U.S. CONST. art. I, § 8, cl. 8
The Congress shall have Power …
To 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. § 100: Definitions [Editor’s Note: Excerpted part is same pre-AIA and post-AIA.1]
When used in this title unless the context otherwise indicates -
(a) The term “invention” means invention or discovery.
(b) 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. § 101: Inventions patentable [Editor’s Note: The AIA did not amend this section.]
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. § 154: Contents and term of patent; provisional rights (selected subsections) [Editor’s Note: Excerpted parts are same pre-AIA and post-AIA.]
(a) IN GENERAL.—
(1) CONTENTS.—Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, of the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or importing the invention into the United States, and, if the invention is a process, of the right to exclude others from using, offering for sale or selling throughout the United States, or importing into the United States, products made by that process, referring to the specification for the particulars thereof.

1 “AIA” stands for “America Invents Act.” The Leahy-Smith America Invents Act, Pub. L. No. 112-29, 125 Stat. 284 (2011), is a federal law that amended the U.S. Patent Act in such a way that some versions of provisions, such as pre-AIA 35 U.S.C. § 103 on the standard for nonobviousness, apply to patents for which applications were filed with the U.S. Patent and Trademark Office before March 16, 2013, and other versions of provisions, such as post-AIA 35 U.S.C. § 103 on the standard for nonobviousness, apply to patents for which applications were or are filed on or after March 16, 2013.
which the application for the patent was filed in the United States or, if the application contains a specific reference to an earlier filed application or applications under section 120, 121, or 365(c) of this title, from the date on which the earliest such application was filed.

35 U.S.C. § 161: Patents for plants [Editor’s Note: The AIA did not amend this section.]

Whoever invents or discovers and asexually reproduces any distinct and new variety of plant, including cultivated sports, mutants, hybrids, and newly found seedlings, other than a tuber propagated plant or a plant found in an uncultivated state, may obtain a patent therefor, subject to the conditions and requirements of this title.

The provisions of this title relating to patents for inventions shall apply to patents for plants, except as otherwise provided.

35 U.S.C. § 171: Patents for designs [Editor’s Note: The AIA did not amend this section.]

Whoever invents any new, original, and ornamental design for an article of manufacture may obtain a patent therefor, subject to the conditions and requirements of this title.

The provisions of this title relating to patents for inventions shall apply to patents for designs, except as otherwise provided.
1. A power “to promote the progress of science and useful arts, by securing, for a limited time, to authors and inventors, the exclusive right to their respective writings and discoveries.”

The utility of this power will scarcely be questioned. The copyright of authors has been solemnly adjudged, in Great Britain, to be a right of common law. The right to useful inventions seems with equal reason to belong to the inventors. The public good fully coincides in both cases with the claims of individuals. The States cannot separately make effectual provisions for either of the cases ….

Monopolies tho’ in certain cases useful ought to be granted with caution, and guarded with strictness against abuse. The Constitution of the United States has limited them to two cases—the authors of Books and of useful inventions, in both which they are considered as a compensation for a benefit actually gained to the community as a purchase of property which the owner might otherwise withhold from public use. There can be no just objection to a temporary monopoly in these cases; but it ought to be temporary because under that limitation a sufficient recompence and encouragement may be given. The limitation is particularly proper in the case of inventions because they grow so much out of preceding ones that there is the less merit in the authors; and because, for the same reason, the discovery might be expected in a short time from other hands.

Monopolies have been granted in other Countries, and by some of the States in this, on another principle, that of supporting some useful undertaking, until experience and success should render the monopoly unnecessary, and lead to a salutary competition. This was the policy of the monopoly granted in Virginia to Col. Jno. Hoomes to establish a passenger-stage from … to …[.]
But grants of this sort can be justified in very peculiar cases only, if at all; the danger being very great that the good resulting from the operation of the monopoly, will be overbalanced by the evil effect of the precedent; and it being not impossible that the monopoly itself in its original operation, may produce more evil than good.

In all cases of monopoly, not excepting those in favor of authors and inventors, it would be well to reserve to the State, a right to extinguish the monopoly by paying a specified and reasonable sum. This would guard against the public discontents resulting from the exorbitant gains of individuals, and from the inconvenient restrictions combined with them. This view of the subject suggested the clause in the bill relating to J. Rumsey in the Virginia Legislature in the year 1784, providing that the State might cancel his privilege by paying him ten thousand pounds…. 
“For in a global economy, the key to our prosperity will never be to compete by paying our workers less or building cheaper, lower-quality products. That's not our advantage. The key to our success — as it has always been — will be to compete by developing new products, by generating new industries, by maintaining our role as the world’s engine of scientific discovery and technological innovation. It’s absolutely essential to our future.”

— President Barack Obama, November 17, 2010

**Innovation is essential to winning the future through long-term growth and competitiveness**

The history of the American economy is one of enormous progress associated with remarkable innovation. Two hundred years ago, real income per person in America averaged four percent of what it is today, the average American lived for forty years, and thirty percent of children did not survive until their fifth birthday. Electric power, automobiles, and telephones were hardly imagined, let alone computers and air travel. There were no antibiotics or vaccines — and no understanding that germs cause disease. The word “scientist” had not yet been coined. But researchers like Isaac Newton had begun uncovering fundamental scientific foundations that would underpin two centuries of practical inventions. The U.S. Constitution empowered Congress to create effective intellectual property rights — helping add “the fuel of interest to the fire of genius,” in President Lincoln’s words. Americans later seized on the Industrial Revolution — an explosion of innovation — propelling a young country with democratic ideals to unprecedented economic heights and providing a powerful example for other nations to follow. In short, innovation is ultimately tied to America’s well-being and to our conception of the essential “American character.”

Innovation — the process by which individuals and organizations generate new ideas and put them into practice — is the foundation of American economic growth and national competitiveness. Economic growth in advanced economies like the United States is driven by the creation of new and better ways of producing goods and services, a process that triggers new and productive investments. That innovation is the cornerstone of economic growth can be seen in the advance of our national industries. Entire industries were made possible only by developing and commercializing new ideas, from the 19th century advances in railways and steam power, to the later revolution of electrification and the associated development of light bulbs, radios, televisions, electric refrigeration, and air conditioners, to the modern semiconductor, computer, and biotechnology industries. These innovative sectors have consistently raised the output of our workforce, creating better-paying jobs, raising our national standard of living, and enhancing our economic strength *vis-à-vis* other nations. Innovation can take many forms: a new machine that improves quality and production time in factories; a new consumer electronic device or Internet-
enabled application that keeps us connected with coworkers and family; a new way of organizing the workplace that increases our productivity; or a new vaccine that protects our citizens from disease.

Since the 1940s, the United States has led the world in creating new industries and ways of doing business, establishing itself as the global innovation leader. But America cannot rest on its laurels. Unfortunately, there are disturbing signs that America’s innovative performance slipped substantially during the past decade. Across a range of innovation metrics — including growth in corporate and government R&D, the number of scientific and technical degrees and workers, access to venture capital, and the creation of new firms — our nation has fallen in global innovation-ranked competitiveness. Other nations recognize that innovation is the key to long-term economic growth and are making pro-innovation investments and adopting pro-innovation policies. Without thoughtful, decisive, and targeted actions, we cannot expect that the industries of the future will emerge and prosper in the United States.

Recognizing the central role of innovation in economic growth, the Administration’s Innovation Strategy announced in 2009 emphasized several of these disturbing trends and called for renewed and enhanced investment in innovation. These efforts were substantially supported by historic investments in the Recovery Act and included large expansions in fundamental research through agencies such as the National Science Foundation, the Department of Energy’s Office of Science, and the National Institutes of Health, accelerating fundamental breakthroughs at the beginning of the innovation pipeline. Now we must build on these efforts and ensure that the private sector can be as innovative as possible so that American workers and businesses will continue to lead the world economy in the decades ahead. New initiatives will free up wireless spectrum that will facilitate private sector investment and innovation, improve the patent system, train workers for quality jobs, catalyze the private sector to meet national priorities like clean energy, and foster the entrepreneurial spirit that has always driven this country to greater heights. This Strategy for American Innovation discusses these new points of emphasis and places them within the broader framework of the Administration’s innovation policy.

Americans have always seen themselves as experimenters and risk-takers. Now we must — at every level of society — encourage this pioneering spirit. In the 1800s, when farmers and blacksmiths took hammers to plows and harnesses, America was described as a “nation of tinkerers.” In the 21st Century, continued economic growth depends on us being a “nation of innovators” — a nation that generates the best and brightest ideas and sees that these ideas spread through our workforce. The American people will do best when their inventive, entrepreneurial spirit is unleashed. Government policy must nurture that spirit and ensure it is not deterred.
The private sector is America’s innovation engine

America’s entrepreneurs and industrial research laboratories have long produced a cascade of important innovations, from agricultural technologies to Edison’s light bulb to Bell Labs’ transistor, from General Electric’s jet engines to Google’s Internet tools. Innovation is not limited to new products but extends to new organizational models. Henry Ford’s assembly line brought affordable automobiles to Americans while bringing higher employment and wages to the car industry. Dell Computer and Amazon.com similarly developed new sales models, harnessing the Internet to bring new, competitively-priced choices to a wider array of consumers.

America’s businesses, with close knowledge and acute awareness of the costs and opportunities across our market system, are well positioned to tap the ingenuity of our workforce to solve specific challenges and cultivate new ideas in the crucible of competition. In so doing, they can perceive and generate commercially valuable ideas. And a new idea is just the starting point, because our market system, through its competitive pressures, also works to test these ideas and spread the best ones. Innovation is the entire process through which an invention is successfully put into practice and widely diffused, generating increased labor productivity for workers, profits for suppliers, and benefits to adopters and consumers.

By demonstrating how ideas can be commercialized, businesses also drive other firms to innovate, allowing organizations with different technical capacities and market insights to take the next steps. In fact, most innovation does not stand alone but complements other innovations. For example, while Apple Computer founders Steve Jobs and Steve Wozniak envisioned a mass market for a more user-friendly personal computer, it took many years and many other contributions – including improvements in software, microprocessors, monitors, memory chips, batteries, and communications technology – before the personal computer industry reached critical mass. And these complementary technologies were themselves innovations, collectively providing jobs in engineering, manufacturing, distribution, and sales, while delivering significant consumer benefits.

The American economy is built on an enduring capacity for idea creation and diffusion. Competitive markets provide strong incentives for private businesses to improve their products and operations and for capital and labor resources to be reinvested in our best ideas. The inherent uncertainty of innovation means that important breakthroughs may come from many quarters – often unexpectedly – and our decentralized markets facilitate the generation of these new possibilities. By continually reinventing itself, the private sector is the engine of innovation that brings greater prosperity to Americans.

Government as innovation facilitator

Given the central importance of innovative activity to our economic growth, the public interest in sustaining innovation is clear. The key follow-on question is whether markets alone can provide sufficient incentives for such investments. The standard lesson from economics, and history, is that an innovation-friendly environment requires public support on specific
dimensions. The appropriate role for government can be understood by clarifying the precise circumstances where markets, despite their many strengths, will not produce a sufficient stream of innovations on their own. Thus, the true choice in innovation policy is not starkly between government management and no government involvement, but rather choosing the right role for government in supporting private sector innovation.

One central “market failure” is in the field of basic scientific research. Basic research typically does not have direct commercial payoffs. Yet breakthroughs in basic research underpin downstream, commercial ideas, which can bring enormous economic benefits. For example, engineering builds on Newton’s laws of motion, the biotechnology industry builds on Watson and Crick’s discovery of the structure of DNA, and the dot.com industry builds on government and university development of the Internet. Because basic science has little if any immediate commercial return, its costs are typically not easily undertaken by private investors, thus leaving government funding as a critical source of support.

Other “market failures” surround commercial invention, where markets may still fail to provide adequate incentives. As discussed in Box 1, businesses typically capture only a small portion of the benefits of their innovations, partly because consumers enjoy a substantial share of the social gain and partly because follow-on innovations may be captured by other firms. This general issue calls for policies that enhance private sector innovation incentives. These policies can act to lower commercial research costs through mechanisms such as the Research & Experimentation Tax Credit. Other mechanisms enhance the demand for innovations. For example, demonstration funding and government procurement can encourage the creation and deployment of next generation technologies, bringing private innovation incentives closer to the social interest. Government procurement was used, for example, by the Defense Department to promote the development of the Internet. Prize competitions … can be especially useful in driving innovation for specific needs. Collectively, these demand mechanisms can be targeted at well-defined national priority areas, such as clean energy, and can be especially useful in contexts where markets under-price an activity’s costs, such as our national dependence on fossil fuel consumption.

Government also plays an essential role in setting and enforcing appropriate rules. Foremost in the innovation context is a well-functioning property rights system. Absent effective legal protections for innovators, other businesses can immediately exploit an innovator’s idea, undermining the incentive to invent in the first place. Public policy solves this problem through intellectual property rights – allowing limited, short-run grants of exclusive rights to catalyze inventive activity. Recognizing the importance of intellectual property rights, we must commit to their effective enforcement, as the Obama Administration has done in appointing the first Intellectual Property Enforcement Coordinator and redoubling our efforts in this area. Critically, we must also commit to making the necessary public investments to support high-quality patent examination, lower legal uncertainty, and clear persistent patent application
backlogs so that innovative businesses and entrepreneurs are not faced with unnecessary risk or left waiting for years before a patent decision is made.

**Box 1: Social Gains from Innovation**

The social gains from innovations typically greatly exceed the private return. For example, the inventions of the telephone, transistor, light bulb, dishwasher, laser, CT scan, web browser, and antibiotics have all had enormous, broad, and ongoing social benefits far in excess of any commercial profits enjoyed by the original creators. General estimates suggest that the private profits from an innovation typically account for a tiny fraction – a few percent – of the social value.

Private firms do not capture the full gains of their innovations for three essential reasons. First, users will only pay for the innovation if its benefits exceed its price. These consumer benefits – the “consumer surplus” – mean that much of the innovation’s value will immediately accrue to users. Second, the innovative business will face pressures to lower prices as other businesses imitate and improve upon the successful innovation, which shortens the profit stream of the original product; indeed, the firm that initially introduces a new innovation may not even be the one that succeeds in the marketplace. Moreover, once any intellectual property rights (the patent or copyright) expire, competitive pressures will further drive down prices and limit private profits, transferring the innovation’s value even more fully to the consumer. Finally, a successful innovation often launches hosts of additional innovations by other firms, the benefits of which are not captured by the original innovator.

With the limited scope for sustained profits in the private sector, the benefits of innovation accrue widely. Ultimately, innovation benefits society at large in the form of rising standards of living. Real incomes rise, with Americans producing more output per hour and earning more income per hour, allowing us to consume new and improved products and live longer lives.