

## SCIENTIFIC INVENTIONS FOR THE BETTERMENT OF SOCIETY

**Scientific inventions** have played a crucial role in the betterment of society by addressing various challenges and improving the quality of life. Here are some significant inventions that have had a profound impact on human society:

- **Wheel:** The wheel is often considered the most important invention in human history. It has been used for efficient and faster transportation of goods, and its impact can be seen in the development of various technologies that rely on it.
- **Printing Press:** The printing press, invented by Johann Gutenberg in the 15th century, revolutionized the spread of knowledge and ideas. It enabled mass production of books, making information more accessible and contributing to the Renaissance and the Enlightenment.
- **Steam Engine:** The steam engine, developed by James Watt in the 18th century, transformed transportation and machinery. It drove the Industrial Revolution, leading to significant advancements in manufacturing and the emergence of new industries.
- **Telephone:** The telephone, invented by Alexander Graham Bell in the late 19th century, revolutionized communication. It enabled people to connect with each other instantly, regardless of geographical distance.
- **Antibiotics:** The discovery of antibiotics, such as penicillin, has saved countless lives by preventing the growth of harmful bacteria. This medical breakthrough has had a profound impact on public health.
- **Automobile:** The automobile, invented by Karl Benz in the late 19th century, has changed the way people live and travel. It has also had significant effects on urban planning and infrastructure.
- **Electricity:** Electricity has become an essential part of modern life, powering homes, industries, and transportation systems. Its impact on society has been immense, from lighting homes to enabling the widespread use of appliances and devices.
- **Integrated Circuit:** The integrated circuit, also known as the microchip,

has enabled the development of modern electronics. It powers devices such as smartphones, computers, and other electronic appliances that are now ubiquitous in daily life.

- **Television:** The invention of television has enabled the widespread dissemination of information, entertainment, and news. It has also played a significant role in shaping global culture and politics.
- **Personal Computer:** The personal computer, popularized by the Apple II in the late 20th century, has enabled widespread access to information and has transformed the way people work, communicate, and live.

These inventions have collectively contributed to significant advancements in various aspects of society, including communication, transportation, healthcare, and technology.

## **Financial Services**

Banknote (Paper Currency): Tang Dynasty of China—7th Century

China is not only credited with having invented paper, but it is also generally recognized as the first country in the world to use paper money. The paper money system helped improve economies worldwide by moving them away from bartering.

## **Healthcare**

Vaccinations: Edward Jenner—1796

Edward Jenner's work is widely regarded as the foundation of immunology. Jenner is well renowned worldwide for his innovative contribution to immunization and the ultimate eradication of smallpox.

## **Local Anesthesia:**

William Morton—1846

William Morton was one of the first individuals to demonstrate how ether could be used to remove the pain of operations. His use of anesthesia was displayed at a public demonstration to the surgeons of the Massachusetts General Hospital in Boston on Oct. 16, 1846, where John Collins Warren excised a tumor from a patient's neck. William Morton wasn't necessarily the first to discover or invent anesthetics, but his name is most commonly referenced when speaking of the first practitioners to use the drug. In fact, for several years, various controversies and litigation surrounded the credit for the development of anesthesia.

## **Antibiotics:**

Alexander Fleming—1928

Alexander Fleming discovered the active substance he termed "penicillin" while working on the influenza virus. Fleming made this discovery by observing that mold had developed accidentally on a staphylococcus culture plate and that the mold had created a bacteria-free circle around itself. He was inspired to experiment further and found that a mold culture prevented the growth of staphylococci, which verified his discovery. To this day, penicillin is used to treat a host of bacterial infections.

## **Food and Drink**

Pasteurization: Louis Pasteur—1862

Louis Pasteur developed the process now known as "pasteurization," which is a process of heating food to a specific temperature for a definite length

of time and then cooling it immediately to reduce the number of viable pathogens that may cause disease. Dairy products, canned foods, juices, syrups, water, and wines are the primary products that are pasteurized today.

## Transportation

### Modern Automobile: Karl Benz—1886

Karl Benz patented all of the processes that made the internal combustion engine feasible for use in cars. Karl Benz and his wife, Bertha Ringer Benz, were the founders of the Mercedes-Benz automobile manufacturing company.

### *Patent Rights*

- While this list consists of well-known and distinguished inventors, it is important to note that their works were built upon the ideas and labor of many people in order to create the final product or service that we enjoy and use today.
- Many of the contributors to a key invention or innovation often go unremembered and uncompensated.
- Hopefully, governments worldwide will strive to resolve this problem by implementing a more equitable patent system.
- The most recent significant step toward accomplishing this goal in patent law was the passage of the America Invents Act on Sept. 16, 2011.
- The passage of this Act moved the U.S. patent system from a "first to invent" to a "first to file" system, which means that all parties know upfront that if they have a good idea for an

invention, they need to be the first to file a patent application with the United States Patent and Trademark Office to protect their intellectual property rights.

- Passage of this Act also eliminated delays previously experienced through interference proceedings and allowed a patented product to come to market in an expedited manner.

### What Can Be Invented to Make Life Easier?

If you can think of something that makes life easier, you can probably create it. Computers, design applications, three-dimensional printers, and other technological innovations make the creation process much easier now than in the past.

### What Is the Difference Between a Patent and an Invention?

- An invention is something created by someone. A patent grants the exclusive rights to the patent filer.
- Patents generally last for a specific period, based on the type of patent it is—in the U.S., the term for a utility patent is 20 years.

### What Inventions Changed Life?

- There are hundreds of inventions that have changed the way we live. One of the most significant was agriculture, which moved us from hunter/gatherers to farmers and reduced human migratory patterns.
- The printing press and steam engine are two other notable inventions attributed with drastically changing life.

## CONCLUSION

- For current entrepreneurs, the 2011 change in U.S. patent law, with the use of low-cost, powerful personal computers and the affordability of the ever-expanding internet, should provide a much greater business environment for establishing a successful small business.
- We have already seen a number of relatively new and successful companies that have benefited from online intangible business models.
- Examples include Google, Amazon, eBay, YouTube, LinkedIn, Craigslist, Wikipedia, and PayPal, to name a few. With the U.S.'s progressive patent law, new online businesses have an additional advantage for establishing a successful small business operation.