "process, machine, manufacture, or composition of matter, or any new and useful improvement thereof." Also outside that group is one of the greatest inventions of our times, the diaper service.

Giles S. Rich, *Principles of Patentability*, 28 Geo. Wash. L. Rev. 393, 393-394 (1960).

¹⁰ This textual inference is underscored by the definition of "process" in the Patent Act, which states that "process" "includes a new use of a known process, machine, manufacture, composition of matter, or material." 35 U.S.C. 100(b). This definition suggests the kinds of processes that Congress expected would be eligible for patent protection and implies that Congress did not intend the same definition to embrace fundamentally dissimilar subject matter.

b. In arguing that the term “process” extends beyond industrial and technological methods, petitioners and numerous amici contend that Congress intended the 1952 Patent Act to encompass “anything under the sun that is made by man.” Pet. Br. 19, 27 (quoting *Chakrabarty*, 447 U.S. at 309, and S. Rep. No. 1979, 82d Cong., 2d Sess. 5 (1952); H.R. Rep. No. 1923, 82d Cong., 2d Sess. 6 (1952)). But as several members of the court below observed (Pet. App. 58a (Dyk, J., concurring); *id.* at 110a-111a (Mayer, J., dissenting); *id.* at 156a-157a & n.5 (Board)), the cited legislative history, when read in context, cannot bear the weight that petitioners place on it. The House and Senate committee reports state:

A person may have “invented” a machine or a manufacture, which may include anything under the sun that is made by man, but it is not necessarily patentable under [S]ection 101 unless the conditions of the title are fulfilled.

S. Rep. No. 1979, *supra*, at 5; H.R. Rep. No. 1923, *supra*, at 6. But as the context makes clear, the phrase “anything under the sun” in these reports refers not to patentable processes but rather to “machines” and “manufactures.” The reports provide no support for petitioners’ contention that the term “process” encompasses every useful series of steps “conceived by man.” Pet. App. 157a; *id.* at 58a (Dyk, J., concurring) (“[The statement] refers to things ‘made by man,’ not to methods of organizing human activity.”). Indeed, the Court in *Diehr* acknowledged the reports’ reference to “anything under the sun that is made by man,” 450 U.S. at 182, just before concluding that “[i]ndustrial processes such as” the rubber-curing method at issue in that case “are the

types which have historically been eligible” for patent protection, *id.* at 184.

C. A Patent-eligible “Process” Under Section 101 Is One That Concerns The Operation Of A Particular Machine Or Apparatus Or Effects A Transformation Of Matter Into A Different State Or Thing

Construed in accordance with its history and context, the term “process” in Section 101 encompasses industrial and technological methods, broadly conceived, but does not extend to methods of organizing human activity. In identifying processes that “involve technology” in the relevant sense, this Court has focused on whether a patent applicant’s claimed method either (1) concerns the operation of a particular machine or apparatus or (2) has the effect of transforming matter. Pet. App. 194a; see, *e.g.*, *Diehr*, 450 U.S. at 184; pp. 13-15, *supra*. That definition of “process” provides an effective means of differentiating between the industrial and technological methods that have historically been eligible for patent protection, and human-activity methods that have not traditionally been viewed as patent-eligible. The machine-or-transformation definition, in other words, provides a framework for analyzing patent claims in every extant field of technology and industry.

1. This Court has consistently used the machine-or-transformation test to identify patent-eligible processes

More than a century ago, this Court recognized in *Cochrane* that processes eligible for patent protection involve the manipulation, treatment, or transformation of matter. *Cochrane* concerned a patent for an improved method of manufacturing superfine flour. In rejecting the argument that a process patent is limited to the spe-

cific instruments employed by the inventor to perform the process, the Court explained that “[a] process is a mode of treatment of certain materials to produce a given result. It is an act, or a series of acts, performed upon the subject-matter to be transformed and reduced to a different state or thing.” 94 U.S. at 788. The Court subsequently made clear that, under *Cochrane* and later cases, a process is also patent-eligible if it “involv[es] mechanical operations,” including the operation of a machine to achieve a useful result. See *Expanded Metal*, 214 U.S. at 383-386; *The Telephone Cases*, 126 U.S. at 533-537.

In later decisions, the Court treated the definition of a “patentable process” explicated in *Cochrane* and related cases as definitive. See, e.g., *Holland Furniture Co. v. Perkins Glue Co.*, 277 U.S. 245, 255 (1928) (“A patentable process is a method of treatment of certain materials to produce a particular result or product.”); *Waxham v. Smith*, 294 U.S. 20, 22 (1935) (“By the use of materials in a particular manner he secured the performance of the function by a means which had never occurred in nature, and had not been anticipated by the prior art; this is a patentable method or process.”); *Expanded Metal Co.*, 214 U.S. at 383-384; *Risdon Iron & Locomotive Works v. Medart*, 158 U.S. 68, 75-76 (1895). The courts of appeals likewise understood *Cochrane* and its progeny to define the circumstances in which processes were eligible for patent protection. Pet. App. 57a; see, e.g., *In re Yuan*, 188 F.2d at 381-382; *Cowles Co. v. Frost-White Paper Mills*, 174 F.2d 868, 870 & n.6 (2d Cir. 1949) (L. Hand, J.); *P.E. Sharpless Co. v. Crawford Farms, Inc.*, 287 F. 655, 658-659 (2d Cir. 1923); *Miller v. Electro Bleaching Gas Co.*, 276 F. 379, 381 (8th Cir. 1921), cert. denied, 257 U.S. 660 (1922); *Chicago*

Sugar-Refining Co. v. Charles Pope Glucose Co., 84 F. 977, 982 (7th Cir. 1898).¹¹

The Court's more recent decisions under the 1952 Patent Act uniformly follow, and build on, the definition of patent-eligible processes developed in *Cochrane* and its progeny. In *Benson*, which held unpatentable a method of converting binary-coded decimal numerals into pure binary numerals, the Court quoted at length from *Cochrane* and concluded that "[t]ransformation and reduction of an article 'to a different state or thing' is the clue to the patentability of a process claim that does not include particular machines." *Benson*, 409 U.S. at 70 (citation omitted). "So it is," the Court continued, that a process for manufacturing fatty acids and glycerine using high temperature water and pressure was held patent-eligible in *Tilghman v. Proctor*, 102 U.S. 707 (1881). *Benson*, 409 U.S. at 70 (citing *Tilghman*, 102 U.S. at 721). Similarly, in *Flook*, the Court recognized that "[a]n argument can be made * * * that this Court has only recognized a process as within the statutory definition when it either was tied to a particular apparatus or operated to change materials to a 'different state or thing.'" See *Flook*, 437 U.S. at 588 n.9 (citing *Cochrane*, 94 U.S. at 788).

¹¹ Although petitioners do not acknowledge the Court's definition of "process" in *Cochrane*, cf. Br. 23, Judge Newman urged in dissent below that *Cochrane* did not purport to set out the Court's first statement of the definition of a patent-eligible process, but intended only to illustrate the difference between process and machine patents. Pet. App. 76a-78a (Newman, J., dissenting). Amici likewise would distinguish *Cochrane* and related cases as outdated and illustrative only. *E.g.*, 20 Law and Business Professors Amicus Br. 6. These objections are refuted by the Court's treatment of *Cochrane* in subsequent cases as establishing a controlling definition of "process," and the courts of appeals' adherence to it.

To be sure, in both *Benson* and *Flook*, the Court declined to decide the precise outer boundaries of the universe of patent-eligible processes. Rather, the Court “assume[d] that a valid process patent may issue even if it does not meet one of these qualifications of our earlier precedents.” *Flook*, 437 U.S. at 588 n.9; see *Benson*, 409 U.S. at 71. The Court found it unnecessary to decide whether a patent could ever be issued for a process that did not involve the operation of a machine or transformation of matter because it rejected the claims on other grounds—namely, that the claimed inventions fell within the exclusion for abstract ideas and mathematical formulae. See *Flook*, 437 U.S. at 594-595; *Benson*, 409 U.S. at 67 (“abstract intellectual concepts are not patentable,” because they “are the basic tools of scientific and technological work”). The Court did not cast doubt on the status of the machine-or-transformation test as the generally applicable standard, much less retreat from its longstanding emphasis on the technological or industrial nature of patent-eligible processes.

In its most recent decision construing the term “process” in Section 101, the Court reiterated (this time without qualification) its previous statement that, under *Cochrane* and later cases, “[t]ransformation and reduction of an article ‘to a different state or thing’ is the clue to the patentability of a process claim that does not include particular machines.” *Diehr*, 450 U.S. at 184 (quoting *Benson*, 409 U.S. at 70). Describing *Cochrane* as “defining the nature of a patentable process,” *id.* at 182, the Court also quoted at length from decisions describing as patent-eligible “manufacturing process[es],” *id.* at 184 n.8 (quoting *Tilghman*, 102 U.S. at 722), and other technological inventions, *id.* at 182-183 & n.7 (quoting *Corning*, 56 U.S. (15 How.) at 267-268). The Court then

concluded that the rubber-curing process at issue was patent-eligible because it “involve[d] the transformation of an article, in this case raw, uncured synthetic rubber, into a different state or thing.”¹² *Id.* at 184. “Industrial processes such as this,” the Court noted, “are the types which have historically been eligible to receive the protection of our patent laws.” *Ibid.* Thus, the Court’s most recent exposition of the definition of “process” reaffirmed its longstanding reliance on the principle that a patent-eligible process should concern a machine or effect a transformation of matter.

2. A process is patent-eligible if it concerns the operation of a machine or effects a transformation of matter into a different state or thing

Taken together, this Court’s decisions from *Cochrane* through *Diehr* establish a controlling definition of the term “process” in Section 101 that is appropriately broad but bounded and comports with the historical understanding of the scope of the patent laws. A process may be eligible for patent protection if, taken as a whole, it concerns the operation of a particular machine or apparatus or effects a transformation of matter into a different state or thing. *Diehr*, 450 U.S. at 184; *Cochrane*, 94 U.S. at 788; see Pet. App. 12a-13a. By excluding

¹² Petitioners attempt to downplay *Diehr*’s significance by pointing (Br. 21) to the Court’s parenthetical use of the signal “*e.g.*” in the statement that “when a claim containing a mathematical formula * * * is performing a function which the patent laws were designed to protect (*e.g.*, transforming or reducing an article to a different state or thing), then the claim satisfies the requirements of § 101.” 450 U.S. at 192. The signal “*e.g.*” simply reflects the Court’s omission from the parenthetical of the other class of process claims: those that concern the operation of a particular machine or apparatus. See *Expanded Metal Co.*, 214 U.S. at 383-386.

methods that are not directed to technological or industrial advances, that test ensures that a claimed process is the “kind of ‘discover[y]’ that the statute was enacted to protect.” *Flook*, 437 U.S. at 593. As the Board observed in this case, a method that falls within this definition “involve[s] technology” and therefore is “a ‘process’ under § 101.” Pet. App. 194a.

The eligibility of a process for patent protection under Section 101 should be judged by a two-part inquiry. The first question is whether the claimed process, taken as a whole, concerns the operation of a particular machine or apparatus or effects a transformation of matter into a different state or thing. In considering this question, the caveat that a process claim must be considered “as a whole,” *Diehr*, 450 U.S. at 192, warrants particular emphasis. For instance, a step that involves a machine will not suffice to bring an otherwise ineligible process within the ambit of Section 101 if that step is merely insignificant extra-solution activity—*i.e.*, activity that is not central to the purpose of the method, such as the step of downloading search results on a computer in the context of a method for evaluating and ranking search results. See *id.* at 191-192; *Flook*, 437 U.S. at 590. Likewise insufficient to bring a method within the ambit of the machine-or-transformation definition are mere field-of-use restrictions—for example, limiting a generic method of marketing to the field of marketing computers or software. *Diehr*, 450 U.S. at 191; *Flook*, 437 U.S. at 590.

Second, because laws of thermodynamics, mathematical formulas, abstract ideas, and other phenomena of nature are “part of the storehouse of knowledge of all men * * * free to all men and reserved exclusively to none,” *Funk Bros. Seed Co. v. Kalo Inoculant Co.*, 333

U.S. 127, 130 (1948), every claimed process must be further examined to ensure that granting the patent would not in practical effect “wholly pre-empt” the public’s access to the “basic tools of scientific and technological work.” *Benson*, 409 U.S. at 72, 67. Even a process that otherwise satisfies the criteria for patent-eligibility (*e.g.*, because it concerns the use of a machine) may pose that risk, as the computer-assisted method of calculation in *Benson* demonstrates. See *id.* at 72 (claimed method “in practical effect would be a patent on the algorithm itself”). A second inquiry is therefore required to determine whether the claim preempts all applications of the fundamental principle, rather than simply claiming the use of the fundamental principle “in conjunction with all of the other steps in [the] claimed process.” *Diehr*, 450 U.S. at 187.¹³

In *Diehr*, this Court engaged in the two-step analysis described above. It first examined whether the claimed process of curing rubber constituted a “process” under *Cochrane* and related cases, concluding that the “claims involve the transformation of an article * * * into a different state or thing.” 450 U.S. at 184. The Court then considered whether the claimed process was nonetheless unpatentable for its use of a mathematical formula. The Court concluded that the exception to patentability did not apply because, although respondents’ “*process* admittedly employ[ed] a well-known

¹³ With respect to the preemption portion of the analysis, the Court in *Flook* had previously suggested that a claimed method that applied an abstract idea could be patent-eligible only if it contained patent-eligible subject matter *apart from* the abstract principle. 437 U.S. at 593-594 & n.16. In *Diehr*, however, the Court clarified that a process should be considered as a whole. See 450 U.S. at 192.

mathematical equation,” it did “not seek to pre-empt the use of that equation.” *Id.* at 187; see *id.* at 185-188.¹⁴

3. *The machine-or-transformation test accommodates evolving technology*

For more than a century, the machine-or-transformation test for identifying a patent-eligible “process” has provided a broad and technology-neutral framework for analyzing process claims related to constantly evolving technology. Only non-technological processes directed to the organization of human activity are categorically excluded by the machine-or-transformation standard. No extant field of technology or industry—including software and diagnostic methods, the two fields addressed by numerous amici—is wholly excluded from patent protection under that approach; rather, the standard provides a framework for analyzing individual

¹⁴ The majority opinion below could be read to collapse the machine-or-transformation inquiry with the preemption analysis, implying that any claimed process that satisfies the machine-or-transformation test necessarily will comport with the settled rule against patenting, for example, mathematical formulas and phenomena of nature; and conversely, that any claimed method that fails the machine-or-transformation test necessarily preempts a fundamental principle. Pet. App. 12a-13a. That approach appears to conflate two distinct inquiries. A method that concerns the operation of a machine—such as the method at issue in *Benson*—can still be subject to a judicial exception. And a method that does not involve a machine or transformation—and would therefore be ineligible under Section 101—may not suffer from the independent problem of preempting a fundamental principle. For example, a multi-step method for proposing marriage might not preempt the abstract concept of proposing marriage; but it is still directed to human activity and therefore is not a “process” under Section 101.

claimed processes to determine whether they involve technological or industrial methods.¹⁵

a. Petitioners and amici contend that reaffirming the machine-or-transformation test will impair the “knowledge economy” by foreclosing patent protection for today’s “electronic and photonic technologies” and other processes, particularly software, “that handle data and information in novel ways.” Pet. Br. 38; see generally Business Software Alliance Amicus Br.; Int’l Business Machines Corp. Amicus Br. That concern is misplaced.

As an initial matter, this case does not present any question as to the application of the machine-or-transformation test to software or yet more novel future forms of industrial or technological processes. As the majority below noted, petitioners do not seek to patent their method of hedging risk in the form of software or any other new information technology. Pet. App. 25a n.23. The only issue presented in this case is whether risk-management techniques, legal methods, and other modes of organizing purely human activity, wholly apart from any form of technology, are “process[es]” within the meaning of Section 101.

In any event, the machine-or-transformation test contemplates that many forms of “software” inventions are patent-eligible. As with many types of technology, the patent-eligibility of software cannot be resolved as a categorical matter. Rather, the eligibility of a claimed

¹⁵ As the court below recognized, if “future developments in technology * * * present difficult challenges to the machine-or-transformation” definition, the inquiry could be modified. Pet. App. 17a. At present, however, no such “departure” is necessary. *Ibid.*

software invention depends on the content of that invention and the form in which it is sought to be patented.¹⁶

As the Board noted below, the machine-or-transformation definition may readily encompass most software claims because such claims could be said to concern the use of a machine (*i.e.*, the computer itself) or involve a transformation of matter (*i.e.*, the writing and re-writing of data, represented by magnetic changes in the substrate of a hard disk or the altered energy state of transistors in a memory chip). Pet. App. 177a-178a. This conception of the machine-or-transformation test is reflected in non-binding interim examination instructions issued by the PTO in August 2009. See United States PTO, *Interim Examination Instructions for Evaluating Subject Matter Eligibility Under 35 U.S.C. § 101* (Aug. 24, 2009) (*Interim Instructions*).¹⁷ The *Interim Instructions* state that “computer implemented processes” are often disclosed as connected to a machine, *i.e.*, a general purpose computer. *Id.* at 6. Such a computer, “when programmed to perform the process steps” so that it performs the specific function contemplated by the process, “may be sufficiently ‘particular’” for purposes of

¹⁶ As this Court recently observed in *Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437 (2007), the term “software” refers generally to the “set of instructions, known as code, that directs a computer to perform specified functions or operations.” *Id.* at 447 (citation omitted). A claim for a software invention can be drafted in several ways, including as the “process” of accomplishing a particular task through the use of a computer; or, as in *Microsoft*, as a “machine” specially programmed to accomplish the task in question. See *id.* at 446.

¹⁷ The *Interim Instructions*, which “do not constitute substantive rulemaking” (*Interim Instructions* 1), are designed to aid examiners in considering eligibility questions in accordance with the court of appeals’ statement of the machine-or-transformation test, pending this Court’s decision in this case.

the machine-or-transformation test. *Ibid.*; cf. *In re Alappat*, 33 F.3d 1526, 1545 (Fed. Cir. 1994) (en banc) (“[A] general purpose computer in effect becomes a special purpose computer once it is programmed to perform particular functions pursuant to instructions from program software.”). In addition, “transformation of electronic data has been found when the nature of the data has been changed such that it has a different function or is suitable for a different use.” *Interim Instructions* 6.¹⁸

To be sure, questions involving the application of the machine-or-transformation definition to software claims may arise in the future. The patentability of software is subject to established limits. For example, software code that is claimed by itself, uncoupled from any storage medium or computer, may be nothing more than “an idea without physical embodiment,” and therefore would not be patent-eligible. See *Microsoft Corp.*, 550 U.S. at 449.¹⁹ But because petitioners’ claimed innovation is far

¹⁸ A claimant may not bring a process directed to a human activity within the machine-or-transformation definition simply by reciting that the process uses a computer to perform insignificant extra-solution activity (*e.g.*, data storage, or transmission and receipt of data over a network). See *Interim Instructions* 7-8. For instance, a method composed of steps of evaluating pieces of information by sorting the information and ranking each piece of information based on certain criteria does not become a machine-oriented test simply by specifying that the person performing the process shall initially obtain the relevant information by downloading it using a computer. *Ibid.*

¹⁹ In addition, patent claims for software processes that, considered as a whole, would preempt the public’s access to basic mathematical principles are not patent-eligible. See *Benson*, 409 U.S. at 71-72. And even if claimed software is patent-eligible under Section 101, it may be unpatentable because it was “obvious” at the time of invention, see 35 U.S.C. 103; *Dann v. Johnston*, 425 U.S. 219, 227-228 (1976), or for other reasons, see 35 U.S.C. 102, 112. Those restrictions, however, would apply regardless of how the term “process” in Section 101 is defined.

removed from the field of software technology, this case would provide an unsuitable vehicle for clarifying the circumstances in which software is and is not patent-eligible. And this Court's reaffirmation of the machine-or-transformation test for identifying patent-eligible "processes," in a case involving only a claim for a non-technological method of hedging financial risk, would not materially affect the circumstances in which patents for software may appropriately be issued.

The same is true of medical diagnostic techniques, whose eligibility for patent protection is also discussed by several amici. See, *e.g.*, *Novartis Corp. Amicus Br. Methods of diagnosing a condition by testing, or assaying, for a characteristic that correlates to the condition may be claimed in any number of ways, and therefore patentability cannot be determined as a categorical matter.* If the claimed process effects a transformation of matter in a manner that is more than insignificant extra-resolution activity, the method may satisfy Section 101. See, *e.g.*, *Prometheus Labs., Inc. v. Mayo Collaborative Servs.*, No. 2008-1403, 2009 WL 2950232, at *8-*10 (Fed. Cir. Sept. 16, 2009). For example, the PTO has generally treated a transformation of blood occurring in the assaying step as involving a sufficient transformation for purposes of the machine-or-transformation test.

b. Dicta in the Federal Circuit's decision in *State Street Bank & Trust Co. v. Signature Financial Group, Inc.*, 149 F.3d 1368 (1998), cert. denied, 525 U.S. 1093 (1999), could be read to suggest that any series of steps that yields a "useful, concrete, and tangible result" is patent-eligible. See Pet. App. 22a-24a. In the years following that decision, applicants sought to patent non-technological methods for a wide variety of human social activities and endeavors, including not only risk-man-

agement and legal methods (sometimes employing software) but also “methods of mediation, dating, [and] physical sports moves.” *Id.* at 151a. During that period, the PTO sometimes issued patents for marketing strategies, tax avoidance and estate planning methods, methods of playing poker, and even a method of conducting a mock jury exercise.²⁰ See also *id.* at 119a (Mayer, J., dissenting) (additional examples).²¹

Because those methods do not concern a particular machine or effect a transformation of matter, they are not patent-eligible “processes” under a proper understanding of Section 101. Petitioners are wrong, however, in suggesting that reaffirmation of the machine-or-transformation test would “disrupt the settled expectations of the inventing community.” Pet. Br. 39 (quoting *Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co.*, 535 U.S. 722, 739 (2002)). Although patents inconsistent with the machine-or-transformation test have been issued during the decade since *State Street*, this Court has

²⁰ *E.g.*, U.S. Patent No. 6,457,317 (“Method of Selling Merchandise on a Golf Course”); U.S. Patent No. 6,292,788 (“Methods and Investment Instruments for Performing Tax-Deferred Real Estate Exchanges”); U.S. Patent No. 6,567,790 (“Establishing and Managing Grantor Retained Annuity Trusts Funded by Nonqualified Stock Options”); U.S. Patent No. 6,206,374 (“Methods of Playing Poker Games”); U.S. Patent No. 6,070,873 (“Card Game and Method of Playing Card Game”); U.S. Patent No. 6,607,389 (“Systems and Methods for Making Jury Selection Determinations”).

²¹ The *holding* of *State Street* was simply that no “business methods” exception to patent-eligibility exists—*i.e.*, that if an invention is otherwise encompassed by Section 101 (*e.g.*, as a “machine” or “process”), it is not rendered ineligible for patent protection because its utility lies in the realm of business. During the years after *State Street*, however, the PTO sometimes issued patents that appear to have been premised on a broader view of the decision’s import.

not cast doubt on the applicability of that test. Nor has this Court ever suggested that claimed methods directed to organizing human activity, untethered to technology, are patent-eligible. See, *e.g.*, *Benson*, 409 U.S. at 68-71 (canvassing history of processes found patent-eligible). Abandonment of that century-old approach would constitute a far more significant deviation from historical practice than would a disavowal of the more extreme applications of the *State Street* decision during the past decade.

Petitioners contend (Br. 38-40) that a decision foreclosing patent protection for processes directed to purely human activity, including business and financial processes, would have adverse economic effects. Such arguments cannot be evaluated, however, without reference to the other legal doctrines that protect non-technological commercial activities. These doctrines—including antitrust, trade secret, trade dress, and trademark law, as well as common-law principles of contract, tort, and unfair competition—were developed specifically to regulate the economic and legal rights of businesses engaged in competition, and they reflect careful consideration of the degree to which business properties should be protected and commercial intercourse should be encouraged.²² Reaffirming that business-related methods untethered to technology are not “process[es]” under Section 101 would thus leave these patent-ineligible business innovations with substantial protection—as has been true throughout the history of this nation’s commercial development.

²² Software is additionally protected by copyright law. See International Business Machines Amicus Br. 24 (copyright law provides “important protections” for the expression involved in computer software).

c. Petitioners and amici contend that the Federal Circuit’s adoption of the machine-or-transformation definition of “process” reflects that court’s alleged tendency to utilize impermissibly rigid approaches in an area of the law that should be characterized by flexibility. Petitioners analogize this case to *KSR International Co. v. Teleflex Inc.*, 550 U.S. 398 (2007), *eBay Inc. v. MercExchange, L.L.C.*, 547 U.S. 388 (2006), and *Festo Corp., supra*, in which this Court corrected what petitioners regard as similar errors. Pet. Br. 27-28; 20 Law and Business Professors Amicus Br. 15 & n.8. That analogy is flawed. Section 101 is fundamentally unlike the non-obviousness requirement in 35 U.S.C. 103, the grant of equity jurisdiction in 35 U.S.C. 283, or the judicial doctrine of equivalents. In each of the decisions on which petitioners rely, this Court rejected a rigid general rule adopted by the Federal Circuit because in each area this Court’s own precedents eschewed rules of broad applicability, insisting on case-specific, factually intensive inquiries. See *eBay*, 547 U.S. at 391-393; *Festo*, 535 U.S. at 737-739; *KSR*, 550 U.S. at 415-418.

Section 101, by contrast, establishes the threshold conditions for eligibility for patent protection. Its four classes of statutory subject matter, though “extremely broad” in scope, *J.E.M. Ag Supply, Inc.*, 534 U.S. at 130, are nonetheless definite and bounded in content. This Court therefore has not hesitated to adopt concrete definitions of the relevant statutory terms.²³ See *Corning*,

²³ For this reason, petitioners’ assertion (Br. 20, 22-23) that courts lack the authority to impose limits on patent-eligible subject matter that have not been expressed by Congress misses the mark. Congress restricted the scope of the Patent Act by limiting patent-eligibility to four defined categories of inventions. The question presented by this case is whether the term “process” in Section 101 embraces purely

56 U.S. (15 How.) at 267 (machine); *American Fruit Growers*, 283 U.S. at 11 (manufacture); *Chakrabarty*, 447 U.S. at 308 (composition of matter); pp. 13-15, *supra*. The court of appeals here articulated a similarly concrete—and similarly broad—definition of the fourth and final category of subject matter in Section 101. Unlike the rules at issue in *eBay*, *Festo*, and *KSR*, the machine-or-transformation test is drawn from this Court’s precedents and is consistent with the proper, and indeed necessary, approach to analyzing threshold patent-eligibility issues. Clear definitions of the classes of subject matter in Section 101 provide critical guidance to the public, inventors, and the PTO regarding the boundaries of the patent laws—and, by implication, the scope of “what is free for all to use.” *Bonito Boats*, 489 U.S. at 151.

4. *The alternative tests for patent-eligibility proposed by petitioners and amici do not appropriately limit patent protection*

The alternative tests advocated by petitioners and amici would sweep within their scope vast swaths of American economic and social life that have never been regarded as the proper domain of patent law. Petitioners urge that Section 101 should embrace any series of steps that produces a useful result, so long as it is a “practical application” of a law of nature, natural phenomenon, or mathematical formula. Br. 42-52. Amici propose a variety of similar formulations. *E.g.*, Accen-

human methods of the kind petitioners seek to patent. In its repeated articulations of the machine-or-transformation test, this Court has not added a restriction to those Congress imposed, but has simply construed the pertinent statutory language. See *Chakrabarty*, 447 U.S. at 315.

ture Amicus Br. 3; Business Software Alliance Amicus Br. 11-12. While these formulations state necessary preconditions for patent-eligibility—a claimed process that lacks any “practical application” or “useful” result is a paradigmatic unpatentable abstract idea, cf. *Benson*, 409 U.S. at 67—these approaches are seriously deficient as definitions of patent-eligible subject matter.

In addition to divorcing the term “process” from its historical understanding and statutory context, see pp. 16-25, *supra*, petitioners’ “practical application” test provides no limiting principle to exclude from patent protection the wide array of innovations that have never “historically been eligible to receive the protection of our patent laws.” *Diehr*, 450 U.S. at 184. The annals of useful human knowledge abound with particularized methods of pitching baseballs, singing arias, delivering lectures, running election campaigns, minimizing taxes, defending lawsuits, buying and selling property, and resisting corporate takeovers. Each of these “processes” is practical and useful, and may be nonobvious. None is unpatentably abstract, see *O’Reilly v. Morse*, 56 U.S. (15 How.) 62, 113 (1854), and none is merely a mathematical equation in disguise, see *Flook*, 437 U.S. at 594-595. Yet none embodies the sort of invention that the patent laws were designed to protect.²⁴ See *Diehr*, 450 U.S. at 184, 192; *Flook*, 437 U.S. at 593. Petitioners’ test therefore does not perform the crucial differentiating function that Congress intended the subject-matter

²⁴ In contrast, the machine-or-transformation standard recognizes that the mere presence of a “practical application” does not suffice to make a claimed method patent-eligible, if it is not the type of invention that patent law is intended to protect.

categories in Section 101 to perform.²⁵ See *Kewanee Oil Co.*, 416 U.S. at 483; *Diehr*, 450 U.S. at 182.

II. SECTION 273 DOES NOT IMPLICITLY EXPAND THE CATEGORIES OF PATENT-ELIGIBLE SUBJECT MATTER IN SECTION 101

Petitioners contend that the First Inventor Defense Act of 1999, Pub. L. No. 106-113, 113 Stat. 1536, which added 35 U.S.C. 273 to the Patent Act, reflects Congress’s endorsement of the patentability of methods directed to organizing human activity. Section 273, which Congress enacted the year after the Federal Circuit’s decision in *State Street*, provides an affirmative defense against infringement for prior users of patented business methods. See 35 U.S.C. 273(b); see also 35 U.S.C. 273(a)(3) (“For purposes of this section * * * the term ‘method’ means a method of doing or conducting business.”). Contrary to petitioners’ argument, Section 273 does not reflect any congressional understanding that Section 101 extends to all business methods, including those directed solely to human activity.

²⁵ Acknowledging that the “practical application” test provides no basis for excluding even the most out-of-left-field methods of organizing human activity, petitioners suggest that other requirements for patentability—namely, novelty, 35 U.S.C. 102; non-obviousness, 35 U.S.C. 103; and definiteness, 35 U.S.C. 112—will provide the limiting principles that the “practical application” test lacks. Pet. Br. 41-42. But if Congress had intended these other requirements to be the sole limits on patentability, it would not have provided the subject-matter categories in Section 101. In any event, these requirements are insufficient standing alone to limit patent protection to the scope that Congress intended: a particularized, non-abstract method for pitching a curveball may be novel, nonobvious, and definitely stated. But it should not be the subject of a patent.

In *State Street*, the Federal Circuit held that a claimed invention—which the court found to be patent-eligible as a “machine” under Section 101—was not excepted from patent-eligibility simply because it performed certain stock-valuation functions and therefore concerned a “business method.” 149 F.3d at 1371-1372, 1375; Pet. App. 23a n.18; see *id.* at 195a. The court thus repudiated the “business method exception,” which some lower courts had used to hold that inventions falling within Section 101’s categories of patent-eligible subject matter were nonetheless ineligible for patent protection when they concerned business activities.

Congress understood *State Street* as allowing patent protection for some inventions related to financial and business services that, under the “business method exception,” had not previously been thought to be patent-eligible. See H.R. Rep. No. 287, 106th Cong., 1st Sess. 46-47 (1999) (stating that *State Street* confirmed a “very broad scope of subject matter that qualifies for patent protection” by “clarif[ying] that the characterization of subject matter as a method of doing business does not render it unpatentable”); H.R. Rep. No. 464, 106th Cong., 1st Sess. 122 (1999) (“As the Court noted, the reference to the business method exception had been improperly applied.”). Concerned that many businesses had been using inventions implicating business methods on the assumption that such inventions were not patent-eligible, *ibid.*, Congress acted to protect such firms from patent suits by later “inventors.” Section 273 accordingly provides that—contrary to the ordinary rule in patent law—the good faith prior use of a patented business method is a defense to infringement. See 35 U.S.C. 273(b)(1). Nothing in Section 273 purports to amend or

interpret the categories of patent-eligible subject matter in Section 101.²⁶

Thus, neither the text nor the history of Section 273 suggests that Congress understood *State Street* as extending patent protection to non-technological processes that are directed solely to the organization of human activity, much less that Congress approved or ratified, *sub silentio*, such a radical departure from the historical scope of patent law.²⁷ Congress surely would have spoken with greater clarity if it had intended Section 273 to ratify an expansion of the boundaries of patent-eligible subject matter so far beyond those established in 1793 and consistently articulated in this Court’s decisions. Cf. *Whitman v. American Trucking Ass’ns*, 531 U.S. 457, 468 (2001) (Congress “does not alter the fundamental details of a regulatory scheme in vague terms or an-

²⁶ Petitioners construe various statements by individual Members of Congress as evidence that Congress understood *State Street* to permit a patent for any useful series of steps directed to human business activity. Pet. Br. 30-32. These statements, however, provide no evidence that the relevant Members so understood *State Street*. See, e.g., 145 Cong. Rec. 30,634 (1999) (statement of Sen. Schumer) (in response to *State Street*, Section 273 should apply to “[n]ew *technologies*” that employ “both methods of doing business and physical apparatus”) (emphasis added). And even if some individual legislators had expressed that understanding, floor statements of individual Members of Congress are entitled to little weight because they do not represent the understanding of Congress as a whole. See *Garcia v. United States*, 469 U.S. 70, 76 (1984).

²⁷ As discussed above, dicta in *State Street* subsequently was invoked by applicants seeking patents for “processes” that would not have been patent-eligible under the machine-or-transformation test. But as the committee reports indicate, Congress, acting within a year of the *State Street* decision, was responding to the decision’s actual holding—that inventions that otherwise fall within Section 101 remain patent-eligible even if their usefulness relates to business and financial activities.

cillary provisions—it does not, one might say, hide elephants in mouseholes.”).

Section 273’s general reference to “method[s] of doing or conducting business,” 35 U.S.C. 273(a)(3), does not suggest that Congress intended all such methods to be patent-eligible. Cf. Pet. Br. 31-33. Section 273 was not enacted to ratify the Federal Circuit’s decision in *State Street*, let alone to ratify the broadest possible reading of that decision. Rather, Section 273 was enacted to limit a potential effect of *State Street* by providing protection for businesses that, in the wake of that decision, unexpectedly faced infringement suits. Congress’s unqualified reference to “method[s] of * * * conducting business” thus is most naturally read to reflect the understanding that the “business method exception” that *State Street* rejected had previously applied across Section 101’s subject-matter categories. The breadth of the special defense enacted in Section 273 reflects the breadth of the business method exception to patent eligibility on which Congress feared businesses had relied. And the enactment of that defense demonstrated congressional concern over the potential impact of granting patents for even those business practices falling within the established understanding of Section 101’s terms—not any desire to expand that understanding to encompass still additional business practices.

For much the same reasons, petitioners’ reliance (Br. 34-37) on *J.E.M. Ag Supply* is misplaced. In that case, the parties who contested the validity of the relevant patents did not dispute that the inventions (certain hybrid plants) were encompassed by Section 101’s language. See 534 U.S. at 131-132. Rather, they argued that two more specific statutes impliedly excluded the

plants from the ambit of Section 101. See *id.* at 132. In holding that no such exclusion applied, the Court relied in part on Congress’s enactment of a separate provision of Title 35 that assumed such plants were patent-eligible under Section 101. *Id.* at 145. Here, by contrast, Section 273 reflects Congress’s understanding that “business methods” are not categorically ineligible for patent protection; but it does not logically suggest that Congress understood Section 101 to encompass non-technological business methods that are ineligible for a patent under the machine-or-transformation test.

Petitioners also note (Br. 34-35) that in *J.E.M. Ag Supply*, the Court relied in part on the PTO’s longstanding practice of issuing hybrid plant patents and Congress’s apparent acceptance of that practice. 534 U.S. at 144-145. No similar inference of congressional approval is warranted in this case, however, because the PTO has in recent years sought judicial guidance as to the proper treatment of process claims under Section 101. See, *e.g.*, *In re Comiskey*, 554 F.3d 967, 973 (Fed. Cir. 2009). And because the Board unanimously found petitioner’s claimed hedging method to be ineligible for patent protection, the *J.E.M. Ag Supply* Court’s reference to the Board’s “specific expertise in issues of patent law,” 534 U.S. at 145, provides no comfort to petitioner here.

Finally, contrary to petitioners’ contention (Br. 34), reaffirming the machine-or-transformation definition of “process” would not render Section 273 “meaningless.” The machine-or-transformation test does not reinstate the “business methods exception”; to the contrary, it accords patent eligibility to technological innovations regardless of whether they concern financial or other business activities. See Pet. App. 25a (refusing to hold that processes concerning business activities are cate-

gorically patent-ineligible). As the court of appeals noted, patent applications directed to business-related methods “are ‘subject to the same legal requirements for patentability as applied to any other process or method.’” *Ibid.* (quoting *State Street*, 149 F.3d at 1375-1376). That conclusion is both correct and consistent with Section 273.

III. THE COURT OF APPEALS CORRECTLY REJECTED PETITIONERS’ CLAIMED METHOD OF HEDGING FINANCIAL RISK UNDER SECTION 101

A. For the foregoing reasons, the court of appeals correctly held that petitioners’ method for hedging risk in the purchase and sale of commodities—a technique for organizing human economic activity only—is not eligible for patent protection under 35 U.S.C. 101. Indeed, the court of appeals was nearly unanimous in that conclusion, voting 11-1 that petitioners’ claimed method is ineligible for a patent.²⁸ The PTO examiner and the five expert administrative judges on the Board were unanimous in concluding that petitioners’ application is not directed to patent-eligible subject matter. Pet. App. 4a, 146a.

Petitioners’ claimed process is not directed to the operation of a particular machine or apparatus, nor does it involve the transformation of matter into a different state or thing. As the Board explained, petitioners’ claims

²⁸ Nine of the twelve judges on the en banc court joined the majority opinion. Pet. App. 1a. Of the three dissenting judges, only one would have held that petitioners’ hedging method qualifies as a patent-eligible “process” under the Patent Act. *Id.* at 60a-105a (Newman, J., dissenting).

do not recite any electrical, chemical, or mechanical acts or results; do not directly or indirectly recite transforming data by a mathematical or non-mathematical algorithm; are not required to be performed on a machine, such as a computer, either as claimed or disclosed; * * * and do not involve making or using a machine, manufacture, or composition of matter.

Pet. App. 150a. Even the “Monte Carlo simulations” and “one-tail tests” that petitioners highlight in their brief (at 5-6) involve well-known statistical techniques to which petitioners do not claim to have made any contribution.²⁹ Rather, as the court of appeals found, petitioners seek to patent “[p]urported transformations or manipulations simply of public or private legal obligations or relationships, [or] business risks.” Pet. App. 32a. The court thus correctly rejected petitioners’ claimed process as patent-ineligible.

The ineligibility of petitioners’ claimed hedging method under the machine-or-transformation test is particularly clear because petitioners’ patent application did not identify any machine to be used in the implementation of that method. It should be emphasized, however, that petitioners could not have brought their hedging method within Section 101’s coverage simply by stating that a computer would be used to calculate a contractual term for use in a step in petitioners’ method, or that a telephone would be used for communications between the contracting parties and the intermediary.

²⁹ See B.S. Everitt, *The Cambridge Dictionary of Statistics* 262 (3d ed. 2006) (“Monte Carlo methods”); Michael O. Finkelstein & Bruce Levin, *Statistics for Lawyers* 124-126 (1990) (discussing “one-tailed tests”).

Consistent with this Court’s decision in *Diehr*, see 450 U.S. at 191-192, the PTO’s *Interim Instructions* state (at 5) that, in order for a claimed method to qualify as a patent-eligible “process” under Section 101, “the use of the particular machine or the transformation of the particular article must involve more than insignificant ‘extra-solution’ activity.” (emphasis omitted.) The *Interim Instructions* further explain (at 6) that “[i]nsignificant ‘extra-solution’ activity means activity that is not central to the purpose of the method invented by the applicant.”

Under that standard, merely adding the extra detail that a computer would be used to calculate the fixed rates required by petitioners’ claim would be “insignificant.” Similarly, even if carrying out the hedging transactions required some type of communication, the specification that a telephone should be used would be insignificant extra-solution activity. The nature of the hedging technique—the method of identifying the risk and counterparties in order to hedge—would not change if e-mail were used instead of a telephone, or if the communications took place in person.³⁰

B. Petitioners’ hedging method is also unpatentable on the independent ground that it would preempt the abstract idea of hedging consumption risk. See *Benson*, 409 U.S. at 67. Petitioners’ application stresses that the claimed method “can be used for any commodity to manage consumption risk in a fixed bill price product.” J.A.

³⁰ In contrast, petitioners’ claims might satisfy the machine-or-transformation definition if they involved a machine implementation central to the process of hedging. For example, the method might be patent-eligible if it conducted hedging transactions online, using a computer network to identify counterparties and initiate the transactions, and a microprocessor to calculate the fixed purchase price.

11. Because the claimed method does not include any steps that meaningfully circumscribe the way in which it is performed—the claim describes no more than “a purely mental process” of performing the required calculations, followed by the unremarkable post-solution step of consummating the transactions (in which no commodities need change hands), *id.* at 36a—the claim “would effectively pre-empt any application of the fundamental concept of hedging and mathematical calculations inherent in hedging” consumption risk.³¹ *Ibid.*; see, *e.g.*, *id.* at 139a (Rader, J., dissenting) (“[T]he hedging claim at stake in this appeal is a classic example of abstractness.”); *id.* at 184a (Board opinion) (“Because the steps cover (‘preempt’) any and every possible way of performing the steps of the plan, by human or by any kind of machine or by any combination thereof, we conclude that the claim is so broad that it is directed to the ‘abstract idea’ itself.”). This Court has consistently held that abstract claims of this kind are not patentable under Section 101. See, *e.g.*, *Diehr*, 450 U.S. at 185-187; *Benson*, 409 U.S. at 71-72; *Morse*, 56 U.S. (15 How.) at 113.³²

³¹ As the court of appeals noted, Pet. App. 18a-19a, 36a, it is immaterial for these purposes that petitioners’ claim is limited to hedging consumption risk in the field of commodity sales, or that it requires minor post-solution physical acts (*i.e.*, consummating the hedging transactions). See *Diehr*, 450 U.S. at 191-192.

³² Petitioners’ belated effort to distinguish Claim 4 of the application as non-abstract, Pet. Br. 58-59, is unavailing. Because petitioners did not separately argue the patentability of Claim 4 before the Board or the court of appeals, they have waived any such distinction. *E.g.*, *In re King*, 801 F.2d 1324, 1325 (Fed. Cir. 1986).

CONCLUSION

The judgment of the court of appeals should be affirmed.

Respectfully submitted.

CAMERON F. KERRY
General Counsel
QUENTIN A. PALFREY
Associate General Counsel
JOAN BERNOTT MAGINNIS
Assistant General Counsel
U.S. Department of
Commerce

RAYMOND T. CHEN
Solicitor and Deputy
General Counsel
THOMAS W. KRAUSE
SCOTT C. WEIDENFELLER
Associate Solicitors
U.S. Patent and Trademark
Office

ELENA KAGAN
Solicitor General
MALCOLM L. STEWART
Deputy Solicitor General
TONY WEST
Assistant Attorney General
GINGER D. ANDERS
Assistant to the Solicitor
General
SCOTT R. MCINTOSH
MARK R. FREEMAN
Attorneys

SEPTEMBER 2009